STATE OF MICHIGAN
CENTRAL PROCUREMENT SERVICES
Department of Technology, Management, and Budget
320 S. WALNUT ST., LANSING, MICHIGAN 48933
P.O. BOX 30026 LANSING, MICHIGAN 48909

CONTRACT CHANGE NOTICE

Change Notice Number **4**

to

Contract Number **210000001348**

CONTRACTOR	
	WINDSOR SOLUTIONS INC
	4386 S Macadam Ave , Suite 101
	Portland, OR 97239
	Simon Watson10012022
	503-675-7833
	simon_watson@windsorsolutions.com
	CV0066405

STATE			
	Program Manager	Various	EGLE
	Contract Administrator	Sarah Platte	DTMB
		517-219-2406	
		plattes3@michigan.gov	

CONTRACT SUMMARY			
EGLE ENTERPRISE ENVIRONMENTAL SYSTEM			
INITIAL EFFECTIVE DATE	**INITIAL EXPIRATION DATE**	**INITIAL AVAILABLE OPTIONS**	**EXPIRATION DATE BEFORE**
September 1, 2021	September 30, 2026	5 - 1 Year	September 30, 2026
PAYMENT TERMS		**DELIVERY TIMEFRAME**	
ALTERNATE PAYMENT OPTIONS			**EXTENDED PURCHASING**
☐ P-Card	☐ PRC	☐ Other	☐ Yes ☒ No
MINIMUM DELIVERY REQUIREMENTS			

DESCRIPTION OF CHANGE NOTICE				
OPTION	**LENGTH OF OPTION**	**EXTENSION**	**LENGTH OF EXTENSION**	**REVISED EXP. DATE**
☐		☐		September 30, 2026
CURRENT VALUE	**VALUE OF CHANGE NOTICE**	**ESTIMATED AGGREGATE CONTRACT VALUE**		
$12,184,934.00				

DESCRIPTION

Effective 10/24/2023, the parties add the attached Statement of Work to expand deliverables in the Pricing Schedule to allow detail and flexibility for vendor invoicing. The project will be utilizing existing funding.

All other terms, conditions, specifications remain the same. Per Contractor, Agency, DTMB Procurement, and the State Administrative Board on 8/24/2021.

Program Managers
for
Multi-Agency and Statewide Contracts

AGENCY	NAME	PHONE	EMAIL
DTMB	Laura Brancheau	517-335-1334	BrancheauL@michigan.gov
EGLE	Brad Pagratis	517-338-1548	pagratisb@michigan.gov

STATEMENT OF WORK -
IT CHANGE NOTICE

Project Title: EGLE – Enterprise AQD Modernization	**Period of Coverage:**
Requesting Department: DTMB	**Date**: 09/11/2023
Agency Project Manager: Laura Brancheau	**Phone**: 517-335-1334
DTMB Project Manager: James Avery	**Phone**: 517-206-2930

Brief description of services to be provided:

BACKGROUND:

Contract 171-210000001348 was approved August 26, 2021 authorizing Windsor Solutions to partner with the Michigan Department of Environment, Great Lakes and Energy (EGLE), Air Quality Division (AQD) to replace many of its existing systems by integrating those systems and databases into the existing nVIRO application (now named MiEnviro Portal) used by the Water Resources Division (WRD).

PROJECT OBJECTIVE:

Implement and configure Windsor's nVIRO Application Suite and State and Local Emissions Inventory System (SLEIS) solution in Windsor's Azure cloud as an enterprise system for the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Additionally, configure the solution to meet the respective requirements of EGLE's Air Quality Division (AQD) and Water Resources Division (WRD).

This IT change notice amends Schedule B (Pricing Schedule) of contract 171-210000001348. No previously defined costs will change. Instead, some deliverables/costs are broken out into smaller sub-deliverables/costs, with cost assigned to each sub-deliverable.

STATEMENT OF WORK -
IT CHANGE NOTICE

PRICING SCHEDULE:

The following Table, Table 3, in the Schedule B – Pricing section **is replaced** with this IT change notice.

Table 3: AQD Implementation Milestones, Deliverables and Payments

Milestone/Phase	Tasks (Activity)	Deliverables	Cost ($)
Analysis and Planning - Project Initiation	Project Management Plan and Project Kickoff	Project Management Plan Project Schedule (Baselined) Project Kickoff Meeting	28,020
Analysis and Planning - Project Initiation	Project Environment	Jira Issue Tracking Configured	3,362
Analysis and Planning - High-Level Analysis and Requirements	Base Application Deployment / Configuration	Base Application Environment Configured (Windsor Environment) Base Application Software Deployed and Configured	15,411
Analysis and Planning - High-Level Analysis and Requirements	High-Level Process Analysis	Business Process Requirements with Configuration Items (as Configuration Stories)	103,115
Analysis and Planning - High-Level Analysis and Requirements	System Integration Analysis	Integration Functional Design and Requirements (as Integration Stories)	30,822
Analysis and Planning - High-Level Analysis and Requirements	Environment Requirements	Environment Configuration Requirements Document and Stories Environment Implementation Schedule	11,208
Analysis and Planning - High-Level Analysis and Requirements	Legacy System Analysis	Data Migration Plan Data Migration Stories	37,827
Analysis and Planning - High-Level Analysis and Requirements	Product Backlog	Product Backlog: Stories defined within JIRA Tracking System and available to EGLE: - Business Processes and Related System Configuration Stories - Data Migration Stories - System Integration Stories - Report Development Stories - Requirement Review / Jira Tracking	25,218
Analysis and Planning - High-Level Analysis and Requirements	Implementation Plan	Refined Project Schedule and Implementation Plan	25,218
Asbestos Program Configuration and Implementation - Configuration	Configuration Process Definition	Process Configuration Definition Process Configuration Stories in Jira	20,687
Asbestos Program Configuration and Implementation - Configuration	Process Configuration	Process Configuration Stories Implemented	105,200
Asbestos Program Configuration and	Report Configuration	Report Stories Implemented	7,752

STATEMENT OF WORK -
IT CHANGE NOTICE

Implementation - Configuration			
Asbestos Program Configuration and Implementation - Data Migration	Core Data Migration Development	Core Entity Data Migrated (Migration Script Execution)	34,121
Asbestos Program Configuration and Implementation - Data Migration	Program Component Migration Development	Program Components Configured Program Component Migration (Migration Script Execution)	3,829
Asbestos Program Configuration and Implementation - Data Migration	Mock Conversion Cycles / User Testing	Mock Data Conversions (with issue resolution) to UAT Environment	12,248
Asbestos Program Configuration and Implementation - Testing / Testing Support	Test Planning and Preparation	Test Management Plan (Master Test Plan) Test Schedules (incorporated into overall project schedule	2,777
Asbestos Program Configuration and Implementation - Testing / Testing Support	Test Development	Test Scenarios / Test Scripts (e.g., for process/configuration, integration testing)	6,754
Asbestos Program Configuration and Implementation - User Testing	User Configuration / Process Testing	Processes Stories Tested / Issues Resolved	9,836
Asbestos Program Configuration and Implementation - User Testing	Final User Data Verification / Testing	Data Conversion Stories Tested / Issues Resolved	1,461
Asbestos Program Configuration and Implementation - Implementation	Acceptance	Acceptance Application Deployment System Accepted Issue Resolution Production Environment Acceptance	8,582
Asbestos Program Configuration and Implementation - Implementation	Production Release Plan	Production Release Plan	1,481
Asbestos Program Configuration and Implementation - Implementation	Production Release	Production Release Plan Production Release	4,313
Asbestos Program Configuration and Implementation - Implementation	Initial Production Support	Initial Production Support	4,323
Air Program Configuration and Implementation - Configuration	Configuration Process Definition	Process Configuration Definition Process Configuration Stories in Jira	73,345
Air Program Configuration and Implementation - Configuration	Process Configuration	Process Configuration Stories Implemented	372,983

STATEMENT OF WORK -
IT CHANGE NOTICE

	Sub-deliverables with costs	*Process Configuration: SLEIS EIS Reporting*	*38,584.45*
		Process Configuration: SLEIS Equipment Inventory Management	*14,698.84*
		Process Configuration: Inspections	*5,512.06*
		Process Configuration: Air Complaints	*5,512.06*
		Process Configuration: Public Notice	*9,186.77*
		Process Configuration: Modeling	*5,512.06*
		Process Configuration: Enforcement	*14,698.84*
		Process Configuration: Application Void	*3,674.71*
		Process Configuration: Void PTI Permit	*3,674.71*
		Process Configuration: Compliance Reports (Schedules)	*14,698.84*
		Generate Annual Air Invoices (Cat F, Annual Emissions Fees)	*14,698.84*
		Process Configuration: Tax Exemption	*5,512.06*
		Process Configuration: Stack Tests/CEMS	*14,698.84*
		Process Configuration: Void ROP Permit	*5,512.06*
		Process: PTI - New (Main Process)	*23,150.67*
		Process: PTI - New (Document Templates)	*15,433.78*
		Process: ROP - Initial (Main Process)	*23,150.67*
		Process: ROP - Initial (Document Templates)	*15,433.78*
		Process Configuration: ROP - Minor Modification	*14,698.84*
		Process Configuration: ROP - Significant Modification	*9,186.77*
		Process Configuration: ROP - Simple Administrative Amendment	*5,512.06*
		Process Configuration: ROP - Administrative Amendment (Enhanced PTI)	*5,512.06*
		Process Configuration: ROP - State-Only Modification	*5,512.06*

STATEMENT OF WORK - IT CHANGE NOTICE

		Process Configuration: PTI - Modification	*23,885.61*	
		Process Configuration: General PTI - New	*23,885.61*	
		Process Configuration: ROP - Reopening	*9,186.77*	
		Process Configuration: ROP - Renewal	*9,186.77*	
		Process Configuration: General PTI - Modification	*9,186.77*	
		Process Configuration: Toxics	*9,186.77*	
		Implement ICIS-AIR Data Flows	*14,698.84*	
Air Program Configuration and Implementation - Configuration	Report Configuration	Report Stories Implemented		27,483
	Sub-deliverables with costs	*Process Configuration: nVISAGE Compliance Reports*	*9,161.00*	
		Process Configuration: nVISAGE Permit Reports	*9,161.00*	
		Process Configuration: nVISAGE ROP Reports	*9,161.00*	
Air Program Configuration and Implementation - Data Migration	Core Data Migration Development	*Core Entity Data Migrated (Migration Script Execution)*		120,974
	Sub-deliverables with costs	*Data Migration - Air - For SLEIS EIS Reporting*	*19,355.84*	
		Data Migration - Air - For SLEIS Equipment Inventory	*13,307.14*	
		Data Migration - Air - nVIRO/SLEIS Base Sites, Reporting Permits and Schedules for SLEIS Equip Inventory Reporting	*12,097.40*	
		Data Migration - Air - Non-SRN Sites, Site Contacts, Features/Locations	*9,677.92*	
		Data Migration - Air - Submissions and Permits	*24,194.80*	
		Data Migration - Air - Schedules	*6,048.70*	
		Data Migration - Air - Compliance	*12,097.40*	
		Data Migration - Air - Documents (non-CM9)	*12,097.40*	
		Data Migration - Air - Financials	*12,097.40*	
Air Program Configuration and Implementation - Data Migration	Program Component Migration Development	Program Components Configured Program Component Migration (Migration Script Execution)		13,577

STATEMENT OF WORK -
IT CHANGE NOTICE

	Sub-deliverables with costs	*Air Site Information Components Configured*	*543.08*	
		Air Site Information Components Migrated	*543.08*	
		Application (PTI) Components Configured	*543.08*	
		Application (PTI) Components Migrated	*543.08*	
		Application (ROP) Components Configured	*543.08*	
		Application (ROP) Components Migrated	*543.08*	
		Air Permit Information Components Configured	*814.62*	
		Air Permit Information Components Migrated	*814.62*	
		Complaint Information Components Configured	*543.08*	
		Complaint Information Components Migrated	*543.08*	
		Inspection Information Components Configured	*543.08*	
		Inspection Information Components Migrated	*543.08*	
		Enforcement Action Information Components Configured	*543.08*	
		Enforcement Action Information Components Migrated	*543.08*	
		SEP Enforcement Information Components Configured	*543.08*	
		SEP Enforcement Information Components Migrated	*543.08*	
		Toxics Request Form Components Configured	*543.08*	
		Toxics Request Form Components Migrated	*543.08*	
		Stack Test Information Components Configured	*543.08*	
		Stack Test Information Components Migrated	*543.08*	
		Modeling Request Form Components Configured	*543.08*	
		Modeling Request Form Components Migrated	*543.08*	
		TVACC Components Configured	*543.08*	
		TVACC Components Migrated	*543.08*	

STATEMENT OF WORK -
IT CHANGE NOTICE

Air Program Configuration and Implementation - Data Migration	Mock Conversion Cycles	Mock Data Conversions (with issue resolution) to UAT Environment		43,426
	Sub-deliverables with costs	*Mock Conversion Run for User Testing 1*	*4,342.60*	
		Mock Conversion Run for User Testing 2	*4,342.60*	
		Mock Conversion Run for User Testing 3	*4,342.60*	
		Mock Conversion Run for User Testing 4	*4,342.60*	
		Mock Conversion Run for User Testing 5	*4,342.60*	
		Mock Conversion Run for User Testing 6	*4,342.60*	
		Mock Conversion Run for User Testing 7	*4,342.60*	
		Mock Conversion Run for User Testing 8	*4,342.60*	
		Mock Conversion Run for User Testing 9	*4,342.60*	
		Mock Conversion Run for User Testing 10	*4,342.60*	
Air Program Training and Documentation		Training Delivery		64,304
	Sub-deliverables with costs	*Training Management Plan*	*3,858.24*	
		Key Program User Training / Materials	*7,716.48*	
		End User Training Sessions / Materials	*7,716.48*	
		Administrative Training Sessions / Materials	*7,716.48*	
		Form Configuration Training Sessions / Materials	*7,716.48*	
		Advanced Form Configuration Training Sessions / Materials	*7,716.48*	
		Document Template Configuration Training Sessions / Materials	*7,716.48*	
		Inspection Configuration Training Sessions / Materials	*7,716.48*	
		Form Configuration Support	*6,430.40*	
Air Program Configuration and Implementation - Testing / Testing Support	Test Planning and Preparation	Test Management Plan (Master Test Plan) Test Schedules (incorporated into overall project schedule		9,846
Air Program Configuration and Implementation - Testing / Testing Support	Test Development	Test Scenarios / Test Scripts (e.g., for process/configuration, integration testing)		23,943
Air Program Configuration and Implementation - User Testing	Configuration / Process Testing	Processes Stories Tested / Issues Resolved		34,874

STATEMENT OF WORK - IT CHANGE NOTICE

	Sub-deliverables with costs	*Test/Resolve Issues for Process Configuration: SLEIS EIS Reporting*	*3,607.66*
		Test/Resolve Issues for Process Configuration: SLEIS Equipment Inventory Management	*1,374.34*
		Test/Resolve Issues for Process Configuration: Inspections	*515.38*
		Test/Resolve Issues for Process Configuration: Air Complaints	*515.38*
		Test/Resolve Issues for Process Configuration: Public Notice	*858.97*
		Test/Resolve Issues for Process Configuration: Modeling	*515.38*
		Test/Resolve Issues for Process Configuration: Enforcement	*1,374.34*
		Test/Resolve Issues for Process Configuration: Application Void	*343.59*
		Test/Resolve Issues for Process Configuration: Void PTI Permit	*343.59*
		Test/Resolve Issues for Process Configuration: Compliance Reports (Schedules)	*1,374.34*
		Test/Resolve Issues for Generate Annual Air Invoices (Cat F, Annual Emissions Fees)	*1,374.34*
		Test/Resolve Issues for Process Configuration: Tax Exemption	*515.38*
		Test/Resolve Issues for Process Configuration: Stack Tests/CEMS	*1,374.34*
		Test/Resolve Issues for Process Configuration: Void ROP Permit	*515.38*
		Test/Resolve Issues for Process: PTI - New (Main Process)	*2,164.59*
		Test/Resolve Issues for Process: PTI - New (Document Templates)	*1,443.06*

STATEMENT OF WORK - IT CHANGE NOTICE

		Test/Resolve Issues for Process: ROP - Initial (Main Process)	*2,164.59*
		Test/Resolve Issues for Process: ROP - Initial (Document Templates)	*1,443.06*
		Test/Resolve Issues for Process Configuration: ROP - Minor Modification	*1,374.34*
		Test/Resolve Issues for Process Configuration: ROP - Significant Modification	*858.97*
		Test/Resolve Issues for Process Configuration: ROP - Simple Administrative Amendment	*515.38*
		Test/Resolve Issues for Process Configuration: ROP - Administrative Amendment (Enhanced PTI)	*515.38*
		Test/Resolve Issues for Process Configuration: ROP - State-Only Modification	*515.38*
		Test/Resolve Issues for Process Configuration: PTI - Modification	*2,233.31*
		Test/Resolve Issues for Process Configuration: General PTI - New	*2,233.31*
		Test/Resolve Issues for Process Configuration: ROP - Reopening	*858.97*
		Test/Resolve Issues for Process Configuration: ROP - Renewal	*858.97*
		Test/Resolve Issues for Process Configuration: General PTI - Modification	*858.97*
		Test/Resolve Issues for Process Configuration: Toxics	*858.97*
		Test/Resolve Issues for Implement ICIS-AIR Data Flows	*1,374.34*
Air Program Configuration and Implementation - User Testing	Data Verification	Data Conversion Stories Tested / Issues Resolved	5,179
		Test/Resolve Issues for Data Migration - Air - For SLEIS EIS Reporting	*828.64*
		Test/Resolve Issues for Data Migration - Air - For SLEIS Equipment Inventory	*569.69*

STATEMENT OF WORK -
IT CHANGE NOTICE

	Sub-deliverables with costs	*Test/Resolve Issues for Data Migration - Air - nVIRO/SLEIS Base Sites, Reporting Permits and Schedules for SLEIS Equip Inventory Reporting*	*517.90*	
		Test/Resolve Issues for Data Migration - Air - Non-SRN Sites, Site Contacts, Features/Locations	*414.32*	
		Test/Resolve Issues for Data Migration - Air - Submissions and Permits	*1,035.80*	
		Test/Resolve Issues for Data Migration - Air - Schedules	*258.95*	
		Test/Resolve Issues for Data Migration - Air - Compliance	*517.90*	
		Test/Resolve Issues for Data Migration - Air - Documents (non-CM9)	*517.90*	
		Test/Resolve Issues for Data Migration - Air - Financials	*517.90*	
Air Program Configuration and Implementation - Implementation	Acceptance	Acceptance Application Deployment System Accepted Issue Resolution Production Environment Acceptance		30,427
	Sub-deliverables with costs	*SLEIS EPA Reporting Acceptance*	*4,564.05*	
		SLEIS External User Rollout Acceptance	*7,606.75*	
		Core Air Program Go-Live Acceptance	*18,256.20*	
Air Program Configuration and Implementation - Implementation	Production Release Plan	Production Release Plan		1,566
	Sub-deliverables with costs	*SLEIS External Go Live Release Plan*	*783.00*	
		Full Air Go Live Release Plan	*783.00*	
Air Program Configuration and Implementation - Implementation	Production Release	Production Release Plan Production Release		4,561
	Sub-deliverables with costs	*SLEIS External Go-Live Production Release*	*2,280.50*	
		Full Air Go Live Production Release	*2,280.50*	
Air Program Configuration and Implementation - Implementation	Initial Production Support	Initial Production Support		4,572
	Sub-deliverables with costs	*SLEIS External Go Live Initial Support*	*2,286.00*	
		Full Air Go Live Initial Support	*2,286.00*	

STATEMENT OF WORK -
IT CHANGE NOTICE

Product Enhancements and Integrations - Development and Implementation	Core Product Integrations (Dev and Test)	Centralized Electronic Payment Authorization System (CEPAS) - Integration Developed and Delivered to UAT Michigan Cashiering and Receivable System (MiCaRS) - Integration Developed and Delivered to UAT Content Manager 9 (CM9) - Integration Developed and Delivered to UAT		160,839
	Sub-deliverables with costs	*Integration - CEPAS, GIS, MiCARS - Delivered for Testing*	*72,377.55*	
		Integration - CEPAS, GIS, MiCARS - Test Execution / Fixes	*32,167.80*	
		CM9 Document Conversion - Delivered for Testing	*40,209.75*	
		CM9 Document Conversion - Test Execution/Fixes	*16,083.90*	
Product Enhancements and Integrations - Development and Implementation	Core Product Enhancements (Dev and Test)	Product Extensions (identified in Analysis and Planning)		656,586
	Sub-deliverables with costs	*SLEIS ADA Compliance*	*216,673.38*	
		SLEIS Enhancements - EIS Reporting	*13,131.72*	
		nVIRO Enhancements - Dry Cleaners	*6,565.86*	
		nVIRO Enhancements - Asbestos	*32,829.30*	
		nVIRO / SLEIS Enhancements - nVIRO/SLEIS integration for User Auth; SLEIS Reporting, Equip Inventory Review	*85,356.18*	
		SLEIS Enhancements - SLEIS Appl. Module and other SLEIS Enhancements for SLEIS External Go-Live	*49,243.95*	
		nVIRO Enhancements - Air - Submission Packages	*131,317.20*	
		nVIRO Enhancements - Chem Criteria Module	*22,980.51*	
		SLEIS Enhancements - Air - Additional enhancements for SLEIS requirements	*49,243.95*	
		nVIRO Enhancements - Air - Additional enhancements for nVIRO Requirements	*49,243.95*	
Product Enhancements and Integrations - Testing	Core Product Enhancement and Integration Testing	Core Product Integrations Tested and Issues Resolved Core Product Extensions Tested and Issues Resolved		90,825
		SLEIS ADA Compliance	*29,972.25*	

STATEMENT OF WORK -
IT CHANGE NOTICE

	Sub-deliverables with costs	*SLEIS Enhancements - EIS Reporting*	*1,816.50*	
		nVIRO Enhancements - Dry Cleaners	*908.25*	
		nVIRO Enhancements - Asbestos	*4,541.25*	
		nVIRO / SLEIS Enhancements - nVIRO/SLEIS integration for User Auth; SLEIS Reporting, Equip Inventory Review	*11,807.25*	
		SLEIS Enhancements - SLEIS Appl. Module and other SLEIS Enhancements for SLEIS External Go-Live	*6,811.88*	
		nVIRO Enhancements - Air - Submission Packages	*18,165.00*	
		nVIRO Enhancements - Chem Criteria Module	*3,178.88*	
		SLEIS Enhancements - Air - Additional enhancements for SLEIS requirements	*6,811.88*	
		nVIRO Enhancements - Air - Additional enhancements for nVIRO Requirements	*6,811.88*	
Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Disaster Recovery Plan	Disaster Recovery Plan		
Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Security Plan	Security Plan		
Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Configure and Implement Backup Strategy	Backups Configured and Implemented		
Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Disaster Recovery Testing	Disaster Recovery Test Execution Disaster Recovery Test Results		
Environments, Data Management, and Operations Planning - Operations and	Support Software	Support software installed and configured		

STATEMENT OF WORK -
IT CHANGE NOTICE

Support Planning and Implementation			
Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Monitoring Procedures and Reporting	Monitoring and Reporting Procedures	
Environments, Data Management, and Operations Planning - Environments	User Test and Training Environments	UAT Environment Established and Available to Users Training Environment Established and Available to Users	24,139
Environments, Data Management, and Operations Planning - Environments	Production Environment	Production Environment Established Including: Production Environment available for SOM access and testing Issue Resolution Production Environment Acceptance	23,340
Environments, Data Management, and Operations Planning - Environments	EGLE / SOM Production Environment Acceptance Testing	Issue Resolution Production Environment Acceptance	18,882
Warranty Period	90 Day Warranty Period Support Services	Warranty Period Complete (Free of charge per RFP section 26)	-
Project Closure	Close-out and Retrospective	Project Closeout / Retrospective	2,237
		TOTAL	**2,311,473**

STATE OF MICHIGAN
CENTRAL PROCUREMENT SERVICES
Department of Technology, Management, and Budget
320 S. WALNUT ST., LANSING, MICHIGAN 48933
P.O. BOX 30026 LANSING, MICHIGAN 48909

CONTRACT CHANGE NOTICE

Change Notice Number **3**

to

Contract Number **210000001348**

CONTRACTOR	
	WINDSOR SOLUTIONS INC
	4386 S Macadam Ave , Suite 101
	Portland, OR 97239
	Simon Watson10012022
	503-675-7833
	simon_watson@widnsorsolutions.com
	CV0066405

STATE			
	Program Manager	Various	EGLE
	Contract Administrator	Sarah Platte	DTMB
		517-219-2406	
		plattes3@michigan.gov	

CONTRACT SUMMARY			
EGLE ENTERPRISE ENVIRONMENTAL SYSTEM			
INITIAL EFFECTIVE DATE	**INITIAL EXPIRATION DATE**	**INITIAL AVAILABLE OPTIONS**	**EXPIRATION DATE BEFORE**
September 1, 2021	September 30, 2026	5 - 1 Year	September 30, 2026
PAYMENT TERMS		**DELIVERY TIMEFRAME**	
ALTERNATE PAYMENT OPTIONS			**EXTENDED PURCHASING**
☐ P-Card	☐ PRC	☐ Other	☐ Yes ☒ No
MINIMUM DELIVERY REQUIREMENTS			

DESCRIPTION OF CHANGE NOTICE				
OPTION	**LENGTH OF OPTION**	**EXTENSION**	**LENGTH OF EXTENSION**	**REVISED EXP. DATE**
☐		☐		September 30, 2026
CURRENT VALUE	**VALUE OF CHANGE NOTICE**		**ESTIMATED AGGREGATE CONTRACT VALUE**	
$12,184,934.00	$18,150.00		$12,203,084.00	

DESCRIPTION

Effective 8/14/2023, the State adds $18,150.00 in funding to the Contract for the purpose of enabling the Contractor to bill for monthly costs and services incurred from integrating Med Waste into MiEnviro Portal support.

All other terms, conditions, specifications remain the same. Per Contractor, Agency, DTMB Procurement, and the State Administrative Board on 8/24/2021.

Program Managers
for
Multi-Agency and Statewide Contracts

AGENCY	NAME	PHONE	EMAIL
DTMB	Laura Brancheau	517-335-1334	BrancheauL@michigan.gov
EGLE	Brad Pagratis	517-338-1548	pagratisb@michigan.gov

STATE OF MICHIGAN
CENTRAL PROCUREMENT SERVICES
Department of Technology, Management, and Budget

320 S. WALNUT ST., LANSING, MICHIGAN 48933
P.O. BOX 30026 LANSING, MICHIGAN 48909

CONTRACT CHANGE NOTICE

Change Notice Number **2**

to

Contract Number **210000001348**

CONTRACTOR	
	WINDSOR SOLUTIONS INC
	4386 S Macadam Ave , Suite 101
	Portland, OR 97239
	Simon Watson10012022
	503-675-7833
	simon_watson@widnsorsolutions.com
	CV0066405

STATE			
	Program Manager	Various	EGLE
	Contract Administrator	Sarah Platte	DTMB
		517-219-2406	
		plattes3@michigan.gov	

CONTRACT SUMMARY			
EGLE ENTERPRISE ENVIRONMENTAL SYSTEM			
INITIAL EFFECTIVE DATE	**INITIAL EXPIRATION DATE**	**INITIAL AVAILABLE OPTIONS**	**EXPIRATION DATE BEFORE**
September 1, 2021	September 30, 2026	5 - 1 Year	September 30, 2026
PAYMENT TERMS		**DELIVERY TIMEFRAME**	
ALTERNATE PAYMENT OPTIONS			**EXTENDED PURCHASING**
☐ P-Card	☐ PRC	☐ Other	☐ Yes ☒ No
MINIMUM DELIVERY REQUIREMENTS			

DESCRIPTION OF CHANGE NOTICE				
OPTION	**LENGTH OF OPTION**	**EXTENSION**	**LENGTH OF EXTENSION**	**REVISED EXP. DATE**
☐		☐		September 30, 2026
CURRENT VALUE	**VALUE OF CHANGE NOTICE**	**ESTIMATED AGGREGATE CONTRACT VALUE**		
$12,143,462.00	$41,472.00	$12,184,934.00		

DESCRIPTION

Effective 5/23/2023, the parties add the attached Statement of Work for the purpose of examining the feasibility of implementing additional program areas within the Materials Management Division (MMD) in the MiEnviro Portal. The State also adds $41,472.00 in funding to support the examination process.

All other terms, conditions, specifications and pricing remain the same. Per Contractor, Agency, DTMB Central Procurement Services, and the State Administrative Board on 8/24/2021.

Program Managers
for
Multi-Agency and Statewide Contracts

AGENCY	NAME	PHONE	EMAIL
DTMB	Laura Brancheau	517-335-1334	BrancheauL@michigan.gov
EGLE	Brad Pagratis	517-338-1548	pagratisb@michigan.gov

STATE OF MICHIGAN
CENTRAL PROCUREMENT SERVICES
Department of Technology, Management, and Budget
320 S. WALNUT ST., LANSING, MICHIGAN 48933
P.O. BOX 30026 LANSING, MICHIGAN 48909

CONTRACT CHANGE NOTICE

Change Notice Number **1**

to

Contract Number **210000001348**

CONTRACTOR	
	WINDSOR SOLUTIONS INC
	4386 S Macadam Ave , Suite 101
	Portland, OR 97239
	Simon Watson10012022
	503-675-7833
	simon_watson@widnsorsolutions.com
	CV0066405

STATE			
	Program Manager	Various	EGLE
	Contract Administrator	Sarah Platte	DTMB
		517-219-2406	
		plattes3@michigan.gov	

CONTRACT SUMMARY

EGLE ENTERPRISE ENVIRONMENTAL SYSTEM

INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE
September 1, 2021	September 30, 2026	5 - 1 Year	September 30, 2026

PAYMENT TERMS	DELIVERY TIMEFRAME

ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING	
☐ P-Card	☐ PRC	☐ Other	☐ Yes	☒ No

MINIMUM DELIVERY REQUIREMENTS

DESCRIPTION OF CHANGE NOTICE

OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
☐		☐		September 30, 2026

CURRENT VALUE	VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE
$12,143,462.00	$0.00	$12,143,462.00

DESCRIPTION

Effective 9/6/2022, the parties add the attached Statement of Work for the purpose of configuring and implementing the Medical Waste Regulatory Program (MWRP) program into EGLE's enterprise MiEnviro Portal platform. This is a $0.00 Change Notice.

The Contractor Administrator is also changing from Jarrod Barron to Sarah Platte.

All other terms, conditions, specifications and pricing remain the same. Per Contractor, Agency, DTMB Central Procurement Services.

Program Managers
for
Multi-Agency and Statewide Contracts

AGENCY	NAME	PHONE	EMAIL
DTMB	Laura Brancheau	517-335-1334	BrancheauL@michigan.gov
EGLE	Brad Pagratis	517-338-1548	pagratisb@michigan.gov

STATEMENT OF WORK -
IT CHANGE NOTICE

Project Title: Medical Waste Initiative	
Requesting Department: Environment, Great Lakes, and Energy (EGLE)	**Date**:08/01/2022
Agency Program Manager: Rhonda Oyer	**Phone**: 517-897-1395
DTMB Program Manager: Laura Brancheau	**Phone:** 517-335-1334

BACKGROUND:

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Medical Waste Regulatory Program (MWRP) of the Materials Management Division (MMD), is responsible for the administration of the Michigan's Medical Waste Regulatory Act (MWRA). This act requires that the State protect those persons who come into contact with medical waste from exposure to the risk of injury, infection, or disease that is created from improperly disposed medical waste. The MWRA mandates how medical waste producing facilities must manage their medical waste from the point at which it is generated to its ultimate disposal point1.

The MWRP administers two primary aspects of the program, Medical Waste Registrations and Compliance and Enforcement. Under the MWRA, generators of medical waste are required to initially register once generation activities begin at the generation site and renew the registration every three years. Fees based on generation activities are assessed at time of registration/renewal. There are 15,000 active registrants, with a rolling renewal period of three years.

Separately the MWRP is responsible for ensuring compliance with the MWRA, not only by managing compliance with the registration's requirements, but also with proper handling and disposal of medical wastes. Generators of medical wastes are required to have a waste management plan on file, as well as demonstrate proper waste handling and disposal. The MWRP staff work in conjunction with Local Health Departments (LHD) to ensure compliance with MWRA requirements, with both parties sharing inspection responsibilities. The LHD performs most program inspections, under state issued grants, with the MWRP compliance staff taking lead on enforcement issues.

The MWRP uses an information system known as L2K (License 2000, external interface - MiLicense) that is scheduled to be decommissioned on January 31st of 2023, regardless of MWRP migration status.

PROJECT OBJECTIVE:

The objective of the project is to configure and implement the MWRP program in EGLE's enterprise MiEnviro Portal[2] platform. This includes migrating the existing MWRP data from the L2K system, configuring the MWRP program in MiEnviro Portal, and creating workflows, document templates and reports.

SCOPE OF WORK:

[1] https://www.michigan.gov/egle/about/organization/materials-management/medical-waste-regulatory-program
[2] MiEnviro Portal is based upon Windsor Solutions nVIRO enterprise environmental information management solution.

The MWRP implementation will leverage the existing MiEnviro Portal infrastructure, currently deployed for EGLE's Water Resource Division (WRD and currently being implemented for EGLE's Air Quality Division (AQD). The deployment of MiEnviro Portal (dev/test/prod) are all hosted in Windsor's cloud environment.

System Configuration

The MiEnviro Portal product is highly configurable, allowing it to meet most MWRP program needs without the need for customization. Some key configuration steps during the implementation of the software for the MWRP will include:

- The base system configuration will be established to support the specific needs of the MWRP, including new permit (registration) types, definition of workgroups, roles and so on.
- Electronic forms will be configured in the nFORM sub-system that is part of MiEnviro Portal allowing online submission of individual permit registration and renewal forms, Medical Waste Management Plans, as well as other forms that may be necessary to support the MWRP processes such as change of ownership forms.
- Business workflows will be configured to support processing of registration/renewal applications and any other system workflows necessary to support the activities identified in Appendix B: Gap Assessment.
- Document templates will be created for the registrations and renewals, 60/30/90-day notice letters and any necessary documents to support the activities identified in the Gap Assessment deliverable.
- Reports will be configured to meet the inquiry capabilities needed by MWRP staff.

Configuration Artifacts are detailed in Appendix A: MWRP_nVIRO_Assessment - Configuration Requirements

Data Migration

Data will be mapped in detail from the L2K system to the MiEnviro Portal database, and data migration processes will be developed to shape and bring the existing system data into the new system as part of the implementation. The MWRP has expressed the need to migrate data only as far back as program data retention rules mandate (7 years).

Customization Development

The nVIRO product was developed to support a variety of different environmental regulatory programs, including state and federal environmental permitting programs, and the core functional capabilities readily align with MWRP program needs, for example, facility data management, permit data management, and report data management, workflow management, and document management. The gap analysis did not identify any major functional gaps but did identify one minor enhancement that will be required.

Aggregation of Document Generation Batches

There are over 15,000 registrants in the MWRP that will need to be migrated into MiEnviro Portal. However, their need to interact with the MWRP and MiEnviro Portal is once every 3 years, as registrations expire. As a result, it is best to engage the registrants as they come due, simultaneously enrolling them in the portal, as well as collecting registration information and payments through MiEnviro Portal. The MWRP will need to perform on-going outreach and coordination with the registrants, as they come due for renewal.

Current registrants will be sent a paper letter notifying them of the new system, procedures for enrolling and how to register and pay online. This will necessitate the weekly generation of

notification letters (60/30/90 days) for up to 3 years or until all current registrations have gone through the renewal process.

Current nVIRO functionality supports the batch generation of documents as “document sets”, daily. Daily document sets can be aggregated into a single .pdf batch manually. To support the efficient notification of 15,000 registrants on a rolling basis this process will need to be automated and allow document sets to be aggregated into weekly print jobs (.pdf).

This enhancement will require leveraging existing nVIRO services and coordinating them through background system jobs. It is anticipated that this enhancement will NOT require updating the nVIRO core code base, and as a result will not be impacted by product release cycles. Rather it will be deployable through current program configuration deployments as database objects.

Leveraging the current State of Michigan print shop approach to document generation (.dat files) is out of scope for this effort. Files will be provided as .pdf formats for direct printing.

Product Interface Development

The PayPlace

MiEnviro Portal will be configured to interact with the PayPlace for the MWRP transactions. Correspondingly, Windsor will work with the SOM to have the PayPlace configured to accept transactions from MiEnviro Portal for the MWRP transactions

MiCaRS

MiEnviro Portal will be configured to interact with MiCaRS for the MWRP transactions. Correspondingly Windsor will work with the SOM to have MiCaRS configured to report on MWRP transactions.

TASKS:

Technical support is required to assist with the following tasks:

This effort will encapsulate the following activities, which are described in further detail in the Project Plan section of this SOW.

- Process Design
- Implementation Planning
- MiEnviro Portal System Configuration
- Data Migration from L2K
- Business Process Configuration
- User Verification of Configuration
- Data Migration
- Customization Development
- Integration Configuration
- User Acceptance Testing
- Migration to Production

DELIVERABLES:

Deliverables will not be considered complete until the Agency Project Manager has formally accepted them. Deliverables for this project include:

Payable Deliverables

Deliverable	Cost
Project Work Plan	$3,742
Final Process Design Documents	$20,216
Configuration Environment Established	$3,644
Migrated Data	$17,284
Business Process Test Feedback/Resolution (Jira Resolved Tickets)	$56,650
Acceptance Test User Feedback/Resolution (Jira Resolved Tickets)	$25,696
Implemented System	$14,368
Final Status Report	$6,010
TOTAL	**$147,610**

PROJECT CONTROL AND REPORTS:

A bi-weekly progress report must be submitted to the Agency and DTMB Program Managers throughout the life of this project. This report may be submitted with the billing invoice. Each bi-weekly progress report must contain the following:

1. **Hours**: Indicate the number of hours expended during the past two weeks, and the cumulative total to date for the project. Also state whether the remaining hours are sufficient to complete the project.
2. **Accomplishments**: Indicate what was worked on and what was completed during the current reporting period.
3. **Funds**: Indicate the amount of funds expended during the current reporting period, and the cumulative total to date for the project.

SPECIFIC DEPARTMENT STANDARDS:

Agency standards, if any, in addition to DTMB standards.

PAYMENT SCHEDULE:

Payment will be made on a Satisfactory acceptance of each deliverable basis. DTMB will pay CONTRACTOR upon receipt of properly completed invoice(s) which shall be submitted to the billing address on the State issued purchase order not more often than monthly. DTMB Accounts Payable area will coordinate obtaining Agency and DTMB Project Manager approvals. All invoices should reflect actual work completed by payment date and must be approved by the Agency and DTMB Program Manager prior to payment. The invoices shall describe and document to the State's satisfaction a description of the work performed, the progress of the project, and fees. When expenses are invoiced, receipts will need to be provided along with a detailed breakdown of each type of expense.

Payment shall be considered timely if made by DTMB within forty-five (45) days after receipt of properly completed invoices.

EXPENSES:

The State will NOT pay for any travel expenses, including hotel, mileage, meals, parking, etc.

PROJECT CONTACTS:

The designated Agency Program Manager is:

Rhonda S. Oyer
EGLE – Materials Management Division
Solid Waste Section
Constitution Hall
525 W. Allegan
Lansing, MI 48912
517-897-1395
517-335-0610
OyerR@michigan.gov

The designated DTMB Program Manager is:

Laura Brancheau
DTMB – Agency Services
Constitution Hall, 1st Floor, North Tower
525 W. Allegan
Lansing, MI 48933
517-335-1334
BrancheauL@michigan.gov

AGENCY RESPONSIBILITIES:

EGLE (Agency) will provide staff to be available for requirements validation, project status meetings, and document review.

LOCATION OF WHERE THE WORK IS TO BE PERFORMED:
Consultants will work at:

Windsor Solutions Inc.

EXPECTED CONTRACTOR WORK HOURS AND CONDITIONS:

Work hours are not to exceed eight (8) hours a day, forty (40) hours a week. Normal working hours of 8:00 am to 5:00 pm are to be observed unless otherwise agreed to in writing.

No overtime will be permitted.

This purchase order is a release from Contract Number 210000001348. This purchase order, statement of work, and the terms and conditions of Contract Number 210000001348 constitute the entire agreement between the State and the Contractor.

PROJECT PLAN:

The following tasks will be conducted during this project to migrate MWRP's business processes to MiEnviro Portal and to replace the existing systems.

1 Project Management
Tasks will focus on creating an effective joint project team and establishing a clear plan for the execution and control of the project. The major deliverable will be a complete project plan and schedule, detailing how the project will be executed and controlled.

Regular status meetings will be established to allow participants to review progress and refine the project plan as needed.

1.1 Develop Project Plan

Windsor will prepare a project work plan, by refining this document, which will detail the various tasks to be conducted to complete the project, including the project control mechanisms such as communications strategy, change management procedures, and issue management procedures.

A detailed work breakdown structure and project schedule will be prepared.

1.2 Conduct Project Kickoff Meeting

A kickoff meeting will be held via conference call with the Project Team to review the updated project plan and final schedule. The overall structure of the project plan will be reviewed with the Project Team during this meeting.

1.3 Conduct Project Status Meetings

Project status meetings will be held by conference call every two weeks during the course of the project involving the MWRP and Windsor Project Managers and other Project Team members as appropriate. Each status call will review work completed during the previous reporting period and the work planned for the next period, along with any issues that have been encountered.

Products

- Project Work Plan
- Biweekly Status Reports

2 Process Design

During this task, Windsor will work with the Project Team to design the implementation of the MWRP business processes in MiEnviro Portal.

2.1 Prepare for Process Design Meetings

Windsor will prepare agendas, supporting materials, and presentations for workshops to be conducted with the Project Team. The purpose of the workshops will be to review the registration and renewal process considering the work already performed through the prior Gap Assessment.

2.2 Conduct Process Design Meetings

Windsor will facilitate remote workshops with the Project Team to design the forms, workflows, documents, and reports that will be needed to support the required business processes.

2.3 Transition Planning

Windsor will facilitate a meeting with the team to plan the steps necessary for the transitioning from L2K to MiEnviro Portal. As there are 15,000 registrants, a well thought out transition plan and communication strategy will be critical.

2.4 Develop Draft Process Design Documents

Windsor will document the results of the workshops in the form of draft design documents and will circulate these documents to the Project Team.

2.5 Review Draft Process Design Documents

The Project Team will review the draft documents to ensure that they accurately define the program's needs for configuration and for changes to MiEnviro Portal.

2.6 Conduct Process Design Confirmation Meetings

Windsor will facilitate a meeting with the Project Team to review the feedback from the design review and to confirm the requirements for configuration, customization, and integration.

2.7 Develop Final Process Design Deliverables

Windsor will incorporate feedback from the Project Team's review of the design documents to create final versions which will then be distributed to the Project Team.

2.8 Develop Product Backlog

Windsor will create a product backlog for the MiEnviro Portal implementation project to include the configuration and customization requirements identified during the process design tasks. The Product Backlog will identify the specific forms, workflows, documents, and reports to be developed, as well as any customization and system interface configuration that will be required. This Product Backlog will be used to direct the subsequent configuration and development tasks.

2.9 Conduct Project Checkpoint

Windsor will meet with the MWRP Program Manager to review the conclusions from the process design tasks and to make any necessary adjustments to the project work plan that may be necessary due to any newly understood requirements or functional gaps which impact the planned tasks or schedule.

Products

- Process Design Documents
- Transition Plan
- Product Backlog
- Updated Project Work Plan

3 System Configuration

During this task, the MiEnviro Portal configuration environment will be established, along with the core system settings.

3.1 Prepare Configuration Environment

The current MiEnviro Portal system (dev) that is installed in Windsor's configuration environment will be updated to prepare for configuration tasks, including establishing the core settings for the new program area. Additional internal user accounts will be created, and user permissions applied.

3.2 Establish Core System Configuration

Base configuration of MiEnviro Portal will include definition of central reference lists, including permit categories and permit types, and others.

Products

- Configuration Environment Established

4 Data Migration

Data migration tasks will include mapping from the L2K database to MiEnviro Portal and the development of data conversion routines, in addition to the design and implementation of Program Component Form(s) (PCFs). These dynamic forms will be used in MiEnviro Portal to store and manage program specific data.

4.1 Design Data Migration

Data fields in the existing L2K system will be mapped to their equivalent fields in MiEnviro Portal. Filtering criteria will be defined to direct what historic data will be migrated. Any data transformation needs will be identified.

4.2 Configure Component Forms

Program Component Forms (PCFs) are dynamic screens that are user-defined, and which are used in MiEnviro Portal to store and manage program specific information beyond the core data points that describe core entities such as permits, inspection, enforcement actions, and so on.

4.3 Develop Data Conversion

Windsor will develop data migration routines to migrate data from the legacy databases to MiEnviro Portal. Data to be migrated will include site data, registration data, contact data and payment data.

Following the initial development of the data conversion from the existing systems, the data migration processes will be executed repeatedly during the project to refresh the configuration and testing environments. Refinements to the data migration processes will be made as needed during development and testing tasks.

Products

- Data Mapping
- Migrated Data

5 Business Process Configuration

The business processes that were defined and characterized during the Process Design task will be established in the configuration environment. The configuration work will be generally organized into the following process groups[3]:

- Registration and Renewals
- Revisions/Payment Adjustments
- Notifications
- Reports

As soon as the configuration work for a business process group is complete, it will be released for the MWRP user team to test, with Windsor then incorporating the feedback from the testing into the configuration. Work on each process group will overlap so that, while the MWRP user team is working on testing a given process group, Windsor staff will be working on configuring the next process group.

5.1 Configure Business Processes

For each business process included in the group, electronic forms will be configured in the nFORM sub-system that is part of MiEnviro Portal.

Processing workflows will be created to support the processing of the required electronic application forms, compliance reports, and inspections.

Document templates will be created for basic permit structure and content and for other letters and notices to be generated by the new system.

[3] These tentative process groupings will be re-evaluated following completion of Process Design tasks.

Reports will be configured in the nVISAGE sub-system that is part of MiEnviro Portal for the standard reports needed by MWRP staff. Beyond these standard reports, the nVISAGE component will allow MWRP staff to develop further ad hoc reports as needed in the future.

5.2 User Test Business Processes

Once configuration is complete for the process group, MWRP users will be asked to review and provide feedback on the configuration. Training will be provided to the user team as each process group is released, along with a walkthrough of the functionality included in the group. Users will record feedback on each process using Windsor's Jira issue tracking system, and feedback might include changes to online forms, document, workflows, and reports.

5.3 Apply Business Process Test Feedback

Windsor will review feedback provided by MWRP users and will apply updates to the various configuration components as needed. Updates will be made available to the user team for review and retesting as the remaining configuration tasks progress.

Products

- Electronic form templates
- Workflow templates
- Document templates
- Developed reports
- Business Process Test Feedback/Resolution (Jira Resolved Tickets)

6 Customization Development

Although nVIRO already provides the core functional capabilities required to support state and federal permitting programs, process design tasks may identify specific customizations that will be required to existing functionality to provide full support for MWRP processes.

Aggregation of Document Generation Batches was the enhancement that was identified by the gap analysis. It is discussed in more detail in the Customization Development section above.

Products

- Developed System Customizations

7 Product Integration Configuration

The product interfaces that were identified by the gap analysis are discussed in the previous section. These will again be grouped and scheduled for configuration. Windsor will work with SOM business and technical staff to configure these interfaces.

Products

- Configured System Interfaces

8 Acceptance Testing

The completed system will be fully tested by MWRP staff using an acceptance test release deployed to the Windsor hosted Test (UAT) environment. Updates will be applied to the test system as needed in response to issues identified by the testers.

During the later stages of testing, MWRP may wish to consider inviting representatives from the regulated community to take part in evaluating the new system before implementation.

8.1 Prepare Acceptance Test Environment

Windsor will install the fully configured system in the Windsor hosted Test environment. Data migration routines will be executed to populate the MiEnviro Portal database with data from the L2K database.

8.2 Provide User Training

Windsor will train MWRP staff who will themselves become the user trainers for the new system[4]. These staff will be expected to perform the final testing of the new system before it is released.

This formal training will build upon the process walkthroughs and initial training provided during the earlier testing of the business process configuration.

8.3 Acceptance Test Application

Acceptance testing will involve confirming that the application functions as expected based on the process design. Testers will be encouraged to test the system using real-life business processes and workflows.

8.4 Resolve Acceptance Test Issues

Windsor will resolve reported issues and respond to submitted questions and comments. An issue tracking system will be used during system testing, allowing testers to see all reported issues and monitor the progress of resolution. Windsor will keep track of all modifications made, so that the users can re-test the system to confirm that the appropriate resolution has been achieved.

Products:

- Acceptance Test Release
- Acceptance Test User Feedback/Resolution (Jira Resolved Tickets)

9 Implementation

Following the acceptance testing period and upon approval by the Project Team, the new system will be deployed to the Windsor hosted production environment.

9.1 Prepare Production Environment

Windsor will install and configure the configured application in the Windsor hosted production environment. Data migration routines will be executed to populate the new database with data from the L2K database.

9.2 Review and Walkthrough Production System

Windsor will provide a full walkthrough of the new system functionality, including the migrated data, system configuration, electronic forms and workflows, and will provide any general policy and procedure direction.

Products:

- Implemented System

[4] Windsor acknowledges the limited number of staff that are anticipated to work with this solution and will right-size the training accordingly

Appendix A: MWRP_nVIRO_Assessment - Configuration Requirements

Configuration Item Name	Item Type	Current File Name	Complexity	Notes/Questions	MWRP Review Notes
Applications and Permit Change Forms					
Medical Waste Registration (Initial)	Application Form	SAMPLE MEDICAL WASTE INITIAL PAPER APPLICATION.pdf	Low		
Medical Waste Registration (Initial - Manual)	Application Form	SAMPLE MEDICAL WASTE INITIAL PAPER APPLICATION.pdf	Low	To be designed	
Medical Waste Registration (Renewal)	Application Form	BLANK MW RENEWAL FORM.pdf	Low		
Medical Waste Registration (Renewal - Manual)	Application Form	BLANK MW RENEWAL FORM.pdf	Low		
Medical Waste Management Plan	Application Form	MED WASTE MANAGEMENT PLAN.pdf	Med	To be merged with Initial and Renewal forms	
Name Change / Change of Ownership Form	Data Adjustment Form	TBD	TBD	Possible New Form	
Update Activity/Fee form	Data Adjustment Form	TBD	TBD	Possible New Form	
Document/Notification Templates					
CURRENT MEMO	Notification Template	L2K MW LTR CURRENT MEMO.pdf	Low	Do not have current emails for everybody- so how do we notify in the meantime	
30 DAYS LATE MEMO	Notification Template	L2K MW LTR 30 DAYS LATE MEMO.pdf	Low		
90 DAYS LATE MEMO	Notification Template	L2K MW LTR 90 DAYS LATE MEMO.pdf	Low		
Medical Waste Registration Certificate	Document Template	CERTIFICATE.pdf	Low		

Letter Requesting Additional Monies	Document Template	MW LTR Requesting Addl Monies.pdf	Low	May not be needed with automation	
Reports					
BA Temp Location Report	Report Template		Low		
BHCS Online Renewal Percentage Report	Report Template		Low		
BPL Application Metric Report	Report Template		Low		
IT Custom Activity User DateReport	Report Template		Low		
Med Waste Certs	Report Template		Low		
Med Waste Renewal Apps	Report Template		Low		
MW Active Facilities by County	Report Template		Low		
MW County Report	Report Template		Low		
MW License Count by Exp Date	Report Template		Low		
Workflows					
Initial Registration - Online				Site submits data, a new site is generated, fees are calculated, pay either through PayPlace or Check/Voucher, State will review, and if approved - auto-issue/generate the registration	
Initial Registration - Manual/Internal				Site submits data on paper fees are paid in advance via check -and forwarded with the form State will perform manual data entry of the form. A site is created - auto-issue/generate the registration. Print out	

				copy and forward to the registrant	
Renewal - Online				Form is pre-populated. Site submits data, site is updated, fees are calculated, pay either through PayPlace or Check/Voucher, State will review, and if approved - auto-issue/generate the registration	
Renewal - Manual/Internal				Site submits data on paper fees are paid in advance via check -and forwarded with the form State will perform manual data entry of the form. Data is prepopulated and updated at data entry - auto-issue/generate the registration. Print out copy and forward to the registrant	

Fee Adjustment				Occasionally fees will need to be adjusted up or down for mistake in payments or change in activity. It is anticipated that the automate nature of the system will mitigate necessary changes. It will still need to be supported for changes in activity. Bal and I came up with the idea of an activity modification form. It would calculate the difference paid and when it increases, create an adjustment/add fee. For decreases - the state will still have to manually issue a refund request.	The program currently will extend registrations in cases of double/overpayments. Do we allow an internal user to extend a license expiration date without any forms/workflows? Just manually change.

Transfer of Ownership/ Name Changes				Occasionally sites will change the business name/whole new business entity or change who owns the site. This results in a whole new registration number being issued. State typically picks up on this on reviewing the submissions. Will need to determine- does it become a new site in nVIRO? If not, a new site then how do we create an entirely new registration number for the existing site when on renewals we need to keep the registration number consistent but with change of ownership we need to iterate the registration number.	
Data Conversion					
Person can have many sites (although I do not know if the data actually supports this				Very basic data. 3 Data tables - Person - which is contact and site/business information, License which is the current license record- continually updated from what I can tell. Address is a normalized table of addresses.	
Sites have a single registration					

Change in business ownership = new registration (and possibly a new site)				Going to have to infer a lot of data in nVIRO from basic data/assumptions in the source data. Will need to derive activity from registration data to pre-populate activities on next renewal.	

Appendix B: Gap Assessment

INTRODUCTION

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Medical Waste Regulatory Program (MWRP) of the Materials Management Division (MMD), is responsible for the administration of the Michigan's Medical Waste Regulatory Act (MWRA). This act requires that the State protect those persons who are exposed to medical waste from the risk of injury, infection, or disease created from improper disposal. The MWRA mandates how medical waste producing facilities must manage their medical waste from the point at which it is generated to its ultimate disposal point[5].

The MWRP administers two primary aspects of the program, Medical Waste Registrations and Compliance and Enforcement. Under the MWRA, generators of medical waste are required to initially register once generation activities begin at the generation site and renew the registration every three years. Fees based on generation activities are assessed at time of registration/renewal. There are 15,000 active registrants, with a rolling renewal period of three years.

Separately the MWRP is responsible for ensuring compliance with the MWRA, not only by managing compliance with the registration's requirements, but also with proper handling and disposal of medical wastes. Generators of medical wastes are required to have a waste management plan on file, as well as demonstrate proper waste handling and disposal. The MWRP staff work in conjunction with Local Health Departments (LHD) to ensure compliance with MWRA requirements, with both parties sharing inspection responsibilities. The LHD performs most program inspections, under state issued grants, with the MWRP compliance staff taking lead on enforcement issues.

The MWRP uses an information system known as L2K (License 2000, external interface - MiLicense) that is scheduled to be decommissioned on January 31st of 2023, regardless of MWRP migration status. As a result of this impending deadline, the MWRP has requested that a gap analysis and implementation plan be developed to migrate the MWRP data, workflow, and program artifacts (documents, reports) off the legacy L2K platform and on to the EGLE's enterprise MiEnviro Portal platform.

As the first step in implementing the MiEnviro Portal, this gap analysis and project planning exercise needed to occur. The purpose of this effort is to consider how MiEnviro Portal will need to be configured to meet MWRP requirements; how data from the existing L2K system will be migrated to, and presented in, the new system; and what additional functionality, if any, needs to be added to the system to meet MWRP requirements. Once the business requirements are understood and documented within this deliverable, an implementation plan and cost estimates will be developed to guide the implementation, for the MWRP's consideration.

Project Approach

The gap analysis began with a two-day onsite work session with key MWRP staff in attendance.

Day 1 focused on:

- Project objectives
- Current Process Challenges and Pain Points
- Current Systems UI Review (Internal/External)
- Data Migration Needs
- Integration Points with Other Systems

[5] https://www.michigan.gov/egle/about/organization/materials-management/medical-waste-regulatory-program

- Review of Current Work Processes

With an understanding of the above items, Day 2 addressed a system demo of relevant nVIRO features as well as a demo of a prototype Medial Waste form and associated workflows.

This document presents the findings from this analysis for review by MWRP staff.

Document Organization

This document is organized into several sections. The first section *Program Summary* provides an overview the current MWRP program management activities and general workflows as they relate to a future implementation of the MiEnviro Portal.

The *Future MiEnviro Portal Medical Waste Generation Business Workflow* discusses a vision for how the aspects of current medical waste program management might be implemented in the future solution. *Implementation and Configuration* addresses the different components of the MiEnviro Portal and how they will be generally configured to address the MWRP implementation requirements. *Data Migration* discusses the approach that will be employed to migrate the MWRP data based on this assessment's findings. *System Interfaces* documents any third-party systems that the MiEnviro Portal must interface with to meet the MWRP's needs and any consideration in this integration.

The section *Gap Analysis* provides an overview of the fit of the solution to meet the MWRP's needs and any documented gaps for the team's consideration. The *Out-of-Scope* discussion documents those aspects of the program considered to be out of scope for this effort

In support of the remainder of the document, ***Appendix A: MWRP_nVIRO_Assessment – Configuration Requirements***, provides an inventory of each of the application forms, and documents, letter, and reports used by MWRP in each of the functional areas.

MEDICAL WASTE

Program Summary

Overview

Generators of medical waste are required under the MWRA to register with the state as a generator of medical wastes. These generators are responsible for the proper handling and ultimate disposal of their medical wastes. A registration is good for three years after which time the registrant is required to renew their registration. Renewals are not based on a calendar year/fixed due date, rather renewals are rolling throughout the year based on the date that the original registration was issued. Late renewals are issued against the initial registration date, not the actual renewal date.

Notifications

The MWRP currently notify registrants of pending renewal 60 days prior to the registration expiration date. Additional notifications are sent at 30 and 90 days past the expiration date. These notifications consist of a date appropriate letter with a copy of the application information generated from data in the L2K database. This process is an automated process where a print file is generated and forwarded to the print office for printing and mailing to the registrants.

Initial Registration/Renewal Processing

Medical waste handlers can initially register and renew either online, or manually/on paper. Online registration employs the L2K MiLicense external facing user interface. Registrants register with the

system, creating a User ID and password. There is no confirmation of identity or authorization to submit for a facility through this interface. Registrants denote their primary medical waste generation activity which triggers the fee they are assessed, after which they are taken to the PayPlace to pay online. The process is generally the same for renewals

Alternatively, registrants can submit registrations/renewals on paper. Paper forms are hand keyed by MWRP staff into the L2K system. Forms are routed through the cashier's office to the MWRP as they typically include checks for payment for the registration. Renewals often come in the form of a marked-up copy of the pre-populated renewal document sent by the print office through one of the notification cycles.

Registrations/renewals are not issued until the they are paid in full. MWRP staff are required to perform a manual reconciliation of payments to amount owed, as there can be over/under payments that must be addressed. Once payments are reconciled/confirmed the registration/renewal is set to 'issued' in L2K and new expiration date is set.

The split between online and paper registration/renewals is approximately 50%. MWRP staff process approximately 200 registrations/renewals per week. This includes payment reconciliation and data entry of paper submissions as well as online submission confirmations.

L2K provides the functionality to batch update/issue registrations in the instance of corporate ownership of several medical waste generation facilities. MWRP can also perform batch updates of corporate ownership information affecting all associated child registrations.

As registrations/renewals are processed and approved by the MWRP staff, a job creates registration certificates for the registrants' records. This job generates a print job for the print office to process and mail to the registrant.

Registration Status Tracking

Registrations can be one of 3 statuses: Open, Closed and Lapsed. Closed indicates that the location is either out of business or in business but no longer generating medical wastes. Lapsed indicates that the registration has basically expired, but it can be re-opened should they submit the necessary documentation and fees; basically expired. The registration is set to Lapsed automatically in L2K after 6 months (and several notifications).

Payment Tracking

Likely due to the volume of paper/manual submissions there are a variety of edge cases around payment processing and tacking. These instances include:

- Insufficient funds - checks
- Double payment
    - Pay Online and a subsequent paper check follows due to confusion.
    - Facility renews out of cycle
        - Results in extension of the registration to 6 years (two registration cycles). Refunds are only issued if requested by the registrant.
- Overpayment: Pays over the amount owed (e.g., $75 owed, $100 paid)
    - In this instance monies are refunded.

Currently the eCheck option in the PayPlace is not available to new registrants; they can only use paper check or online credit/debit cards. This is at the request of treasury office, and the registrant ID must be verified, after which they can use eCheck for renewals. MiLicense currently allows any entity to obtain an ID and register, unverified. The future implementation of nVIRO for MWRP will need to assess these user

verification requirements in light of treasury requirements, and MWRP processing needs. nVIRO can be configured to require verification information to set-up an account and register. The MWRP will need to assess the workload against the need.

The MiLicense system does not provide a portal to the user, telling them the status of their registration or registrations due. In contrast, renewals will only be available in the future MiEnviro Portal implementation if it is coming due. A renewal task record will be automatically created and available in the portal. This will likely mitigate many of the instances of over/duplicate payment.

Additionally, in the MiEnviro Portal, unless the registration/renewal is paid in full the registration will not be issued (depending on nVIRO configuration options selected by the MWRP); mitigating some of the payment edge cases.

There will likely need to be some modifications of policies and procedures around current payment processing, due to the automated nature of the MiEnviro Portal. Windsor will work with the MWRP and the Cashier's office to address these challenges. Current State users of the MiEnviro Portal have likely experienced issues similar to those experienced by the MWRP as well as the requirements of the cashiers' office. Windsor will bring this experience to the project during the detailed implementation analysis and design for implementation.

Generator Universe and Associated Parties

Any entity in the State that generates the following must obtain a medical waste registration:

1. Cultures and stocks of infectious agents and associated biologicals, including laboratory waste, biological production wastes, discarded live and attenuated vaccines, cultures dishes, and related devices.
2. Liquid human and animal waste, including blood and blood products and body fluids, but not including urine or materials stained with blood or body fluids.
3. Pathological waste including human organs, tissues, body parts other than teeth, products of conception, fluids removed by trauma or during surgery or autopsy or other medical procedure, and not fixed in formaldehyde.
4. Sharps specified as needles, syringes, scalpels, and intravenous tubing with needles attached; and
5. Contaminated wastes from animals that have been exposed to agents infectious to humans, these being primarily research animals

Examples of covered parties include hospitals, private practice offices (MD, DO, DDS, DVM, etc.), tattoo/body art facilities, funeral homes, pharmacies offering flu shots or generating needles with syringes in compounding medications, health departments, clinics, etc.

Excluded entities include:

- Personal residences (apartments, homes, condominiums, etc.) not performing any business or commercial activities within the residence regulated under the MWRA, including services related to generation, storage, treatment, or disposal of medical waste.
- Homes for the aged and assisted living facilities.
- Agricultural businesses (dairy farms, orchards, etc.).

In addition to private businesses, there are State government entities that generate medical waste and accordingly, are governed by the MWRP. The future MiEnviro Portal implementation will need to consider these entities for registration payment processing, as there is typically an interagency exchange of funds to cover the cost of registrations. There are less than 100 State waste generators registered.

While some medical waste generators self-identify/register, others are identified by the State and partner agencies. For example, when businesses register for business licenses through the Licensing and Regulatory Affairs (LARA), they will often be advised of MWRP registration requirements. Additionally, MWRP will perform searches of LARA databases to identify candidate registrants.

The MWRP has relationships with local health departments (LHDs) in which LHDs will notify the MWRP and the individual business of registration requirements. The LHDs will discover candidate registrants through inspections they perform for health program areas.

While most of the registrations are associated to a single business entity, there are others that are related to corporate entities. For example, corporate headquarters for CVS Pharmacy will manage the registration and payments for all their individual pharmacies throughout the state. They typically submit a single payment for all registrations on the same renewal cycle. The corporate representative is responsible for completing the necessary information for all held pharmacies. Thus, a single registered user of the future nVIRO implementation for MWRP, may be responsible for many different sites/registrations

Occasionally business entities undergo mergers, name changes and sales/transfers of ownerships. This is currently a manual process, where MWRP staff review the renewals for such changes. A change of name puts the registration on hold till the change is investigated. There is no legal requirement that business notify of a name change. A sale/transfer of a facility requires a new registration at time of the transfer. There is no legal requirement for notification of sales of registered businesses.

Compliance and Enforcement

The MWRA requires that medical waste generators develop and follow a medical waste management plan. This currently is not required to be submitted at time of registration/renewal; but it is required to be onsite and available upon request at time of facility inspection. The MWRP would like to evaluate the possibility of requiring submittal at time of registration/renewal in the future implementation. This is the only compliance reporting component of the MWRP.

There is an inspection component to the MWRP with approximately 50-100/year being performed. The bulk of the inspections are performed by the LHDs with MWRP providing oversight. Completed inspection forms are forwarded to the MWRP compliance staff for review. LHDs perform these inspections under a grant program, compensating the LHDs for their efforts.

The LHDs handle initial responses for deficiencies found during inspections. Escalated enforcements are handled by the MWRP's compliance staff.

Most compliance issues are raised through complaints, such as improper/illegal disposal of medical wastes.

The MWRP would like to consider the use of nVIRO's compliance and enforcement module for the tracking and management of inspections, enforcement actions and complaints. There currently are no information systems that manage this data. It was agreed that considering the critical nature of having a registration system in place by the January of 2023, implementation for compliance activities would be evaluated in a later effort. For this reason, compliance activities were not discussed in detail.

Document Management

The MWRP does not currently use any document management tools. Print job files and scanned submittals from the cashier's office are currently stored on a network shared location.

Future MiEnviro Portal Medical Waste Generation Business Workflow

The following discussion assumes that the MWRP, will no longer support manual processing and data entry of medical waste application and renewal forms as a standard business practice. With this assumption, the process of sending 30/60/90-day paper reminders through the print office will be phased out as registrants come on board with the portal. However, sending paper copies of pre-populated forms to the businesses will cease. Registrants will only receive their notification to renew/reminders and instructions on how to register with the Portal. The following discussion presents a largely online, electronic approach to MWRP application/renewal processing, shifting the program from the current 50% manual data entry workload.

An implementation that continued to support the largely manual approach as well as automated, online processes, would double the effort necessary to migrate off L2K and given the critical timeline, endanger success of the effort. Additionally, if the State provides the means for the registrants to submit using paper, they likely will not voluntarily migrate to online; typically taking the path of least resistance.

It was noted during the sessions that since the renewals are rolling over 3 years, the impact of the migration to online process would be mitigated and the MWRP could focus their efforts on out-reach and training to those registrations first coming due (approx. 1250 / quarter of a universe of 15,000 registrants).

A process for receiving paper forms, to address the exception to the rule, is outlined below, as accommodations must be for the edge cases.

As registrations and renewals are on a three-year cycle and the MWRP interacts with registrants typically every 3 years, notifications/reminders will be generated in weekly batches for printing by the printing office. This will be a simplified form noting their responsibilities, and explaining how and where to perform the following activities:

The procedures involved in processing an authorization or registration application for will vary depending on the action being performed (registration, renewal, closure etc.), but in general terms the following steps will be supported by the MiEnviro Portal system:

1. An entity (facility, organization, person) wishing to submit an application for a new registration, or if applicable, to renew or modify an existing registration, will register with the MiEnviro Portal system (if not already registered) and will then use the system to select the proper application form. When possible, the system will prefill relevant data (such as existing registration/authorization number, addresses, dates, etc.) into the application form based on the information already held in the system.
    a. The system will support a single entity being responsible for multiple facility/locations (e.g. CVS Corporate Health and Safety Official submitting for multiple registration/locations). This individual will need to be authorized to represent multiple sites.
2. The registrant will work through the electronic registration form, providing all the required information, including any attachments that may be necessary. The electronic form will be configured to enforce appropriate business rules such as required fields, conditional information, permitted field values, and so on.
    a. If the registrant is to submit a renewal to the MWRP, they will be presented with a Medical Waste renewal task requirement in their site-specific portal page (managers of multiple sites will see all of their site's requirements and can filter by site). This task will be driven by the registration's expiration. Selecting the task will take the registrant to the renewal form with their prior data pre-populated for confirmation or revision.
    b. The MWRP may opt to require the submission of a Medical Waste Management Plan as part of the submission.

c. Once completed, the registration/renewal record will be electronically signed and submitted through a CROMERR-compliant mechanism.

i. The team will determine the level of electronic signature verification necessary for the MWRP.

3. Any application fees that are due may be paid electronically at the time of submission or mailed separately. Fees will be auto calculated based upon the primary medical waste generation activity type selected on the registration.

a. Registrations can be configured such that those not paid in full will not move forward for processing by the MWRP. The MiEnviro Portal has connections to MiCARS to receive payment information related to the registration. This will mitigate the need for MWRP staff to reconcile payments to registrations, especially in instances of paper checks later submitted. Edge cases such as over-payments may still exist will need to be worked through later.

4. At any point after submission, the user can view the current status of their submission through the system and submit revisions.

5. Once an electronic application has been submitted and paid in full, it will arrive in an Inbox within the MiEnviro Portal application.

1. Registration/Renewal Processing

There are 2 basic approaches to application processing detailed processing, and automatic ("InstaPermit"). The MWRP team will need to determine the degree of automation that they are comfortable with, given the level of hand-processing that currently exists. It should be noted that the team could start with a more conservative, manual stance and then later apply more automation once a level of comfort and experience is gained. Additionally, there are some middle-ground process configuration options that can be considered

Detailed Processing

1. From the Inbox, a MWRP staff person can (optionally) review the submitted application and then assign that application to a workgroup and (optionally) an agency staff member for processing. This puts the application on the assigned agency staff member's My Tasks dashboard page and changes the status of the application to "In Process", enabling it to then be processed.

2. If desired, MWRP staff can set the application type to "auto-import", which means all applications of that type will bypass the Inbox and will automatically be set to "In Process". Each application type can also (optionally) be configured for a specific workgroup and user by default, so that applications of that type are automatically assigned to that user.

3. The first step for the assigned MWRP staff person in processing an application involves reviewing the basic application information and assigning one or more processing workflows to the application. This is a critical step because the assignment of the workflow(s) will define what individual steps need to be taken by MWRP staff to complete the registration process.

a. Predefined workflow templates will be configured in the system so that common tasks can quickly be applied to any submission. The predefined workflow can be customized as needed by adding or removing tasks, or adding additional workflows as needed. Predefined workflows can also be automatically assigned based on the application type form submitted.

4. If the application is incomplete and additional information is needed from the submitting entity, the MWRP staff person can set the relevant task status to *On Hold and* may also record a hold on the entire application, which stops the application processing clock. New workflow tasks can be recorded when additional information is requested, which will allow the system to generate automated notifications as needed. When an end date is entered for a hold, the application status returns to the relevant status (e.g., "In Process").

5. MWRP staff will then step through the assigned workflow tasks such as application review, management plane review, drafting documents/letters, and so on.
6. Any additional MWRP specific information about the registration that may be required can be recorded in MiEnviro Portal by MWRP staff using a custom Program Component Form. This will allow future reporting on that information directly within the system. A Program Component Form is data entry form with program specific data, that MWRP administrators can customize as needs evolve.
7. MWRP can generate the registration/renewal document(s) containing the boilerplate text such as the Registration Certificate. This is accomplished by selecting a document template (previously configured with standard text and merge fields) and then editing that document as needed. Alternatively, the documents can be developed entirely outside of MiEnviro Portal, for example, by copying an existing document and making revisions. Regardless of the approach, the resulting document, as well as any additional materials, can be uploaded to the MiEnviro Portal to maintain a complete record.
8. Steps in the processing workflow may also include internal/peer review of the registration/renewal related documents by other permitting staff and/or by compliance staff, such as the Medical Waste Management plan, as needed based configuration of the workflow.
9. Once approved, the final registration/renewal related documents will be emailed to the registrant.

Automatic Processing

Once the registrant has submitted the registration/renewal and payment in full has been received, the MiEnviro Portal can be configured to automate the registration process.

1. The submission will bypass the InBox and move through and become a received application.
2. The MiEnviro Portal will then automatically generate and issue a registration/renewal record in the system setting the expiration date, and assigning a registration number
3. The Registration Certificate will be automatically generated, issued, and loaded into the document management system, and available to the registrant through their site portal.
4. An email will be generated with MWRP specific content letting the registrant know that their registration has been issued and is available through the portal for download.

Processing Considerations

The detailed processing option is applicable in those instances where the program wishes to quality assure the application and review and additional documents submitted, such as the proposed Medical Waste Management Plan.

This approach represents less processing than is currently performed for paper registrations/renewals but still will require staff intervention.

The automatic processing option will save the MWRP significant work. However, because this option is fully automated, it will not allow intervention in the issuance of the registration for items such as Name Changes or Transfer of Ownerships; registrations will be pushed through.

Such deviations in the workflow could be addressed through other means such as Change of Ownership/Name forms submitted separately.

Alternatively, a blended process could be developed allowing the form to come in and be automatically received (No Inbox) and available for review by MWRP. Then at any time in the process, an automated workflow could be assigned in real-time by the MWRP staff person, pushing the registration to completion, with automatic certification generation and notification of issuance to the registrant.

Paper/Manual Processing

Standard practice for MiEnviro Portal implementations is to support managing receipt of paper applications. The proposed MWRP processes above, focus on automation and shifting data entry and registration management to the customer. However, experience has shown that there are always edge cases, especially during initial migration that need to be supported.

A modified, internal only version of the renewal/registration forms will be developed and configured for use by MWRP staff. Additionally, modified workflows will be configured to address the processing of paper registrations.

It should be noted, with paper processing, that unless user accounts are configured, registrants will not receive automated notifications. The project anticipates generating and sending modified/shortened notifications for one full renewal cycle (3 years) till all 15K registrants have been notified on their renewal cycle.

2. Notifications

The MiEnviro Portal supports the configuration of automated notifications to registered users about pending/past-due events. These emails support custom, database driven content per notification.

The 30/60/90-day notifications and content will be configured in the MiEnviro Portal to address the MWRP's notification needs. The team may want to re-evaluate the frequency of notification, since current practices are largely driven by paper notification and US Mail processing.

Implementation and Configuration

Establishing Medical Waste Regulatory Program in the MiEnviro Portal will require configuration of a number of electronic data collection forms, such as the renewal form. These forms will be configured using the nFORM electronic form designer to include the instructions and data fields that are required, as well as any fees associated with the form. In many cases, the electronic forms will be configured to enable prefilling of data fields with data from prior submissions or with other data held in the system.

Appendix A: MWRP_nVIRO_Assessment – Configuration Requirements provides a description of the applicable forms and documents used by MWRP today and maps each of these to the electronic equivalent that will be configured within MiEnviro Portal during implementation.

During electronic form design, it will be important to determine what information should be imported automatically from the application form to the site and any site feature data management component within MiEnviro Portal. It will also be important to determine what information should in turn be prepopulated to renewal and modification forms, if applicable.

Documents and cover letters that may be generated from the system will also be configured as document templates. These document templates will be configured to enable prefilling of data fields with data held in the system.

Workflow templates will also be configured for the key registration/renewal activities to be performed, such as application form processing.

A number of standard reports will be configured using the nVISAGE reporting component of MiEnviro Portal. The nVISAGE tool provides the user with access to a variety of common data sources that expose data from the underlying MiEnviro Portal database. It should be noted that, beyond the standard or common reports that will be preconfigured during the implementation process, users will also be able to create, save, and share their own reports using the nVISAGE tool.

The MWRP has an established Records Retention policy in which the retention schedule for medical waste states that applications (initial and renewal), certificates and information regarding disciplinary

actions must be retained until the facility is inactive plus 5 years. MiEnviro Portal, has the ability to configure how long records and documents are maintained in the system. This retention policy will be configured into MiEnviro Portal. Items targeted for purging will come up in a report for confirmation by staff. Only those confirmed for purging will be deleted.

And lastly mapping interfaces will be configured in MiEnviro Portal. External mapping/inquiry interfaces will be configured to display the MWRP sites and allow users to inquire and review publicly available data.

Data Migration

Another critical activity will be the migration of program data from the existing L2K database to the MiEnviro Portal database. This will involve the mapping of core data from the legacy database tables to the new system tables, as well as the creation of custom Program Component Forms (if needed) which will be used to store and manage program specific data which cannot otherwise be managed in the core (e.g., Site, Contacts, Applications, Registrations Payments) tables of the MiEnviro Portal system.

Early during the implementation project, a detailed mapping will be prepared to map the data tables and fields in the L2K database to the corresponding tables and fields in the MiEnviro Portal database. This section outlines some key considerations for the future data mapping exercise. The migration and clean-up will focus on those data that fall within the MWRP's record retention policy outlined above.

Site/facility, and registration data is stored in tables within the L2K database, and the migration process will pull data from the appropriate tables and consolidate it when creating the Site and Permit (for applicable registration/renewal) records in MiEnviro Portal.

Contact affiliation information will be migrated from the relevant tables in the L2K database as contacts on the Contacts tab of the Site and/or Registration.

The MiEnviro Portal system allows custom forms to be designed to collect program-specific data that the system itself does not already track. These Program Component Forms are fully user-configurable and can be used to track information specific to MWRP registrations.

The following Program Component Forms will be designed to support data managed in the L2K database and will be populated with data during data migration.

- **Registration Information** – Registration-level form that will store registration information from the L2K related tables for which there are no corresponding fields on the standard MiEnviro Portal pages.
- **Site Information** – Site-level form that will store facility-related information for which there are no corresponding fields on the standard MiEnviro Portal pages.
- **Other** – Any other data that does not meet the categories above.

Finally, no electronic copies of documents/records will be migrated into the MiEnviro Portal for the MWRP. Document management will be from implementation forward. MWRP staff are free to later add legacy documents to migrated records to the MiEnviro Portal document management module, should they so choose.

Gap Analysis

With the configuration actions defined in the previous sections, the MiEnviro Portal system will be able to support the business processes related to the Medical Waste Regulator Program. No significant gaps in functionality have currently been identified, and only minor functional updates should be expected as detailed implementation tasks progress.

One area of discussion is the statuses of registrations, where MWRP has Open, Closed and Lapsed, where lapsed indicates Expiration Date + 6 months. The MiEnviro Portal does not support an automated status change beyond the expiration date. It can be configured to auto-expire and mark as inactive for registrations that have reached the expiration date. Note a registration/permit can be Expired and Active as well, meaning that it is still in effect (a NPDES concept).

The MWRP will need to assess the need for the Lapsed status as it is currently defined. If it is necessary, it will necessitate an enhancement to the solution. This enhancement may not be available for initial go-live, given the timeline and MiEnviro Portal enhancement release schedule.

System Interfaces

The only system that that the MWRP has identified for interface with MiEnviro Portal, is the Michigan PayPlace for making electronic payments. MiEnviro Portal is already configured to interface with both the PayPlace as well as MiCaRS for payment and adjustment statuses. These interfaces will have to be adjusted for the addition of the MWRP data management in the MiEnviro Portal.

There are some open questions around the first use of eChecks, and registrant verifications, where the Treasury office requires some means of validation of the entity prior to accepting eChecks. As a result, eChecks are only available only through renewals. Given the move to MiEnviro Portal, and the need for a more formal registration, the team will need to assess with the Treasury office the requirements around customer verifications necessary of eChecks.

Out of Scope

The MWRP has an element of compliance monitoring and enforcement (CME). The program would like to evaluate the adoption of the MiEnviro Portal's CME module. However, given the critical timeline for registration implementation and the fact that facility inspections were largely curtailed during COVID, it was determined the CME aspects would be out of scope for this phase of the project.

The MiEnviro Portal also has a complaints module that integrates tightly with the CME module. For similar reasons the receipt and management of complaints was determined to be out of scope for this first phase of the effort.

That said the MiEnviro Portal does have the ability to generate single on-demand and batches of template-based letters based on data parameters, if after implementation it is determined intermediate measures are required in the transition. However, effort will not be spent to prospectively build and configure these items.

STATE OF MICHIGAN PROCUREMENT

Department of Technology, Management & Budget
525 W. Allegan Street, Lansing, MI 48909

NOTICE OF CONTRACT

NOTICE OF CONTRACT NO. **171-210000001348**
between
THE STATE OF MICHIGAN
and

CONTRACTOR	
	Windsor Solutions, Inc.
	4386 S Macadam Ave , Suite 101
	Portland, OR 97239
	Simon Watson
	503-675-7833
	Simon_watson@widnsorsolutions.com
	CV0066405

STATE			
	Program Manager	Various	EGLE
	Contract Administrator	Sarah Platte	DTMB
		517-219-2406	
		PlatteS3@michigan.gov	

CONTRACT SUMMARY			
DESCRIPTION: EGLE Enterprise Environmental System			
INITIAL EFFECTIVE DATE	**INITIAL EXPIRATION DATE**	**INITIAL AVAILABLE OPTIONS**	**EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW**
09/01/2021	09/30/2026	Through 9/30/2031	09/30/2026
PAYMENT TERMS		**DELIVERY TIMEFRAME**	
Net 45		N/A	
ALTERNATE PAYMENT OPTIONS			**EXTENDED PURCHASING**
☐ P-card ☐ Payment Request (PRC) ☐ Other			☐ Yes ☒ No
MINIMUM DELIVERY REQUIREMENTS			
N/A			
MISCELLANEOUS INFORMATION			
EGLE Enterprise Environmental System contract awarded from RFP 171- 210000000725. Base years 9/1/2021 – 9/30/2026 with options to 9/30/2031. Program Managers: 1. EGLE AQD: Dave Morgan, morgand2@michigan.gov, 616-824-1139. 2. EGLE WRD: Sarah Ehinger, ehingers1@michigan.gov, 269-216-1341. 3. DTMB: Laura Brancheau, brancheaul@michigan.gov, 517-335-1334.			
ESTIMATED CONTRACT VALUE AT TIME OF EXECUTION			**$12,143,462.00**

FOR THE CONTRACTOR:

Company Name

Authorized Agent Signature

Authorized Agent **(Print or Type)**

Date

FOR THE STATE:

Signature

Jarrod Barron – IT Category Specialist
Name & Title

DTMB – Central Procurement Services
Agency

Date

SOFTWARE TERMS AND CONDITIONS

These Terms and Conditions, together with all Schedules (including the Statement(s) of Work), Exhibits and any other applicable attachments or addenda (Collectively this "Contract") are agreed to between the State of Michigan (the "**State**") and Windsor Solutions, Inc. ("**Contractor**"), an Oregon corporation. This Contract is effective on September 1, 2021 ("**Effective Date**"), and unless terminated, will expire on September 30, 2026 (the "**Term**").

This Contract may be renewed for up to 5 additional years, through September 30, 2031. Renewal is at the sole discretion of the State and will automatically extend the Term of this Contract. The State will document its exercise of renewal options via Contract Change Notice.

1. Definitions. For the purposes of this Contract, the following terms have the following meanings:

"**Acceptance**" has the meaning set forth in **Section 11**.

"**Acceptance Tests**" means such tests as may be conducted in accordance with **Section 11** and a Statement of Work to determine whether the Software meets the requirements of this Contract and the Documentation.

"**Affiliate**" of a Person means any other Person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such Person. For purposes of this definition, the term "control" (including the terms "controlled by" and "under common control with") means the direct or indirect ownership of more than fifty percent (50%) of the voting securities of a Person.

"**Aggregate Software**" means the Software, as a whole, to be developed or otherwise provided under the Contract. For avoidance of doubt, if a Statement of Work provides for a single Software Deliverable, such Software Deliverable also constitutes Aggregate Software.

"**Allegedly Infringing Materials**" has the meaning set forth in **Section 20.2(b)**.

"**Approved Third Party Components**" means all third party components and materials, including Open-Source Components, that are included in or used in connection with the Software and are specifically identified by Contractor in the Contractor's Bid Response or as part of the State's Security Accreditation Process defined in Schedule E – Data Security Schedule.

"**Authorized Users**" means all Persons authorized by the State to access and use the Software under this Contract, subject to the maximum number of users specified in the applicable Statement of Work.

"**Background Technology**" means all Contractor Software, Approved Third Party Components, data, know-how, ideas, methodologies, specifications, and other technology in which Contractor owns such Intellectual Property Rights as are necessary for Contractor to grant the rights and licenses set forth in **Section 9.4**, and for the State (including its licensees, successors and assigns) to exercise such rights and licenses, without violating any right of any third party or any law or incurring any payment obligation to any third party. Background Technology must: (a) be identified by Contractor in the Contractor's Bid Response or as part of the State's Security Accreditation Process defined in Schedule E – Data Security Schedule; and (b) have been developed or otherwise acquired by Contractor . For the purposes of this Contract, modifications of existing Background Technology either through updating components, or by direct replacement of preexisting Background Technology with alternative third party components will be included in the definition of Background Technology and subject to all contractual requirements thereof.

"**Business Day**" means a day other than a Saturday, Sunday or other day on which the State is authorized or required by law to be closed for business.

"**Business Requirements Specification**" means the initial specification setting forth the State's business requirements regarding the features and functionality of the Software, as set forth in a Statement of Work.

"Change" has the meaning set forth in **Section 2.2.**

"Change Notice" has the meaning set forth in **Section 2.2(b).**

"Change Proposal" has the meaning set forth in **Section 2.2(a).**

"Change Request" has the meaning set forth in **Section 2.2.**

"Confidential Information" has the meaning set forth in **Section 24.1.**

"**Configuration**" means State-specific changes made to the Contractor Software without Source Code or structural data model changes occurring.

"**Contract**" has the meaning set forth in the preamble.

"**Contract Administrator**" is the individual appointed by each party to (a) administer the terms of this Contract, and (b) approve any Change Notices under this Contract. Each party's Contract Administrator will be identified in a Statement of Work.

"**Contractor**" has the meaning set forth in the preamble.

"**Contractor's Bid Response**" means the Contractor's proposal submitted in response to the RFP..

"**Contractor Hosted**" means the Hosted Services are provided by Contractor or one or more of its Permitted Subcontractors.

"**Contractor Personnel**" means all employees of Contractor or any subcontractors or Permitted Subcontractors involved in the performance of Services hereunder.

"**Contractor Project Manager**" means the individual appointed by Contractor and identified in a Statement of Work to serve as the primary contact with regard to services, to monitor and coordinate the day-to-day activities of this Contract, and to perform other duties as may be further defined in this Contract, including an applicable Statement of Work.

"Contractor Software" means Contractor's software as set forth in a Statement of Work, and any Maintenance Releases or New Versions provided to the State and any Configurations made by or for the State pursuant to this Contract, and all copies of the foregoing permitted under this Contract.

"**Custom Software**" means the computer program(s), including but not limited to any included Background Technology programming tools, scripts, and routines, the Contractor is required to or otherwise does develop specifically for the State under this Contract, as described more fully in a Statement of Work, including without limitation all application programming interfaces, computer scripts, macros, and user interfaces, and all updates, upgrades, new versions, new releases, enhancements, improvements, and other modifications made or provided under the Support Services, and all copies of the foregoing permitted under this Contract. For clarity, Custom Software includes without limitation Customizations.

"**Customization**" means State-specific changes to the Contractor Software's underlying Source Code or structural data model changes.

"**Deliverables**" means the Software, all Work Product and all other documents and other materials that Contractor is required to or otherwise does provide to the State under this Contract and otherwise in connection with any Services, including all items specifically identified as Deliverables in a Statement of Work.

"**Deposit Material**" refers to material required to be deposited pursuant to **Section 30.2**.

"**Documentation**" means all user manuals, operating manuals, technical manuals and any other instructions, specifications, documents or materials, in any form or media, that describe the functionality, installation, testing, operation, use, maintenance, support, technical or other components, features or requirements of the Software.

"**DTMB**" means the Michigan Department of Technology, Management and Budget.

"**Effective Date**" has the meaning set forth in the preamble.

"**Fees**" means the fees set forth in the Pricing Schedule attached as **Schedule B**.

"Final Production Release Date" means the date on which the final Aggregate Software solution to be provided pursuant to this Contract has been Accepted and placed into production.

"**Financial Audit Period**" has the meaning set forth in **Section 25.1**.

"**Harmful Code**" means any software, hardware or other technologies, devices or means, the purpose or effect of which is to: (a) permit unauthorized access to, or to destroy, disrupt, disable, encrypt, modify, copy, or otherwise harm or impede in any manner, any (i) computer, software, firmware, data, hardware, system or network, or (ii) any application or function of any of the foregoing or the integrity, use or operation of any data Processed thereby; or (b) prevent the State or any Authorized User from accessing or using the Services as intended by this Contract, and includes any virus, bug, trojan horse, worm, backdoor or other malicious computer code and any time bomb or drop dead device.

"**HIPAA**" has the meaning set forth in **Section 23.1**.

"**Hosted Services**" means the hosting, management and operation of the Operating Environment, Software, other services (including support and subcontracted services), and related resources for remote electronic access and use by the State and its Authorized Users, including any services and facilities related to disaster recovery obligations.

"**Implementation Plan**" means the schedule included in a Statement of Work setting forth the sequence of events for the performance of Services under a Statement of Work, including the Milestones and Milestone Dates.

"Integration Testing" has the meaning set forth in **Section 11.2(a)**.

"**Intellectual Property Rights**" means all or any of the following: (a) patents, patent disclosures, and inventions (whether patentable or not); (b) trademarks, service marks, trade dress, trade names, logos, corporate names, and domain names, together with all of the associated goodwill; (c) copyrights and copyrightable works (including computer programs), mask works and rights in data and databases; (d) trade secrets, know-how and other confidential information; and (e) all other intellectual property rights, in each case whether registered or unregistered and including all applications for, and renewals or extensions of, such rights, and all similar or equivalent rights or forms of protection provided by applicable law in any jurisdiction throughout the world.

"**Key Personnel**" means any Contractor Personnel identified as key personnel in the Contract.

"**Loss or Losses**" means all losses, including but not limited to, damages, liabilities, deficiencies, claims, actions, judgments, settlements, interest, awards, penalties, fines, costs or expenses of whatever kind, including reasonable

attorneys' fees and the costs of enforcing any right to indemnification hereunder and the cost of pursuing any insurance providers.

"**Maintenance Release**" means any update, upgrade, release or other adaptation or modification of the Software, including any updated Documentation, that Contractor may generally provide to its licensees from time to time during the Term, which may contain, among other things, error corrections, enhancements, improvements or other changes to the user interface, functionality, compatibility, capabilities, performance, efficiency or quality of the Software.

"**Milestone**" means an event or task described in the Implementation Plan under a Statement of Work that must be completed by the corresponding Milestone Date.

"**Milestone Date**" means the date by which a particular Milestone must be completed as set forth in the Implementation Plan under a Statement of Work.

"**New Version**" means any new version of the Software, including any updated Documentation, that the Contractor may from time to time introduce and market generally as a distinct licensed product, as may be indicated by Contractor's designation of a new version number.

"**Nonconformity**" or **"Nonconformities"** means any failure or failures of the Software to conform to the requirements of this Contract, including any applicable Documentation.

"**Object Code**" means computer programs assembled or compiled in magnetic or electronic binary form on software media, which are readable and useable by machines, but not generally readable by humans without reverse assembly, reverse compiling, or reverse engineering.

"**Open-Source Components**" means any software component that is subject to any open-source copyright license agreement, including any GNU General Public License or GNU Library or Lesser Public License, or other obligation, restriction or license agreement that substantially conforms to the Open Source Definition as prescribed by the Open Source Initiative or otherwise may require disclosure or licensing to any third party of any source code with which such software component is used or compiled.

"**Operating Environment**" means, collectively, the platform, environment and conditions on, in or under which the Software is intended to be installed and operate, as set forth in a Statement of Work, including such structural, functional and other features, conditions and components as hardware, operating software, system architecture, configuration, computing hardware, ancillary equipment, networking, software, firmware, databases, data, and electronic systems (including database management systems).

"PAT" means a document or product accessibility template, including any Information Technology Industry Council Voluntary Product Accessibility Template or VPAT®, that specifies how information and software products, such as websites, applications, software and associated content, conform to WCAG 2.0 Level AA.

"**Permitted Subcontractor**" means any third party hired by Contractor to perform Services for the State under this Contract or have access to State Data.

"**Person**" means an individual, corporation, partnership, joint venture, limited liability company, governmental authority, unincorporated organization, trust, association or other entity.

"**Pricing Schedule**" means the schedule attached as **Schedule B.**

"Process" means to perform any operation or set of operations on any data, information, material, work, expression or other content, including to (a) collect, receive, input, upload, download, record, reproduce, store, organize, combine, log, catalog, cross-reference, manage, maintain, copy, adapt, alter, translate or make other improvements or derivative works, (b) process, retrieve, output, consult, use, disseminate, transmit, submit, post,

transfer, disclose or otherwise provide or make available, or (c) block, erase or destroy. **"Processing"** and **"Processed"** have correlative meanings.

"**Representatives**" means a party's employees, officers, directors, partners, shareholders, agents, attorneys, successors and permitted assigns.

"**RFP**" means the State's request for proposal designed to solicit responses for Services under this Contract.

"**Services**" means any of the services, including but not limited to, Hosted Services or software development, Contractor is required to or otherwise does provide under this Contract.

"**Service Level Agreement**" means the schedule attached as **Schedule D**, setting forth the Support Services Contractor will provide to the State, and the parties' additional rights and obligations with respect thereto.

"**Site**" means the physical location designated by the State in, or in accordance with, this Contract or a Statement of Work for delivery and installation of the Software.

"Software" means the Contractor Software, Background Technology, and/or Custom Software the Contractor develops or otherwise provides under this Contract, including without limitation all updates upgrades, new versions, new releases, enhancements, improvements, and other modifications made or provided as Support Services. For clarity, as context dictates, Software may refer to one or more respective Software Deliverables or Aggregate Software.

"**Software Deliverable**" means any Software, together with its Documentation, required to be delivered under this Contract.

"**Source Code**" means the human readable source code of the Software to which it relates, in the programming language in which the Software was written, together with all related flow charts and technical documentation, including a description of the procedure for generating object code, all of a level sufficient to enable a programmer reasonably fluent in such programming language to understand, build, operate, support, maintain and develop modifications, upgrades, updates, adaptations, enhancements, new versions and other derivative works and improvements of, and to develop computer programs compatible with, the Software.

"**Specifications**" means, for the Software, the specifications collectively set forth in the Business Requirements Specification, Technical Specification, Documentation, RFP or Contractor's Bid Response, if any, for such Software, or elsewhere in a Statement of Work.

"**State**" means the State of Michigan.

"**State Data**" has the meaning set forth in **Section 23.1**.

"**State Hosted**" means the Hosted Services are not provided by Contractor or one or more of its Permitted Subcontractors.

"**State Materials**" means all materials and information, including documents, data, know-how, ideas, methodologies, specifications, software, content and technology, in any form or media, directly or indirectly provided or made available to Contractor by or on behalf of the State in connection with this Contract.

"State Program Managers" are the individuals appointed by the State, or their designees, to (a) monitor and coordinate the day-to-day activities of this Contract; (b) co-sign off on Acceptance of the Software and other Deliverables; and (c) perform other duties as may be specified in a Statement of Work. Program Managers will be identified in a Statement of Work.

"State Systems" means the information technology infrastructure, including the computers, software, databases, electronic systems (including database management systems) and networks, of the State or any of its designees.

"**Statement of Work**" means any statement of work entered into by the parties and incorporated into this Contract. The initial Statement of Work is attached as **Schedule A**.

"**Stop Work Order**" has the meaning set forth in **Section 17**.

"**Support Services**" means the software maintenance and support services Contractor is required to or otherwise does provide to the State under the Service Level Agreement.

"**Support Services Commencement Date**" means, with respect to the Software, the date on which the Warranty Period for the Software expires, and fees for support become applicable, or such other date as may be set forth in a Statement of Work.

"**Technical Specification**" means, with respect to any Software, the document setting forth the technical specifications for such Software and included in a Statement of Work.

"**Term**" has the meaning set forth in the preamble.

"**Testing Period**" has the meaning set forth in **Section 11.1(b)**.

"**Transition Period**" has the meaning set forth in **Section 18.3(a)**.

"**Transition Responsibilities**" has the meaning set forth in **Section 18.3(a)**.

"**Unauthorized Removal**" has the meaning set forth in **Section 2.5(b)**.

"**Unauthorized Removal Credit**" has the meaning set forth in **Section 2.5(c)**.

"**User Data**" means all data, information and other content of any type and in any format, medium or form, whether audio, visual, digital, screen, GUI or other, that is input, uploaded to, placed into or collected, stored, Processed, generated or output by any device, system or network by or on behalf of the State, including any and all works, inventions, data, analyses and other information and materials resulting from any use of the Software by or on behalf of the State under this Contract, except that User Data does not include the Software or data, information or content, including any GUI, audio, visual or digital or other display or output, that is generated automatically upon executing the Software without additional user input without the inclusion if user derived Information or additional user input.

"**Warranty Period**" means, unless otherwise specified in the Statement of Work, (a) the ninety (90) calendar-day period for which Support Services are provided free of charge commencing on the Final Production Release Date; and (b) in the case of any upgrades, new versions, new releases, enhancements, and other modifications, the ninety (90) calendar day period for which Support Services are provided free of charge following the State's acceptance of any subsequent upgrade, new version, new release, enhancement, or other modifications of the Aggregate Software, after the initial Warranty Period.

"WCAG 2.0 Level AA" means level AA of the World Wide Web Consortium Web Content Accessibility Guidelines version 2.0.

"**Work Product**" means all State-specific deliverables that Contractor is required to, or otherwise does, provide to the State under this Contract including but not limited to Custom Software, reports, project management documents, forms, templates, and other State-specific documents and related materials together with all ideas,

concepts, processes, and methodologies developed in connection with this Contract whether or not embodied in this Contract.

2. Duties of Contractor. Contractor will provide Services and Deliverables pursuant to Statement(s) of Work entered into under this Contract. Contractor will provide all Services and Deliverables in a timely, professional manner and in accordance with the terms, conditions, and Specifications set forth in this Contract and the Statement(s) of Work.

2.1 Statement of Work Requirements. No Statement of Work will be effective unless signed by each party's Contract Administrator. The term of each Statement of Work will commence on the parties' full execution of a Statement of Work and terminate when the parties have fully performed their obligations. The terms and conditions of this Contract will apply at all times to any Statements of Work entered into by the parties and incorporated into this Contract. The State will have the right to terminate such Statement of Work as set forth in **Section 18**. Contractor acknowledges that time is of the essence with respect to Contractor's obligations under each Statement of Work and agrees that prompt and timely performance of all such obligations in accordance with this Contract and the Statements of Work (including the Implementation Plan and all Milestone Dates) is strictly required.

2.2 Change Control Process. The State may at any time request in writing (each, a "**Change Request**") changes to a Statement of Work, including changes to the Services and Implementation Plan (each, a "**Change**"). Upon the State's submission of a Change Request, the parties will evaluate and implement all Changes in accordance with this **Section 2.2**.

(a) As soon as reasonably practicable, and in any case within twenty (20) Business Days following receipt of a Change Request, Contractor will provide the State with a written proposal for implementing the requested Change ("**Change Proposal**"), setting forth:

(i) a written description of the proposed Changes to any Services or Deliverables;

(ii) an amended Implementation Plan reflecting: (A) the schedule for commencing and completing any additional or modified Services or Deliverables; and (B) the effect of such Changes, if any, on completing any other Services under a Statement of Work;

(iii) any additional State Resources Contractor deems necessary to carry out such Changes; and

(iv) any increase or decrease in Fees resulting from the proposed Changes, which increase or decrease will reflect only the increase or decrease in time and expenses Contractor requires to carry out the Change.

(b) Within thirty (30) Business Days following the State's receipt of a Change Proposal, the State will by written notice to Contractor, approve, reject, or propose modifications to such Change Proposal. If the State proposes modifications, Contractor must modify and re-deliver the Change Proposal reflecting such modifications, or notify the State of any disagreement, in which event the parties will negotiate in good faith to resolve their disagreement. Upon the State's approval of the Change Proposal or the parties' agreement on all proposed modifications, as the case may be, the parties will execute a written agreement to the Change Proposal ("**Change Notice**"), which Change Notice will be signed by the State's Contract Administrator and will constitute an amendment to a Statement of Work to which it relates; and

(c) If the parties fail to enter into a Change Notice within fifteen (15) Business Days following the State's response to a Change Proposal, the State may, in its discretion:

(i) require Contractor to perform the Services under a Statement of Work without the Change;

(ii) require Contractor to continue to negotiate a Change Notice;

(iii) initiate a Dispute Resolution Procedure; or

(iv) notwithstanding any provision to the contrary in a Statement of Work, terminate this Contract under **Section 18.1**.

(d) No Change will be effective until the parties have executed a Change Notice. Except as the State may request in its Change Request or otherwise in writing, Contractor must continue to perform its obligations in accordance with a Statement of Work pending negotiation and execution of a Change Notice. Contractor will use its best efforts to limit any delays or Fee increases from any Change to those necessary to perform the Change in accordance with the applicable Change Notice. Each party is responsible for its own costs and expenses of preparing, evaluating, negotiating, and otherwise processing any Change Request, Change Proposal, and Change Notice.

(e) The performance of any functions, activities, tasks, obligations, roles and responsibilities comprising the Services as described in this Contract are considered part of the Services and, thus, will not be considered a Change. This includes the delivery of all Deliverables in accordance with their respective Specifications, and the diagnosis and correction of Non-Conformities discovered in Deliverables prior to their Acceptance by the State or, subsequent to their Acceptance by the State, as necessary for Contractor to fulfill its associated warranty requirements and its Support Services under this Contract.

(f) Contractor may, on its own initiative and at its own expense, prepare and submit its own Change Request to the State. However, the State will be under no obligation to approve or otherwise respond to a Change Request initiated by Contractor.

2.3 Contractor Personnel.

(a) Contractor is solely responsible for all Contractor Personnel and for the payment of their compensation, including, if applicable, withholding of income taxes, and the payment and withholding of social security and other payroll taxes, unemployment insurance, workers' compensation insurance payments and disability benefits.

(b) Prior to any Contractor Personnel performing any Services, Contractor will:

(i) ensure that such Contractor Personnel have the legal right to work in the United States;

(ii) upon request, require such Contractor Personnel to execute written agreements, in form and substance acceptable to the State, that bind such Contractor Personnel to confidentiality provisions that are at least as protective of the State's information (including all Confidential Information) as those contained in this Contract; and

(iii) upon request, or as otherwise specified in a Statement of Work, perform background checks on all Contractor Personnel prior to their assignment. The scope is at the discretion of the State and documentation must be provided as requested. Contractor is responsible for all costs associated with the requested background checks. The State, in its sole discretion, may also perform background checks on Contractor Personnel. Pursuant to Michigan law, all agencies subject to IRS Pub. 1075 are required to ask the Michigan State Police to perform fingerprint background checks on all employees, including Contractor and subcontractor employees, who may have access to any database of information maintained by the federal government that contains confidential or personal information, including, but not limited to, federal tax information. Further, pursuant to Michigan law, any agency described above is prohibited from providing Contractors or subcontractors with the result of such background check. For more information, please see Michigan Public Act 427 of 2018.

(g) Contractor and all Contractor Personnel will comply with all rules, regulations, and policies of the State that are communicated to Contractor in writing, including security procedures concerning systems and data and remote access, building security procedures, including the restriction of access by the State to certain areas of its premises or systems, and general health and safety practices and procedures.

(h) The State reserves the right to require the removal of any Contractor Personnel found, in the judgment of the State, to be unacceptable. The State's request must be written with reasonable detail outlining the reasons for the removal request. Replacement personnel for the removed person must be fully qualified for the position. If the State exercises this right, and Contractor cannot immediately replace the removed personnel, the State agrees to negotiate an equitable adjustment in schedule or other terms that may be affected by the State's required removal.

2.4 Contractor Project Manager. Throughout the Term of this Contract, Contractor must maintain a Contractor employee acceptable to the State to serve as Contractor Project Manager, who will be considered Key Personnel of Contractor. Contractor Project Manager will be identified in a Statement of Work.

(a) Contractor Project Manager must:

(i) have the requisite authority, and necessary skill, experience, and qualifications, to perform in such capacity;

(ii) be responsible for overall management and supervision of Contractor's performance under this Contract; and

(iii) be the State's primary point of contact for communications with respect to this Contract, including with respect to giving and receiving all day-to-day approvals and consents.

(b) Contractor Project Manager must attend all regularly scheduled meetings as set forth in the Implementation Plan and will otherwise be available as set forth in a Statement of Work.

(c) Contractor will maintain the same Contractor Project Manager throughout the Term of this Contract, unless:

(i) the State requests in writing the removal of Contractor Project Manager;

(ii) the State consents in writing to any removal requested by Contractor in writing;

(iii) Contractor Project Manager ceases to be employed by Contractor, whether by resignation, involuntary termination or otherwise.

(d) Contractor will promptly replace its Contractor Project Manager on the occurrence of any event set forth in **Section 2.4(c).** Such replacement will be subject to the State's prior written approval.

2.5 Contractor's Key Personnel.

(a) The State has the right to recommend and approve in writing the initial assignment, as well as any proposed reassignment or replacement, of any Key Personnel. Before assigning an individual to any Key Personnel position, Contractor will notify the State of the proposed assignment, introduce the individual to the State Program Managers or their designees, and provide the State with a resume and any other information about the individual reasonably requested by the State. The State reserves the right to interview the individual before granting written approval. In the event the State finds a proposed individual unacceptable, the State will provide a written explanation including reasonable detail outlining the reasons for the rejection.

(b) Contractor will not remove any Key Personnel from their assigned roles on this Contract without the prior written consent of the State. The Contractor's removal of Key Personnel without the prior written consent of the State is an unauthorized removal ("**Unauthorized Removal**"). An Unauthorized Removal does not include replacing Key Personnel for reasons beyond the reasonable control of Contractor, including illness, disability, leave of absence, personal emergency circumstances, resignation, or for cause termination of the Key Personnel's employment. Any Unauthorized Removal may be considered by the

State to be a material breach of this Contract, in respect of which the State may elect to terminate this Contract for cause under **Section 18.1**.

(c) It is further acknowledged that an Unauthorized Removal will interfere with the timely and proper completion of this Contract, to the loss and damage of the State, and that it would be impracticable and extremely difficult to determine and remedy the actual damage sustained by the State as a result of any Unauthorized Removal. Therefore, Contractor and the State agree that in the case of any Unauthorized Removal in respect of which the State does not elect to exercise its rights under **Section 18.1**, Contractor will issue to the State an amount equal to $30,000 per individual (each, an "**Unauthorized Removal Credit**").

(i) For the Unauthorized Removal of any Key Personnel designated in the applicable Statement of Work, the credit amount will be $30,000 per individual if Contractor identifies a replacement approved by the State and assigns the replacement to shadow the Key Personnel who is leaving for a period of at least 30 calendar days before the Key Personnel's removal.

(ii) If Contractor fails to assign a replacement to shadow the removed Key Personnel for at least 30 calendar days, in addition to the $30,000 credit specified above, Contractor will credit the State $1,000 per calendar day for each day of the 30 calendar-day shadow period that the replacement Key Personnel does not shadow the removed Key Personnel, up to $30,000 maximum per individual. The total Unauthorized Removal Credits that may be assessed per Unauthorized Removal and failure to provide 30 calendar days of shadowing will not exceed $60,000 per individual.

(d) Contractor acknowledges and agrees that each of the Unauthorized Removal Credits assessed under **Subsection 2.5(c)** above: (i) is a reasonable estimate of and compensation for the anticipated or actual harm to the State that may arise from the Unauthorized Removal, which would be impossible or very difficult to accurately estimate; and (ii) may, at the State's option, be credited or set off against any Fees or other charges payable to Contractor under this Contract.

2.6 Subcontractors. Contractor must obtain prior written approval of the State, which consent may be given or withheld in the State's sole discretion, before engaging any Permitted Subcontractor to provide Services to the State under this Contract. Third parties otherwise retained by Contractor to provide Contractor or other clients of contractor with services are not Permitted Subcontractors, and therefore do not require prior approval by the State. Engagement of any subcontractor or Permitted Subcontractor by Contractor does not relieve Contractor of its representations, warranties or obligations under this Contract. Without limiting the foregoing, Contractor will:

(a) be responsible and liable for the acts and omissions of each such subcontractor (including such Permitted Subcontractor and Permitted Subcontractor's employees who, to the extent providing Services or Deliverables, will be deemed Contractor Personnel) to the same extent as if such acts or omissions were by Contractor or its employees;

(b) name the State a third-party beneficiary under Contractor's Contract with each Permitted Subcontractor with respect to the Services;

(c) be responsible for all fees and expenses payable to, by or on behalf of each Permitted Subcontractor in connection with this Contract, including, if applicable, withholding of income taxes, and the payment and withholding of social security and other payroll taxes, unemployment insurance, workers' compensation insurance payments and disability benefits; and

(d) prior to the creation of Work Product by any Permitted Subcontractor:

(i) obtain from such Permitted Subcontractor confidentiality, work-for-hire and intellectual property rights assignment agreements, in form and substance acceptable by the State, giving the State rights consistent with those set forth in **Section 9.2** and **Section 23** and, upon request, provide the State with a fully-executed copy of each such contract; and

(ii) with respect to all Permitted Subcontractor employees providing Services or Work Product, comply with its obligations under **Section 2.6(b)**; and

(e) notify the State of the location of the Permitted Subcontractor and indicate if it is located within the continental United States.

3. Notices. All notices and other communications required or permitted under this Contract must be in writing and will be considered given and received: (a) when verified by written receipt if sent by courier; (b) when actually received if sent by mail without verification of receipt; or (c) when verified by automated receipt or electronic logs if sent by facsimile or email.

If to State:	If to Contractor:
Sarah Platte 525 W. Allegan, 1st Floor Lansing, MI 48913 PlatteS3@michigan.gov 517-219-2406	Simon Watson 4386 S Macadam Ave Portland, OR 97239 Simon_watson@widnsorsolutions.com 503-675-7833

4. Insurance. Contractor must maintain the minimum insurances identified in the Insurance Schedule attached as **Schedule C**.

5. Software. If Contractor is creating Custom Software for the State, Contractor will design, develop, create, test, deliver, install, configure, integrate, customize and otherwise provide and make fully operational Custom Software as described in a Statement of Work on a timely and professional basis in accordance with all terms, conditions, and Specifications set forth in this Contract and a Statement of Work.

5.1 Software Specifications. Contractor will ensure all Software Deliverables comply with the Specifications. Contractor will provide all Software Deliverables to the State in both Object Code and Source Code form.

5.2 Third-Party Materials.

Contractor will not include in any Software Deliverables, and operation of all Software Deliverables in accordance with its Specifications and Documentation will not require, any third party materials, other than Approved Third Party Components, which may require approval by the State and must be identified and described pursuant to this Contract, and will be licensed to the State in accordance with **Sections 9.3 and 9.4**.

5.3 Documentation. Prior to or concurrently with the delivery of any Software, or by such earlier date as may be specified in the Implementation Plan for such Software, Contractor will provide the State with complete and accurate Documentation for such Software. Where a Statement of Work requires or permits delivery of Software in two or more phases, Contractor will also provide the State with integrated Documentation for the Aggregate Software upon its delivery.

(a) Adequacy of Documentation. All Documentation must include all such information as may be reasonably necessary for the effective installation, testing, use, support, and maintenance of the applicable Software Deliverable by the State, including the effective configuration, integration, and systems administration of the applicable Software Deliverable or Aggregate Software and performance of all other functions set forth in the Specifications.

(b) Documentation Specifications. Contractor will provide all Documentation in both hard copy and electronic form, in such formats and media as are set forth in the Statement of Work, or as the State may otherwise reasonably request in writing.

(c) Third-Party Documentation. Other than Documentation for Approved Third Party Components, no Documentation will consist of or include third-party materials. To the extent Documentation consists of or includes third-party materials, Contractor must secure, at its sole cost and expense, all rights, licenses, consents, approvals and authorizations specified in **Sections 9.3 and 9.4** with respect to such third-party materials.

6. Reserved.

7. Software License. If Contractor is providing the State Contractor Software:

7.1 **Perpetual License**. If Contractor is providing the State with a license to use Contractor Software indefinitely, then Contractor hereby grants to the State and its Authorized Users a non-exclusive, royalty-free, perpetual, irrevocable right and license to use the Contractor Software and Contractor's Documentation in accordance with the terms and conditions of this Contract, provided that:

(a) The State is prohibited from reverse engineering or decompiling the Contractor Software, making derivative works, modifying, adapting or copying the Contractor Software except as is expressly permitted by this Contract or required to be permitted by law;

(b) The State is authorized to make copies of the Contractor Software for backup, disaster recovery, and archival purposes;

(c) The State is authorized to make copies of the Contractor Software to establish a test environment to conduct Acceptance Testing;

(d) Title to and ownership of the Contractor Software shall at all times remain with Contractor and/or it's licensors, as applicable; and

(e) Except as expressly agreed in writing, the State is not permitted to sub-license the use of the Contractor Software or any accompanying Documentation.

7.2 **Subscription License.** If the Contractor Software is Contractor Hosted and Contractor is providing the State access to use Contractor Software during the Term of the Contract only, then:

(a) Contractor hereby grants to the State, exercisable by and through its Authorized Users, a nonexclusive, royalty-free, irrevocable right and license during the Term and such additional periods, if any, as Contractor is required to perform Services under this Contract or any Statement of Work, to:

(i) access and use the Contractor Software, including in operation with other software, hardware, systems, networks and services, for the State's business purposes, including for Processing State Data;

(ii) generate, print, copy, upload, download, store and otherwise Process all GUI, audio, visual, digital and other output, displays and other content as may result from any access to or use of the Contractor Software;

(iii) prepare, reproduce, print, download and use a reasonable number of copies of the Contractor's Specifications and Contractor's Documentation for any use of the Contractor Software under this Contract; and

(iv) access and use the Contractor Software for all such non-production uses and applications as may be necessary or useful for the effective use of the Contractor Software hereunder, including for purposes of analysis, development, configuration, integration, testing, training,

maintenance, support and repair, which access and use will be without charge and not included for any purpose in any calculation of the State's or its Authorized Users' use of the Contractor Software, including for purposes of assessing any Fees or other consideration payable to Contractor or determining any excess use of the Contractor Software as described in **Section 3.2(c)** below.

(b) License Restrictions. The State will not: (a) rent, lease, lend, sell, sublicense, assign, distribute, publish, transfer or otherwise make the Contractor Software available to any third party, except as expressly permitted by this Contract or in any Statement of Work; or (b) use or authorize the use of the Contractor Software or Contractor's Documentation in any manner or for any purpose that is unlawful under applicable Law.

(c) Use. The State will pay Contractor the corresponding Fees set forth in a Statement of Work or Pricing Schedule for all Authorized Users access and use of the Contractor Software. Such Fees will be Contractor's sole and exclusive remedy for use of the Contractor Software, including any excess use.

7.3 **Certification**. To the extent that a License granted to the State is not unlimited, Contractor may request written certification from the State regarding use of the Contractor Software for the sole purpose of verifying compliance with this **Section.** Such written certification may occur no more than once in any twenty-four (24) month period during the Term of the Contract. The State will to respond to any such request within 45 calendar days of receipt. If the State's use is greater than contracted, Contractor may invoice the State for any unlicensed use (and related support) pursuant to the terms of this Contract at the rates set forth in **Schedule B**, and the unpaid license and support fees shall be payable in accordance with the terms of the Contract. Payment under this provision shall be Contractor's sole and exclusive remedy to cure these issues.

7.4 **State License Grant to Contractor**. The State hereby grants to Contractor a limited, non-exclusive, non-transferable license (i) to use the State's (or individual agency's, department's or division's) name, trademarks, service marks or logos, solely in accordance with the State's specifications, and (ii) to display, reproduce, distribute and transmit in digital form the State's (or individual agency's, department's or division's) name, trademarks, service marks or logos in connection with promotion of the Services as communicated to Contractor by the State. Use of the State's (or individual agency's, department's or division's) name, trademarks, service marks or logos will be specified in the applicable Statement of Work**.** Contractor is provided a limited license to State Materials for the sole and exclusive purpose of providing the Services.

8. Third Party Components. At least 30 days prior to adding new third party components, Contractor will provide the State with notification information identifying and describing the addition. Throughout the Term, on an annual basis, Contractor will provide updated information identifying and describing any Approved Third Party Components included in the Software.

9. Intellectual Property Rights

9.1 Ownership Rights in Software

(a) Subject to the rights and licenses granted by Contractor in this Contract:

(i) Contractor reserves and retains its entire right, title and interest in and to all Intellectual Property Rights arising out of or relating to the Contractor Software; and

(ii) none of the State or Authorized Users acquire any ownership of Intellectual Property Rights in or to the Contractor Software or Contractor's Documentation as a result of this Contract.

(b) As between the State, on the one hand, and Contractor, on the other hand, the State has, reserves and retains, sole and exclusive ownership of all right, title and interest in and to State Materials, User Data, including all Intellectual Property Rights arising therefrom or relating thereto.

9.2 Except as set forth in Section 9.4, the State is and will be the sole and exclusive owner of all right, title, and interest in and to all Work Product, including without limitation any Software Deliverables, developed exclusively for the State under this Contract, including all Intellectual Property Rights. In furtherance of the foregoing:

(a) Contractor will create all Work Product as work made for hire as defined in Section 101 of the Copyright Act of 1976; and

(b) to the extent any Work Product, or Intellectual Property Rights do not qualify as, or otherwise fails to be, work made for hire, Contractor hereby:

(i) assigns, transfers, and otherwise conveys to the State, irrevocably and in perpetuity, throughout the universe, all right, title, and interest in and to such Work Product, including all Intellectual Property Rights; and

(ii) irrevocably waives any and all claims Contractor may now or hereafter have in any jurisdiction to so-called "moral rights" or rights of *droit moral* with respect to the Work Product.

9.3 Further Actions. Contractor will, and will cause the Contractor Personnel to, take all appropriate action and execute and deliver all documents, necessary or reasonably requested by the State to effectuate any of the provisions or purposes of this **Section** or otherwise as may be necessary or useful for the State to prosecute, register, perfect, record, or enforce its rights in or to any Work Product or any Intellectual Property Right therein. Contractor hereby appoints the State as Contractor's attorney-in-fact with full irrevocable power and authority to take any such actions and execute any such documents if Contractor refuses, or within a period deemed reasonable by the State otherwise fails, to do so.

9.4 Background Technology License. Contractor hereby grants to the State such rights and licenses with respect to the Background Technology that will allow the State to use and otherwise exploit perpetually throughout the universe for all or any purposes whatsoever the Work Product, to the same extent as if the State owned the Background Technology, without incurring any fees or costs to Contractor (other than the Fees set forth under this Contract) or any other Person in respect of the Background Technology. In furtherance of the foregoing, such rights and licenses will:

(a) be irrevocable, perpetual, fully paid-up and royalty-free;

(b) include the rights to use, reproduce, perform (publicly or otherwise), display (publicly or otherwise), modify, improve, create derivative works of, distribute, import, make, have made, sell and offer to sell the Background Technology, including all such modifications, improvements and derivative works thereof, solely as part of, or as necessary to use and exploit, the Work Product; and

(c) be freely assignable and sublicensable, in each case solely in connection with the assignment or licensing of the Work Product or any portion, modification, or derivative work thereof, and only to the extent necessary to allow the assignee or sublicensee, as the case may be, to use and exploit the Work Product or portion, modification, improvement, or derivative work thereof.

10. Software Implementation.

10.1 Implementation. Contractor will as applicable; deliver, install, configure, integrate, and otherwise provide and make fully operational the Software on or prior to the applicable Milestone Date in accordance with the criteria set forth in a Statement of Work and the Implementation Plan.

10.2 Site Preparation. Unless otherwise set forth in a Statement of Work, Contractor is responsible for ensuring the relevant Operating Environment is set up and in working order to allow Contractor to deliver and install the Software on or prior to the applicable Milestone Date. Contractor will provide the State with such notice as is

specified in a Statement of Work, prior to delivery of the Software to give the State sufficient time to prepare for Contractor's delivery and installation of the Software. If the State is responsible for Site preparation, Contractor will provide such assistance as the State requests to complete such preparation on a timely basis.

11. Software Acceptance Testing.

11.1 Acceptance Testing.

(a) Unless otherwise specified in a Statement of Work, upon installation of the Software, or in the case of Contractor Hosted Software, when Contractor notifies the State in writing that the Hosted Services are ready for use in a production environment, Acceptance Tests will be conducted as set forth in this **Section** to ensure the Software conforms to the requirements of this Contract, including the applicable Specifications and Documentation.

(b) All Acceptance Tests will take place at the designated Site(s) in the Operating Environment described in a Statement of Work, commence on the Business Day following installation of the Software, or the receipt by the State of the notification in **Section 11.1(a)**, and be conducted diligently for up to thirty (30) Business Days, or such other period as may be set forth in a Statement of Work (the "**Testing Period**"). Acceptance Tests will be conducted by the party responsible as set forth in a Statement of Work or, if a Statement of Work does not specify, the State, provided that:

(i) for Acceptance Tests conducted by the State, if requested by the State, Contractor will make suitable Contractor Personnel available to observe or participate in such Acceptance Tests; and

(ii) for Acceptance Tests conducted by Contractor, the State has the right to observe or participate in all or any part of such Acceptance Tests.

11.2 Contractor is solely responsible for all costs and expenses related to Contractor's performance of, participation in, and observation of Acceptance Testing.

(a) Upon delivery and installation of any Software Deliverable or, Configuration, or any other applicable Work Product, to the Software under a Statement of Work, additional Acceptance Tests will be performed on the modified Software as a whole to ensure full operability, integration, and compatibility among all elements of the Software ("**Integration Testing**"). Integration Testing is subject to all procedural and other terms and conditions set forth in **Section 11.1**, **Section 11.4**, and **Section 11.5**.

(b) The State may suspend Acceptance Tests and the corresponding Testing Period by written notice to Contractor if the State discovers a material Non-Conformity in the tested Software or part or feature of the Software. In such event, Contractor will immediately, and in any case within ten (10) Business Days, correct such Non-Conformity, whereupon the Acceptance Tests and Testing Period will resume for the balance of the Testing Period.

11.3 Notices of Completion, Non-Conformities, and Acceptance. Within fifteen (15) Business Days following the completion of any Acceptance Tests, including any Integration Testing, the party responsible for conducting the tests will prepare and provide to the other party written notice of the completion of the tests. Such notice must include a report describing in reasonable detail the tests conducted and the results of such tests, including any uncorrected Non-Conformity in the tested Software.

(a) If such notice is provided by either party and identifies any Non-Conformities, the parties' rights, remedies, and obligations will be as set forth in **Section 11.4** and **Section 11.5**.

(b) If such notice is provided by the State, is signed by the State Program Managers or their designees, and identifies no Non-Conformities, such notice constitutes the State's Acceptance of such Software.

(c) If such notice is provided by Contractor and identifies no Non-Conformities, the State will have thirty (30) Business Days to use the Software in the Operating Environment and determine, in the exercise of its sole

discretion, whether it is satisfied that the Software contains no Non-Conformities, on the completion of which the State will, as appropriate:

(i) notify Contractor in writing of Non-Conformities the State has observed in the Software and of the State's non-acceptance thereof, whereupon the parties' rights, remedies and obligations will be as set forth in **Section 11.4** and **Section 11.5**; or

(ii) provide Contractor with a written notice of its Acceptance of such Software, which must be signed by the State Program Managers or their designees.

11.4 Failure of Acceptance Tests. If Acceptance Tests identify any Non-Conformities, Contractor, at Contractor's sole cost and expense, will remedy all such Non-Conformities and re-deliver the Software, in accordance with the requirements set forth in a Statement of Work. Redelivery will occur as promptly as commercially possible and, in any case, within thirty (30) Business Days following, as applicable, Contractor's:

(a) completion of such Acceptance Tests, in the case of Acceptance Tests conducted by Contractor; or

(b) receipt of the State's notice under **Section 11(a)**or **Section 11.3(c)(i)**, identifying any Non-Conformities.

11.5 Repeated Failure of Acceptance Tests. If Acceptance Tests identify any Non-Conformity in the Software after a second or subsequent delivery of the Software, or Contractor fails to re-deliver the Software on a timely basis, the State may, in its sole discretion, by written notice to Contractor:

(a) continue the process set forth in this **Section**;

(b) accept the Software as a nonconforming deliverable, in which case the Fees for such Software will be reduced equitably to reflect the value of the Software as received relative to the value of the Software had it conformed; or

(c) deem the failure to be a non-curable material breach of this Contract and a Statement of Work and terminate this Contract for cause in accordance with **Section 18.1**.

11.6 Acceptance. Acceptance ("**Acceptance**") of the Software (subject, where applicable, to the State's right to Integration Testing) and any Deliverables will occur on the date that is the earliest of the State's delivery of a notice accepting the Software or Deliverables under **Section 11.3(b)**, or **Section 11.3(c)(ii)**.

12. Non-Software Acceptance.

12.1 All other non-Software Services and Deliverables are subject to inspection and testing by the State within 30 calendar days of the State's receipt of them ("State Review Period"), unless otherwise provided in the Statement of Work. If the non-Software Services and Deliverables are not fully accepted by the State, the State will notify Contractor by the end of the State Review Period that either: (a) the non-Software Services and Deliverables are accepted but noted deficiencies must be corrected; or (b) the non-Software Services and Deliverables are rejected. If the State finds material deficiencies, it may: (i) reject the non-Software Services and Deliverables without performing any further inspections; (ii) demand performance at no additional cost; or (iii) terminate this Contract in accordance with **Section 18.1**, Termination for Cause.

12.2 Within 10 Business Days from the date of Contractor's receipt of notification of acceptance with deficiencies or rejection of any non-Software Services and Deliverables, Contractor must cure, at no additional cost, the deficiency and deliver unequivocally acceptable non-Software Services and Deliverables to the State. If acceptance with deficiencies or rejection of the non-Software Services and Deliverables impacts the content or delivery of other non-completed non-Software Services and Deliverables, the parties' respective Program Managers must determine an agreed to number of days for re-submission that minimizes the overall impact to the Contract. However, nothing herein affects, alters, or relieves Contractor of its obligations to correct deficiencies in accordance with the time response standards set forth in this Contract.

12.3 If Contractor is unable or refuses to correct the deficiency within the time response standards set forth in this Contract, the State may cancel the order in whole or in part. The State, or a third party identified by the State, may provide the non-Software Services and Deliverables and recover the difference between the cost to cure and the Contract price plus an additional 10% administrative fee.

13. Assignment. Contractor may not assign this Contract to any other party without the prior approval of the State. Upon notice to Contractor, the State, in its sole discretion, may assign in whole or in part, its rights or responsibilities under this Contract to any other party. If the State determines that a novation of the Contract to a third party is necessary, Contractor will agree to the novation and provide all necessary documentation and signatures.

14. Change of Control. Contractor will notify the State, within 30 days of any public announcement or otherwise once legally permitted to do so, of a change in Contractor's organizational structure or ownership. For purposes of this Contract, a change in control means any of the following:

(a) a sale of more than 50% of Contractor's stock;

(b) a sale of substantially all of Contractor's assets;

(c) a change in a majority of Contractor's board members;

(d) consummation of a merger or consolidation of Contractor with any other entity;

(e) a change in ownership through a transaction or series of transactions;

(f) or the board (or the stockholders) approves a plan of complete liquidation.

A change of control does not include any consolidation or merger effected exclusively to change the domicile of Contractor, or any transaction or series of transactions principally for bona fide equity financing purposes. In the event of a change of control, Contractor must require the successor to assume this Contract and all of its obligations under this Contract.

15. Invoices and Payment.

15.1 Invoices must conform to the requirements communicated from time-to-time by the State. All undisputed amounts are payable within 45 days of the State's receipt. Contractor may only charge for Services and Deliverables provided as specified in Statement(s) of Work. Invoices must include an itemized statement of all charges. The State is exempt from State sales tax for direct purchases and may be exempt from federal excise tax, if Services purchased under this Contract are for the State's exclusive use. Notwithstanding the foregoing, all prices are inclusive of taxes, and Contractor is responsible for all sales, use and excise taxes, and any other similar taxes, duties and charges of any kind imposed by any federal, state, or local governmental entity on any amounts payable by the State under this Contract.

15.2 The State has the right to withhold payment of any disputed amounts until the parties agree as to the validity of the disputed amount. The State will notify Contractor of any dispute within a reasonable time. Payment by the State will not constitute a waiver of any rights as to Contractor's continuing obligations, including claims for deficiencies or substandard Services and Deliverables. Contractor's acceptance of final payment by the State constitutes a waiver of all claims by Contractor against the State for payment under this Contract, other than those claims previously filed in writing on a timely basis and still disputed.

15.3 The State will only disburse payments under this Contract through Electronic Funds Transfer (EFT). Contractor must register with the State at http://www.michigan.gov/SIGMAVSS to receive electronic fund transfer payments. If Contractor does not register, the State is not liable for failure to provide payment. Without prejudice to any other right or remedy it may have, the State reserves the right to set off at any time any amount then due and owing to it by Contractor against any amount payable by the State to Contractor under this Contract.

15.4 Right of Setoff. Without prejudice to any other right or remedy it may have, the State reserves the right to set off at any time any amount owing to it by Contractor against any amount payable by the State to Contractor under this Contract.

15.5 Taxes. The State is exempt from State sales tax for direct purchases and may be exempt from federal excise tax, if Services or Deliverables purchased under this Contract are for the State's exclusive use. Notwithstanding the foregoing, all Fees are exclusive of taxes, and Contractor is responsible for all sales, use and excise taxes, and any other similar taxes, duties and charges of any kind imposed by any federal, state, or local governmental entity on any amounts payable by the State under this Contract.

15.6 Pricing/Fee Changes. All Pricing set forth in this Contract will not be increased, except as otherwise expressly provided in this Section.

(a) The Fees will not be increased at any time except for the addition of additional licenses, the fees for which licenses will also remain firm in accordance with the Pricing set forth in the Pricing Schedule.

(b) Excluding federal government charges and terms. Contractor warrants and agrees that each of the Fees, economic or product terms or warranties granted pursuant to this Contract are comparable to or better than the equivalent fees, economic or product term or warranty being offered to any commercial or government customer of Contractor. If Contractor enters into any arrangements with another customer of Contractor to provide the products or services, available under this Contract, under more favorable prices, as the prices may be indicated on Contractor's current U.S. and International price list or comparable document, then this Contract will be deemed amended as of the date of such other arrangements to incorporate those more favorable prices, and Contractor will immediately notify the State of such Fee and formally memorialize the new pricing in a Change Notice.

16. Liquidated Damages.

16.1 The parties agree that any delay or failure by Contractor to timely perform its obligations in accordance with the Implementation Plan and Milestone Dates agreed to by the parties will interfere with the proper and timely implementation of the Software, to the loss and damage of the State. Further, the State will incur major costs to perform the obligations that would have otherwise been performed by Contractor. The parties understand and agree that any liquidated damages Contractor must pay to the State as a result of such nonperformance are described in a Statement of Work, and that these amounts are reasonable estimates of the State's damages in accordance with applicable law.

16.2 The parties acknowledge and agree that Contractor could incur liquidated damages for more than one event if Contractor fails to timely perform its obligations by each Milestone Date.

16.3 The assessment of liquidated damages will not constitute a waiver or release of any other remedy the State may have under this Contract for Contractor's breach of this Contract, including without limitation, the State's right to terminate this Contract for cause under **Section 18.1** and the State will be entitled in its discretion to recover actual damages caused by Contractor's failure to perform its obligations under this Contract. However, the State will reduce such actual damages by the amounts of liquidated damages received for the same events causing the actual damages.

16.4 Amounts due the State as liquidated damages may be set off against any Fees payable to Contractor under this Contract, or the State may bill Contractor as a separate item and Contractor will promptly make payments on such bills.

17. Stop Work Order. The State may, at any time, order the Services of Contractor fully or partially stopped for up to ninety (90) calendar days at no additional cost to the State. The State will provide Contractor a written notice detailing such suspension (a "**Stop Work Order**"). Contractor must comply with the Stop Work Order upon receipt. Within 90 days, or any longer period agreed to by Contractor, the State will either:

(a) issue a notice authorizing Contractor to resume work, or

(b) terminate this Contract. The State will not pay for any Services, Contractor's lost profits, or any additional compensation during a stop work period.

18. Termination, Expiration, Transition. The State may terminate this Contract, the Support Services, or any Statement of Work, in accordance with the following:

18.1 Termination for Cause. In addition to any right of termination set forth elsewhere in this Contract:

(a) The State may terminate this Contract for cause, in whole or in part, if Contractor, as determined by the State:

(i) endangers the value, integrity, or security of State Systems, State Data, or the State's facilities or personnel;

(ii) becomes insolvent, petitions for bankruptcy court proceedings, or has an involuntary bankruptcy proceeding filed against it by any creditor; or

(iii) breaches any of its material duties or obligations under this Contract. Any reference to specific breaches being material breaches within this Contract will not be construed to mean that other breaches are not material.

(b) If the State terminates this Contract under this **Section**, the State will issue a termination notice specifying whether Contractor must:

(i) cease performance immediately. Contractor must submit all invoices for Services accepted by the State within 30 days of the date of termination. Failure to submit an invoice within that timeframe will constitute a waiver by Contractor for any amounts due to Contractor for Services accepted by the State under this Contract, or

(ii) continue to perform for a specified period. If it is later determined that Contractor was not in breach of this Contract, the termination will be deemed to have been a termination for public interest, effective as of the same date, and the rights and obligations of the parties will be limited to those provided in **Section 18.2**.

(c) The State will only pay for amounts due to Contractor for Services accepted by the State on or before the date of termination, subject to the State's right to set off any amounts owed by the Contractor for the State's reasonable costs in terminating this Contract. Contractor must promptly reimburse to the State any Fees prepaid by the State prorated to the date of such termination, including any prepaid Fees. Further, Contractor must pay all reasonable costs incurred by the State in terminating this Contract for cause, including administrative costs, attorneys' fees, court costs, transition costs, and any costs the State incurs to procure the Services from other sources.

18.2 Termination for Public Interest. The State may immediately terminate this Contract in whole or in part, without penalty and for any reason, including but not limited to, appropriation or budget shortfalls. The termination notice will specify whether Contractor must:

(a) cease performance immediately. Contractor must submit all invoices for Services accepted by the State within 30 days of the date of termination. Failure to submit an invoice within that timeframe will constitute a waiver by Contractor for any amounts due to Contractor for Services accepted by the State under this Contract, or

(b) continue to perform in accordance with **Section 18.3**. If the State terminates this Contract for public interest, the State will pay all reasonable costs, as determined by the State, for State approved Transition Responsibilities to the extent the funds are available.

18.3 Transition Responsibilities.

(a) Upon termination or expiration of this Contract for any reason, Contractor must, for a period of time specified by the State (not to exceed 90 calendar days; the "**Transition Period**"), provide all reasonable transition assistance requested by the State, to allow for the expired or terminated portion of the Contract to continue without

interruption or adverse effect, and to facilitate the orderly transfer of the Services to the State or its designees. Such transition assistance may include but is not limited to:

(i) continuing to perform the Services at the established Contract rates;

(ii) taking all reasonable and necessary measures to transition performance of the work, including all applicable Services to the State or the State's designee;

(iii) taking all necessary and appropriate steps, or such other action as the State may direct, to preserve, maintain, protect, and comply with **Section 24.5** regarding the return or destruction of State Data at the conclusion of the Transition Period;

(iv) transferring title in and delivering to the State, at the State's discretion, all completed or partially completed Deliverables prepared under this Contract as of the Contract termination or expiration date; and

(v) preparing an accurate accounting from which the State and Contractor may reconcile all outstanding accounts (collectively, the "**Transition Responsibilities**"). The Term of this Contract is automatically extended through the end of the Transition Period.

(b) Contractor will follow the transition plan attached as **Schedule G** as it pertains to both transition in and transition out activities.

(c) All licenses granted to Contractor in the State Materials and State Data will immediately and automatically also terminate.

18.4 Survival. This **Section** survives termination or expiration of this Contract.

19. Indemnification

19.1 General Indemnification. Contractor must defend, indemnify and hold the State, its departments, divisions, agencies, offices, commissions, officers, and employees harmless, without limitation, from and against any and all actions, claims, losses, liabilities, damages, costs, attorney fees, and expenses (including those required to establish the right to indemnification), arising out of or relating to:

(a) any breach by Contractor (or any of Contractor's employees, agents, subcontractors, or by anyone else for whose acts any of them may be liable) of any of the promises, agreements, representations, warranties, or insurance requirements contained in this Contract;

(b) any infringement, misappropriation, or other violation of any Intellectual Property Right or other right of any third party;

(c) any bodily injury, death, or damage to real or tangible personal property occurring wholly or in part due to action or inaction by Contractor (or any of Contractor's employees, agents, subcontractors, or by anyone else for whose acts any of them may be liable); and

(d) any acts or omissions of Contractor (or any of Contractor's employees, agents, subcontractors, or by anyone else for whose acts any of them may be liable).

19.2 Indemnification Procedure. The State will notify Contractor in writing if indemnification is sought; however, failure to do so will not relieve Contractor, except to the extent that Contractor is materially prejudiced. Contractor must, to the satisfaction of the State, demonstrate its financial ability to carry out these obligations. The State is entitled to:

(a) regular updates on proceeding status;

(b) participate in the defense of the proceeding;

(c) employ its own counsel; and to

(d) retain control of the defense, at its own cost and expense, if the State deems necessary. Contractor will not, without the State's prior written consent (not to be unreasonably withheld), settle, compromise, or consent to the entry of any judgment in or otherwise seek to terminate any claim, action, or proceeding. Any litigation activity on behalf of the State or any of its subdivisions, under this **Section**, must be coordinated with the Department of Attorney General. An attorney designated to represent the State may not do so until approved by the Michigan Attorney General and appointed as a Special Assistant Attorney General.

19.3 The State is constitutionally prohibited from indemnifying Contractor or any third parties.

20. Infringement Remedies.

20.1 The remedies set forth in this Section are in addition to, and not in lieu of, all other remedies that may be available to the State under this Contract or otherwise, including the State's right to be indemnified for such actions.

20.2 If any Software or any component thereof, other than State Materials, is found to be infringing or if any use of any Software or any component thereof is enjoined, threatened to be enjoined or otherwise the subject of an infringement claim, Contractor must, at Contractor's sole cost and expense:

(a) procure for the State the right to continue to use such Software or component thereof to the full extent contemplated by this Contract; or

(b) modify or replace the materials that infringe or are alleged to infringe ("**Allegedly Infringing Materials**") to make the Software and all of its components non-infringing while providing fully equivalent features and functionality.

20.3 If neither of the foregoing is possible notwithstanding Contractor's best efforts, then Contractor may direct the State to cease any use of any materials that have been enjoined or finally adjudicated as infringing, provided that Contractor will:

(a) refund to the State all amounts paid by the State in respect of such Allegedly Infringing Materials and any other aspects of the Software provided under a Statement of Work for the Allegedly Infringing Materials that the State cannot reasonably use as intended under this Contract; and

(b) in any case, at its sole cost and expense, secure the right for the State to continue using the Allegedly Infringing Materials for a transition period of up to six (6) months to allow the State to replace the affected features of the Software without disruption.

20.4 If Contractor directs the State to cease using any Software under **Section 20.3,** the State may terminate this Contract for cause under **Section 18.1**.Unless the claim arose against the Software independently of any of the actions specified below, Contractor will have no liability for any claim of infringement arising solely from:

(a) Contractor's compliance with any designs, specifications, or instructions of the State; or

(b) modification of the Software by the State without the prior knowledge and approval of Contractor.

21. Disclaimer of Damages and Limitation of Liability.

21.1 The State's Disclaimer of Damages. THE STATE WILL NOT BE LIABLE, REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR BY STATUTE OR OTHERWISE, FOR ANY CLAIM RELATED TO OR ARISING UNDER THIS CONTRACT FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT, OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS AND LOST BUSINESS OPPORTUNITIES.

21.2 The State's Limitation of Liability. IN NO EVENT WILL THE STATE'S AGGREGATE LIABILITY TO CONTRACTOR UNDER THIS CONTRACT, REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR BY STATUTE OR OTHERWISE, FOR ANY CLAIM RELATED TO OR ARISING UNDER THIS CONTRACT, EXCEED THE MAXIMUM AMOUNT OF FEES PAYABLE UNDER THIS CONTRACT.

22. Disclosure of Litigation, or Other Proceeding. Contractor must notify the State within 14 calendar days of receiving notice of any litigation, investigation, arbitration, or other proceeding (collectively, "**Proceeding**") involving Contractor, a Permitted Subcontractor, or an officer or director of Contractor or Permitted Subcontractor, that arises during the term of the Contract, including:

(a) a criminal Proceeding;

(b) a parole or probation Proceeding;

(c) a Proceeding under the Sarbanes-Oxley Act;

(d) a civil Proceeding involving:

(i) a claim that might reasonably be expected to adversely affect Contractor's viability or financial stability; or

(ii) a governmental or public entity's claim or written allegation of fraud; or

(e) a Proceeding involving any license that Contractor is required to possess in order to perform under this Contract.

23. State Data.

23.1 Ownership. The State's data ("**State Data**"), which will be treated by Contractor as Confidential Information, includes:

(a) User Data;

(b) Software Deliverables; and

(c) any other data collected, used, Processed, stored, or generated by the State in connection with the Services, including but not limited to:

(i) personally identifiable information ("**PII**") collected, used, Processed, stored, or generated as the result of the Services, including, without limitation, any information that identifies an individual, such as an individual's social security number or other government-issued identification number, date of birth, address, telephone number, biometric data, mother's maiden name, email address, credit card information, or an individual's name in combination with any other of the elements here listed; and

(ii) personal health information ("**PHI**") collected, used, Processed, stored, or generated as the result of the Services, which is defined under the Health Insurance Portability and Accountability Act ("**HIPAA**") and its related rules and regulations.

23.2 State Data is and will remain the sole and exclusive property of the State and all right, title, and interest in the same is reserved by the State.

23.3 Contractor Use of State Data. Contractor is provided a limited license to State Data for the sole and exclusive purpose of providing the Services, including a license to collect, process, store, generate, and display State Data only to the extent necessary in the provision of the Services. Contractor must:

(a) keep and maintain State Data in strict confidence, using such degree of care as is appropriate and consistent with its obligations as further described in this Contract and applicable law to avoid unauthorized access, use, disclosure, or loss;

(b) use and disclose State Data solely and exclusively for the purpose of providing the Services, such use and disclosure being in accordance with this Contract, any applicable Statement of Work, and applicable law;

(c) keep and maintain State Data in the continental United States and

(d) not use, sell, rent, transfer, distribute, or otherwise disclose or make available State Data for Contractor's own purposes or for the benefit of anyone other than the State without the State's prior written consent.

23.4 Discovery. Contractor will immediately notify the State upon receipt of any requests which in any way might reasonably require access to State Data or the State's use of the Software and Hosted Services, if applicable. Contractor will notify the State Program Managers or their designees by the fastest means available and also in writing. In no event will Contractor provide such notification more than twenty-four (24) hours after Contractor receives the request. Contractor will not respond to subpoenas, service of process, FOIA requests, and other legal requests related to the State without first notifying the State and obtaining the State's prior approval of Contractor's proposed responses. Contractor agrees to provide its completed responses to the State with adequate time for State review, revision and approval.

23.5 Loss or Compromise of Data. In the event of any act, error or omission, negligence, misconduct, or breach on the part of Contractor that compromises or is suspected to compromise the security, confidentiality, integrity, or availability of State Data or the physical, technical, administrative, or organizational safeguards put in place by Contractor that relate to the protection of the security, confidentiality, or integrity of State Data, Contractor must, as applicable:

(a) notify the State as soon as practicable but no later than twenty-four (24) hours of becoming aware of such occurrence;

(b) cooperate with the State in investigating the occurrence, including making available all relevant records, logs, files, data reporting, and other materials required to comply with applicable law or as otherwise required by the State;

(c) in the case of PII or PHI, at the State's sole election:

(i) with approval and assistance from the State, notify the affected individuals who comprise the PII or PHI as soon as practicable but no later than is required to comply with applicable law, or, in the absence of any legally required notification period, within five (5) calendar days of the occurrence; or

(ii) reimburse the State for any costs in notifying the affected individuals;

(d) in the case of PII, provide third-party credit and identity monitoring services to each of the affected individuals who comprise the PII for the period required to comply with applicable law, or, in the absence of any legally required monitoring services, for no less than twenty-four (24) months following the date of notification to such individuals;

(e) perform or take any other actions required to comply with applicable law as a result of the occurrence;

(f) pay for any costs associated with the occurrence, including but not limited to any costs incurred by the State in investigating and resolving the occurrence, including reasonable attorney's fees associated with such investigation and resolution;

(g) without limiting Contractor's obligations of indemnification as further described in this Contract, indemnify, defend, and hold harmless the State for any and all claims, including reasonable attorneys' fees, costs,

and incidental expenses, which may be suffered by, accrued against, charged to, or recoverable from the State in connection with the occurrence;

(h) be responsible for recreating lost State Data in the manner and on the schedule set by the State without charge to the State; and

(i) provide to the State a detailed plan within ten (10) calendar days of the occurrence describing the measures Contractor will undertake to prevent a future occurrence. Notification to affected individuals, as described above, must comply with applicable law, be written in plain language, not be tangentially used for any solicitation purposes, and contain, at a minimum: name and contact information of Contractor's representative; a description of the nature of the loss; a list of the types of data involved; the known or approximate date of the loss; how such loss may affect the affected individual; what steps Contractor has taken to protect the affected individual; what steps the affected individual can take to protect himself or herself; contact information for major credit card reporting agencies; and, information regarding the credit and identity monitoring services to be provided by Contractor. The State will have the option to review and approve any notification sent to affected individuals prior to its delivery. Notification to any other party, including but not limited to public media outlets, must be reviewed and approved by the State in writing prior to its dissemination.

23.6 The parties agree that any damages relating to a breach of this **Section** are to be considered direct damages and not consequential damages. **Section 23** survives termination or expiration of this Contract.

24. Non-Disclosure of Confidential Information. The parties acknowledge that each party may be exposed to or acquire communication or data of the other party that is confidential, privileged communication not intended to be disclosed to third parties. This **Section** survives termination or expiration of this Contract.

24.1 Meaning of Confidential Information. The term "**Confidential Information**" means all information and documentation of a party that:

(a) has been marked "confidential" or with words of similar meaning, at the time of disclosure by such party;

(b) if disclosed orally or not marked "confidential" or with words of similar meaning, was subsequently summarized in writing by the disclosing party and marked "confidential" or with words of similar meaning; or,

(c) should reasonably be recognized as confidential information of the disclosing party.

The term "Confidential Information" does not include any information or documentation that was or is:

(d) in the possession of the State and subject to disclosure under the Michigan Freedom of Information Act (FOIA);

(e) already in the possession of the receiving party without an obligation of confidentiality;

(f) developed independently by the receiving party, as demonstrated by the receiving party, without violating the disclosing party's proprietary rights;

(g) obtained from a source other than the disclosing party without an obligation of confidentiality; or,

(h) publicly available when received, or thereafter became publicly available (other than through any unauthorized disclosure by, through, or on behalf of, the receiving party).

For purposes of this Contract, in all cases and for all matters, State Data is deemed to be Confidential Information.

24.2 Obligation of Confidentiality. The parties agree to hold all Confidential Information in strict confidence and not to copy, reproduce, sell, transfer, or otherwise dispose of, give or disclose such Confidential Information to third parties other than employees, agents, or subcontractors of a party who have a need to know in connection with this Contract or to use such Confidential Information for any purposes whatsoever other than the performance of this

Contract. The parties agree to advise and require their respective employees, agents, and subcontractors of their obligations to keep all Confidential Information confidential. Disclosure to the Contractor's subcontractor is permissible where:

(a) the subcontractor is a Permitted Subcontractor;

(b) the disclosure is necessary or otherwise naturally occurs in connection with work that is within the Permitted Subcontractor's responsibilities; and

(c) Contractor obligates the Permitted Subcontractor in a written contract to maintain the State's Confidential Information in confidence. At the State's request, any of the Contractor's and Permitted Subcontractor's Representatives may be required to execute a separate agreement to be bound by the provisions of this **Section**.

24.3 Cooperation to Prevent Disclosure of Confidential Information. Each party must use its best efforts to assist the other party in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limiting the foregoing, each party must advise the other party immediately in the event either party learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Contract. Each party will cooperate with the other party in seeking injunctive or other equitable relief against any such person.

24.4 Remedies for Breach of Obligation of Confidentiality. Each party acknowledges that breach of its obligation of confidentiality may give rise to irreparable injury to the other party, which damage may be inadequately compensable in the form of monetary damages. Accordingly, a party may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies which may be available, to include, in the case of the State, at the sole election of the State, the immediate termination, without liability to the State, of this Contract or any Statement of Work corresponding to the breach or threatened breach.

24.5 Surrender of Confidential Information upon Termination. Upon termination or expiration of this Contract or a Statement of Work, in whole or in part, each party must, within five (5) Business Days from the date of the end of any Transition Period, return to the other party any and all Confidential Information received from the other party, or created or received by a party on behalf of the other party, which are in such party's possession, custody, or control. Upon confirmation from the State, of receipt of all data, Contractor must permanently sanitize or destroy the State's Confidential Information, including State Data, from all media including backups using National Security Agency ("NSA") and/or National Institute of Standards and Technology ("NIST") (NIST Guide for Media Sanitization 800-88) data sanitation methods or as otherwise instructed by the State. If the State determines that the return of any Confidential Information is not feasible or necessary, Contractor must destroy the Confidential Information as specified above. The Contractor must certify the destruction of Confidential Information (including State Data) in writing within five (5) Business Days from the date of confirmation from the State.

25. Records Maintenance, Inspection, Examination, and Audit.

25.1 Right of Audit. Pursuant to MCL 18.1470, the State or its designee may audit Contractor to verify compliance with this Contract. Contractor must retain, and provide to the State or its designee and the auditor general upon request, all financial and accounting records related to this Contract through the Term of this Contract and for four (4) years after the latter of termination, expiration, or final payment under this Contract or any extension ("**Financial Audit Period**"). If an audit, litigation, or other action involving the records is initiated before the end of the Financial Audit Period, Contractor must retain the records until all issues are resolved.

25.2 Right of Inspection. Within ten (10) calendar days of providing notice, the State and its authorized representatives or designees have the right to enter and inspect Contractor's premises or any other places where Services are being performed, and examine, copy, and audit all records related to this Contract. Contractor must cooperate and provide reasonable assistance. If financial errors are revealed, the amount in error must be reflected as a credit or debit on subsequent invoices until the amount is paid or refunded. Any remaining balance at the end of this Contract must be paid or refunded within forty-five (45) calendar days.

25.3 Application. This **Section** applies to Contractor, any Affiliate, and any Permitted Subcontractor that performs Services in connection with this Contract.

26. Support Services. On the Support Services Commencement Date, Contractor will provide the State with the Support Services described in the Service Level Agreement attached as **Schedule D** to this Contract. Such Support Services will be provided:

(a) Free of charge during the Warranty Period.

(b) Thereafter, for so long as the State elects to receive Support Services for the Software, in consideration of the State's payment of Fees for such services in accordance with the rates set forth in the Pricing Schedule.

27. Data Security Requirements. Throughout the Term and at all times in connection with its actual or required performance of the Services, Contractor will maintain and enforce an information security program including safety and physical and technical security policies and procedures with respect to its Processing of the State's Confidential Information that comply with the requirements of the State's data security policies as set forth in **Schedule E** to this Contract.

28. Training. Contractor will provide, at no additional charge, training on all uses of the Software permitted hereunder in accordance with the times, locations and other terms set forth in a Statement of Work. Upon the State's request, Contractor will timely provide training for additional Authorized Users or other additional training on all uses of the Software for which the State requests such training, at such reasonable times and locations and pursuant to such rates and other terms as are set forth in the Pricing Schedule.

29. Maintenance Releases; New Versions

29.1 Maintenance Releases. Provided that the State is current on its Fees, during the Term, Contractor will provide the State, at no additional charge, with any and all Maintenance Releases, each of which will constitute Software and be subject to the terms and conditions of this Contract.

29.2 New Versions. Provided that the State is current on its Fees, during the Term, Contractor will provide the State, at no additional charge, with any and all New Versions, each of which will constitute Software and be subject to the terms and conditions of this Contract.

29.3 Installation. The State has no obligation to install or use any Maintenance Release or New Versions. If the State wishes to install any Maintenance Release or New Version, the State will have the right to have such Maintenance Release or New Version installed, in the State's discretion, by Contractor or other authorized party as set forth in a Statement of Work. Contractor will provide the State, at no additional charge, adequate Documentation for installation of the Maintenance Release or New Version, which has been developed and tested by Contractor and Acceptance Tested by the State. The State's decision not to install or implement a Maintenance Release or New Version of the Software will not affect its right to receive Support Services throughout the Term of this Contract.

30. Source Code Escrow

30.1 Escrow Contract. The parties may enter into a separate intellectual property escrow agreement. Such escrow agreement will govern all aspects of Source Code escrow and release. The cost of the escrow will be the sole responsibility of Contractor.

30.2 Deposit. Within thirty (30) Business Days of the Effective Date, Contractor will deposit with the escrow agent, pursuant to the procedures of the escrow agreement, the Source Code for the Software, as well as the Documentation and names and contact information for each author or other creator of the Software. Promptly after release of any update, upgrade, patch, bug fix, enhancement, new version, or other revision to the Software, Contractor will deposit updated Source Code, documentation, names, and contact information with the escrow agent.

30.3 Verification. At State's request and expense, the escrow agent may at any time verify the Deposit Material, including without limitation by compiling Source Code, comparing it to the Software, and reviewing the completeness and accuracy of any and all material. In the event that the Deposit Material does not conform to the requirements of **Section 30.2** above:

(a) Contractor will promptly deposit conforming Deposit Material; and

(b) Contractor will pay the escrow agent for subsequent verification of the new Deposit Material. Any breach of the provisions of this **Section** will constitute material breach of this Contract, and no further payments will be due from the State until such breach is cured, in addition to other remedies the State may have.

30.4 Deposit Material License. Contractor hereby grants the State a license to use, reproduce, and create derivative works from the Deposit Material, provided the State may not distribute or sublicense the Deposit Material or make any use of it whatsoever except for such internal use as is necessary to maintain and support the Software. Copies of the Deposit Material created or transferred pursuant to this Contract are licensed, not sold, and the State receives no title to or ownership of any copy or of the Deposit Material itself. The Deposit Material constitutes Confidential Information of Contractor pursuant to **Section 24** (Non-disclosure of Confidential Information) of this Contract (provided no provision of **Section 24.4** calling for return of Confidential Information before termination of this Contract will apply to the Deposit Material).

31. Contractor Representations and Warranties.

31.1 Authority. Contractor represents and warrants to the State that:

(a) It is duly organized, validly existing, and in good standing as a corporation or other entity as represented under this Contract under the laws and regulations of its jurisdiction of incorporation, organization, or chartering;

(b) It has the full right, power, and authority to enter into this Contract, to grant the rights and licenses granted under this Contract, and to perform its contractual obligations;

(c) The execution of this Contract by its Representative has been duly authorized by all necessary organizational action; and

(d) When executed and delivered by Contractor, this Contract will constitute the legal, valid, and binding obligation of Contractor, enforceable against Contractor in accordance with its terms.

(e) Contractor is neither currently engaged in nor will engage in the boycott of a person based in or doing business with a strategic partner as described in 22 USC 8601 to 8606.

31.2 Bid Response. Contractor represents and warrants to the State that:

(a) The prices proposed by Contractor were arrived at independently, without consultation, communication, or agreement with any other Bidder for the purpose of restricting competition; the prices quoted were not knowingly disclosed by Contractor to any other Bidder to the RFP; and no attempt was made by Contractor to induce any other Person to submit or not submit a proposal for the purpose of restricting competition;

(b) All written information furnished to the State by or for Contractor in connection with this Contract, including Contractor's Bid Response, is true, accurate, and complete, and contains no untrue statement of material fact or omits any material fact necessary to make the information not misleading;

(c) Contractor is not in material default or breach of any other contract or agreement that it may have with the State or any of its departments, commissions, boards, or agencies. Contractor further represents and warrants that it has not been a party to any contract with the State or any of its departments that was terminated by the State within the previous five (5) years for the reason that Contractor failed to perform or otherwise breached an obligation of the contract; and

(d) If any of the certifications, representations, or disclosures made in Contractor's Bid Response change after contract award, the Contractor is required to report those changes immediately to the Contract Administrator.

31.3 Software Representations and Warranties. Contractor further represents and warrants to the State that:

(a) it is the legal and beneficial owner of the entire right, title and interest in and to the Contractor Software, including all Intellectual Property Rights relating thereto;

(b) it has, and throughout the license term, will retain the unconditional and irrevocable right, power and authority to grant and perform the license hereunder;

(c) it has, and throughout the Term and any additional periods during which Contractor does or is required to perform the Services will have, the unconditional and irrevocable right, power and authority, including all permits and licenses required, to provide the Services and grant and perform all rights and licenses granted or required to be granted by it under this Contract;

(d) the Software, and the State's use thereof, is and throughout the license term will be free and clear of all encumbrances, liens and security interests of any kind;

(e) neither its grant of the license, nor its performance under this Contract does or to its knowledge will at any time:

(i) conflict with or violate any applicable law;

(ii) require the consent, approval or authorization of any governmental or regulatory authority or other third party; or

(iii) require the provision of any payment or other consideration to any third party;

(f) when used by the State or any Authorized User in accordance with this Contract and the Documentation, the Software, the Hosted Services, if applicable, or Documentation as delivered or installed by Contractor does not or will not:

(i) infringe, misappropriate or otherwise violate any Intellectual Property Right or other right of any third party; or

(ii) fail to comply with any applicable law;

(g) as provided by Contractor, the Software and Services do not and will not at any time during the Term contain any:

(i) Harmful Code; or

(ii) Third party or Open-Source Components that operate in such a way that it is developed or compiled with or linked to any third party or Open-Source Components, other than Approved Third Party Components specifically described pursuant to this Contract.

(h) all Documentation is and will be complete and accurate in all material respects when provided to the State such that at no time during the license term will the Software have any material undocumented feature; and

(i) it will perform all Services in a timely, skillful, professional and workmanlike manner in accordance with commercially reasonable industry standards and practices for similar services, using personnel with the requisite skill, experience and qualifications, and will devote adequate resources to meet its obligations under this Contract and will devote adequate resources to meet Contractor's obligations under this Contract;.

(j) when used in the Operating Environment (or any successor thereto) in accordance with the Documentation, all Software as provided by Contractor, will be fully operable, meet all applicable specifications, and function in all respects, in conformity with this Contract and the Documentation;

(k) Contractor acknowledges that the State cannot indemnify any third parties, including but not limited to any third-party software providers that provide software that will be incorporated in or otherwise used in conjunction with the Services, and that notwithstanding anything to the contrary contained in any third-party software license agreement or end user license agreement, the State will not indemnify any third party software provider for any reason whatsoever;

(l) no Maintenance Release or New Version, when properly installed in accordance with this Contract, will have a material adverse effect on the functionality or operability of the Software.

(m) all Configurations or Customizations made during the Term will be forward-compatible with future Maintenance Releases or New Versions and be fully supported without additional costs.

(n) If Contractor Hosted:

(i) Contractor will not advertise through the Hosted Services (whether with adware, banners, buttons or other forms of online advertising) or link to external web sites that are not approved in writing by the State;

(ii) the Software and Services will in all material respects conform to and perform in accordance with the Specifications and all requirements of this Contract, including the Availability and Availability Requirement provisions set forth in the Service Level Agreement;

(iii) all Specifications are, and will be continually updated and maintained so that they continue to be, current, complete and accurate and so that they do and will continue to fully describe the Hosted Services in all material respects such that at no time during the Term or any additional periods during which Contractor does or is required to perform the Services will the Hosted Services have any material undocumented feature;

(o) During the Term of this Contract, any audit rights contained in any third-party software license agreement or end user license agreement for third-party software incorporated in or otherwise used in conjunction with the Software or with the Hosted Services, if applicable, will apply solely to Contractor or its Permitted Subcontractors. Regardless of anything to the contrary contained in any third-party software license agreement or end user license agreement, third-party software providers will have no audit rights whatsoever against State Systems or networks.

31.4 Disclaimer. EXCEPT FOR THE EXPRESS WARRANTIES SET FORTH IN THIS AGREEMENT, CONTRACTOR HEREBY DISCLAIMS ALL WARRANTIES, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, WITH RESPECT TO THIS CONTRACT.

32. Offers of Employment. During the first twelve (12) months of the Contract, should Contractor hire an employee of the State who has substantially worked on any project covered by this Contract without prior written consent of the State, the Contractor will be billed for fifty percent (50%) of the employee's annual salary in effect at the time of separation.

33. Conflicts and Ethics. Contractor will uphold high ethical standards and is prohibited from: (a) holding or acquiring an interest that would conflict with this Contract; (b) doing anything that creates an appearance of impropriety with respect to the award or performance of the Contract; (c) attempting to influence or appearing to influence any State employee by the direct or indirect offer of anything of value; or (d) paying or agreeing to pay any

person, other than employees and consultants working for Contractor, any consideration contingent upon the award of the Contract. Contractor must immediately notify the State of any violation or potential violation of these standards. This Section applies to Contractor, any parent, affiliate, or subsidiary organization of Contractor, and any Permitted Subcontractor that provides Services and Deliverables in connection with this Contract.

34. Compliance with Laws. Contractor, its subcontractors, including Permitted Subcontractors, and their respective Representatives must comply with all laws in connection with this Contract.

35. Nondiscrimination. Under the Elliott-Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, *et seq*., the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, *et seq*., and Executive Directive 2019-09, Contractor and its subcontractors agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex (as defined in Executive Directive 2019-09), height, weight, marital status, partisan considerations, any mental or physical disability, or genetic information that is unrelated to the person's ability to perform the duties of a particular job or position. Breach of this covenant is a material breach of the Contract.

36. Unfair Labor Practice. Under MCL 423.324, the State may void any Contract with a Contractor or Permitted Subcontractor who appears on the Unfair Labor Practice register compiled under MCL 423.322.

37. Governing Law. This Contract is governed, construed, and enforced in accordance with Michigan law, excluding choice-of-law principles, and all claims relating to or arising out of this Contract are governed by Michigan law, excluding choice-of-law principles. Any dispute arising from this Contract must be resolved in the Michigan Court of Claims. Complaints against the State must be initiated in Ingham County, Michigan. Contractor waives any objections, such as lack of personal jurisdiction or *forum non conveniens*. Contractor must appoint an agent in Michigan to receive service of process.

38. Non-Exclusivity. Nothing contained in this Contract is intended nor is to be construed as creating any requirements contract with Contractor, nor does it provide Contractor with a right of first refusal for any future work. This Contract does not restrict the State or its agencies from acquiring similar, equal, or like Services from other sources.

39. Force Majeure

39.1 Force Majeure Events. Neither party will be liable or responsible to the other party, or be deemed to have defaulted under or breached the Contract, for any failure or delay in fulfilling or performing any term hereof, when and to the extent such failure or delay is caused by: acts of God, flood, fire or explosion, war, terrorism, invasion, riot or other civil unrest, embargoes or blockades in effect on or after the date of the Contract, national or regional emergency, or any passage of law or governmental order, rule, regulation or direction, or any action taken by a governmental or public authority, including imposing an embargo, export or import restriction, quota or other restriction or prohibition (each of the foregoing, a "**Force Majeure Event**"), in each case provided that: (a) such event is outside the reasonable control of the affected party; (b) the affected party gives prompt written notice to the other party, stating the period of time the occurrence is expected to continue; (c) the affected party uses diligent efforts to end the failure or delay and minimize the effects of such Force Majeure Event.

39.2 State Performance; Termination. In the event of a Force Majeure Event affecting Contractor's performance under the Contract, the State may suspend its performance hereunder until such time as Contractor resumes performance. The State may terminate the Contract by written notice to Contractor if a Force Majeure Event affecting Contractor's performance hereunder continues substantially uninterrupted for a period of five (5) Business Days or more. Unless the State terminates the Contract pursuant to the preceding sentence, any date specifically designated for Contractor's performance under the Contract will automatically be extended for a period up to the duration of the Force Majeure Event.

39.3 Exclusions; Non-suspended Obligations. Notwithstanding the foregoing or any other provisions of the Contract or this Schedule:

(a) in no event will any of the following be considered a Force Majeure Event:

(i) shutdowns, disruptions or malfunctions of Hosted Services or any of Contractor's telecommunication or internet services other than as a result of general and widespread internet or telecommunications failures that are not limited to the Hosted Services; or

(ii) the delay or failure of any Contractor Personnel to perform any obligation of Contractor hereunder unless such delay or failure to perform is itself by reason of a Force Majeure Event.

(b) no Force Majeure Event modifies or excuses Contractor's obligations under **Sections 23** (State Data), **24** (Non-Disclosure of Confidential Information), or **19** (Indemnification) of the Contract, Disaster Recovery and Backup requirements set forth in the Service Level Agreement, Availability Requirement (if Contractor Hosted) defined in the Service Level Agreement, or any data retention or security requirements under the Contract.

40. Dispute Resolution. The parties will endeavor to resolve any Contract dispute in accordance with this provision. The dispute will be referred to the parties' respective Contract Administrators. Such referral must include a description of the issues and all supporting documentation. The parties must submit the dispute to a senior executive if unable to resolve the dispute within 15 Business Days. The parties will continue performing while a dispute is being resolved, unless the dispute precludes performance. A dispute involving payment does not preclude performance. Litigation to resolve the dispute will not be instituted until after the dispute has been elevated to the parties' senior executive and either concludes that resolution is unlikely or fails to respond within fifteen (15) Business Days. The parties are not prohibited from instituting formal proceedings: (a) to avoid the expiration of statute of limitations period; (b) to preserve a superior position with respect to creditors; or (c) where a party makes a determination that a temporary restraining order or other injunctive relief is the only adequate remedy. This Section does not limit the State's right to terminate the Contract.

41. Media Releases. News releases (including promotional literature and commercial advertisements) pertaining to this Contract or project to which it relates must not be made without the prior written approval of the State, and then only in accordance with the explicit written instructions of the State.

42. Severability. If any part of this Contract is held invalid or unenforceable, by any court of competent jurisdiction, that part will be deemed deleted from this Contract and the severed part will be replaced by agreed upon language that achieves the same or similar objectives. The remaining Contract will continue in full force and effect.

43. Waiver. Failure to enforce any provision of this Contract will not constitute a waiver.

44. Survival. The rights, obligations and conditions set forth in this **Section 44** and **Section 1** (Definitions), **Section 18.3** (Transition Responsibilities), **Section 19** (Indemnification), **Section 21** (Disclaimer of Damages and Limitations of Liability), **Section 23** (State Data), **Section 24** (Non-Disclosure of Confidential information), **Section 31** (Contractor Representations and Warranties), **Section 55** (Effect of Contractor Bankruptcy) and **Schedule C** Insurance, and any right, obligation or condition that, by its express terms or nature and context is intended to survive the termination or expiration of this Contract, survives any such termination or expiration.

45. Reserved.

46. Reserved.

47. Contract Modification. This Contract may not be amended except by signed agreement between the parties (a "**Contract Change Notice**"). Notwithstanding the foregoing, no subsequent Statement of Work or Contract Change Notice executed after the Effective Date will be construed to amend this Contract unless it specifically states its intent to do so and cites the section or sections amended.

48. HIPAA Compliance. The State and Contractor must comply with all obligations under HIPAA and its accompanying regulations, including but not limited to entering into a business associate agreement, if reasonably necessary to keep the State and Contractor in compliance with HIPAA.

49. Accessibility Requirements.

49.1 All Software provided by Contractor under this Contract, including associated content and documentation, must conform to WCAG 2.0 Level AA. Contractor must provide a description of conformance with WCAG 2.0 Level AA specifications by providing a completed PAT for each product provided under the Contract. At a minimum, Contractor must comply with the WCAG 2.0 Level AA conformance claims it made to the State, including the level of conformance provided in any PAT. Throughout the Term of the Contract, Contractor must:

(a) maintain compliance with WCAG 2.0 Level AA and meet or exceed the level of conformance provided in its written materials, including the level of conformance provided in each PAT;

(b) comply with plans and timelines approved by the State to achieve conformance in the event of any deficiencies;

(c) ensure that no Maintenance Release, New Version, update or patch, when properly installed in accordance with this Contract, will have any adverse effect on the conformance of Contractor's Software to WCAG 2.0 Level AA;

(d) promptly respond to and resolve any complaint the State receives regarding accessibility of Contractor's Software;

(e) upon the State's written request, provide evidence of compliance with this Section by delivering to the State Contractor's most current PAT for each product provided under the Contract; and

(f) participate in the State of Michigan Digital Standards Review described below.

49.2 State of Michigan Digital Standards Review. Contractor must assist the State, at no additional cost, with development, completion, and on-going maintenance of an accessibility plan, which requires Contractor, upon request from the State, to submit evidence to the State to validate Contractor's accessibility and compliance with WCAG 2.0 Level AA. Prior to the solution going-live and thereafter on an annual basis, or as otherwise required by the State, re-assessment of accessibility may be required. At no additional cost, Contractor must remediate all issues identified from any assessment of accessibility pursuant to plans and timelines that are approved in writing by the State.

49.3 Warranty. Contractor warrants that all WCAG 2.0 Level AA conformance claims made by Contractor pursuant to this Contract, including all information provided in any PAT Contractor provides to the State, are true and correct. If the State determines such conformance claims provided by the Contractor represent a higher level of conformance than what is actually provided to the State, Contractor will, at its sole cost and expense, promptly remediate its Software to align with Contractor's stated WCAG 2.0 Level AA conformance claims in accordance with plans and timelines that are approved in writing by the State. If Contractor is unable to resolve such issues in a manner acceptable to the State, in addition to all other remedies available to the State, the State may terminate this Contract for cause under **Section 18.1**.

49.4 Contractor must, without limiting Contractor's obligations of indemnification as further described in this Contract, indemnify, defend, and hold harmless the State for any and all claims, including reasonable attorneys' fees, costs, and incidental expenses, which may be suffered by, accrued against, charged to, or recoverable from the State arising out of its failure to comply with the foregoing accessibility standards

49.5 Failure to comply with the requirements in this **Section 49** shall constitute a material breach of this Contract.

50. Further Assurances. Each party will, upon the reasonable request of the other party, execute such documents and perform such acts as may be necessary to give full effect to the terms of this Contract.

51. Relationship of the Parties. The relationship between the parties is that of independent contractors. Nothing contained in this Contract is to be construed as creating any agency, partnership, joint venture or other form

of joint enterprise, employment or fiduciary relationship between the parties, and neither party has authority to contract for nor bind the other party in any manner whatsoever.

52. Headings. The headings in this Contract are for reference only and do not affect the interpretation of this Contract.

53. No Third-party Beneficiaries. This Contract is for the sole benefit of the parties and their respective successors and permitted assigns. Nothing herein, express or implied, is intended to or will confer on any other person or entity any legal or equitable right, benefit or remedy of any nature whatsoever under or by reason of this Contract.

54. Equitable Relief. Each party to this Contract acknowledges and agrees that (a) a breach or threatened breach by such party of any of its obligations under this Contract may give rise to irreparable harm to the other party for which monetary damages would not be an adequate remedy and (b) in the event of a breach or a threatened breach by such party of any such obligations, the other party hereto is, in addition to any and all other rights and remedies that may be available to such party at law, at equity or otherwise in respect of such breach, entitled to equitable relief, including a temporary restraining order, an injunction, specific performance and any other relief that may be available from a court of competent jurisdiction, without any requirement to post a bond or other security, and without any requirement to prove actual damages or that monetary damages will not afford an adequate remedy. Each party to this Contract agrees that such party will not oppose or otherwise challenge the appropriateness of equitable relief or the entry by a court of competent jurisdiction of an order granting equitable relief, in either case, consistent with the terms of this Section.

55. Effect of Contractor Bankruptcy. All rights and licenses granted by Contractor under this Contract are and will be deemed to be rights and licenses to "intellectual property," and all Software and Deliverables are and will be deemed to be "embodiments" of "intellectual property," for purposes of, and as such terms are used in and interpreted under, Section 365(n) of the United States Bankruptcy Code (the "**Code**"). If Contractor or its estate becomes subject to any bankruptcy or similar proceeding, the State retains and has the right to fully exercise all rights, licenses, elections, and protections under this Contract, the Code and all other applicable bankruptcy, insolvency, and similar laws with respect to all Software and other Deliverables. Without limiting the generality of the foregoing, Contractor acknowledges and agrees that, if Contractor or its estate will become subject to any bankruptcy or similar proceeding:

(a) all rights and licenses granted to the State under this Contract will continue subject to the terms and conditions of this Contract, and will not be affected, even by Contractor's rejection of this Contract; and

(b) the State will be entitled to a complete duplicate of (or complete access to, as appropriate) all such intellectual property and embodiments of intellectual property comprising or relating to any Software or other Deliverables, and the same, if not already in the State's possession, will be promptly delivered to the State, unless Contractor elects to and does in fact continue to perform all of its obligations under this Contract.

56. Schedules. All Schedules that are referenced herein and attached hereto are hereby incorporated by reference. The following Schedules are attached hereto and incorporated herein:

Schedule A	Statement of Work
Schedule B	Pricing Schedule
Schedule C	Insurance Schedule
Schedule D	Service Level Agreement
Schedule E	Data Security Requirements
Schedule F	Disaster Recovery Plan (if Contractor Hosted)
Schedule G	Transition Plan

57. Counterparts. This Contract may be executed in counterparts, each of which will be deemed an original, but all of which together are deemed to be one and the same agreement and will become effective and binding upon the parties as of the Effective Date at such time as all the signatories hereto have signed a counterpart of this

Contract. A signed copy of this Contract delivered by facsimile, e-mail or other means of electronic transmission (to which a signed copy is attached) is deemed to have the same legal effect as delivery of an original signed copy of this Contract.

58. Entire Agreement. These Terms and Conditions, including all Statements of Work and other Schedules and Exhibits (again collectively the "Contract") constitutes the sole and entire agreement of the parties to this Contract with respect to the subject matter contained herein, and supersedes all prior and contemporaneous understandings and agreements, representations and warranties, both written and oral, with respect to such subject matter. It is the intent of the parties that this Contract replace, supersede, and effectively terminate contract number 071B3200093 including all Statements of Work related to contract number 071B3200093. In the event of any inconsistency between the statements made in the Terms and Conditions, the Schedules, Exhibits, and a Statement of Work, the following order of precedence governs: (a) first, these Terms and Conditions and (b) second, Schedule E – Data Security Requirements and (c) third, each Statement of Work; and (d) fourth, the remaining Exhibits and Schedules to this Contract. NO TERMS ON CONTRACTOR'S INVOICES, WEBSITE, BROWSE-WRAP, SHRINK-WRAP, CLICK-WRAP, CLICK-THROUGH OR OTHER NON-NEGOTIATED TERMS AND CONDITIONS PROVIDED WITH ANY OF THE SERVICES, OR DOCUMENTATION HEREUNDER, EVEN IF ATTACHED TO STATE'S DELIVERY OR PURCHASE ORDER, WILL CONSTITUTE A PART OR AMENDMENT OF THIS CONTRACT OR IS BINDING ON THE STATE OR ANY AUTHORIZED USER FOR ANY PURPOSE. ALL SUCH OTHER TERMS AND CONDITIONS HAVE NO FORCE AND EFFECT AND ARE DEEMED REJECTED BY THE STATE AND THE AUTHORIZED USER, EVEN IF ACCESS TO OR USE OF SUCH SERVICE OR DOCUMENTATION REQUIRES AFFIRMATIVE ACCEPTANCE OF SUCH TERMS AND CONDITIONS.

SCHEDULE A – STATEMENT OF WORK

1. PURPOSE

The Contractor will implement and configure its nVIRO Version 2021.2 Application Suite and State and Local Emissions Inventory System (SLEIS) solution in Contractor's Azure cloud as an enterprise system for the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Contractor will implement the solution as an agile project. Contractor will initially configure the solution to meet the respective requirements of EGLE's Air Quality Division (AQD) and Water Resources Division (WRD).

The nVIRO Application Suite is a Commercial Off The Shelf (COTS) solution which includes the following:

- nCORE foundational data management module
- nFORM dynamic forms module
- nVISAGE dynamic reporting module
- nSPECT mobile inspections module
- nSITE site explorer module

The SLEIS system will allow permitted facilities to submit point source emissions inventory data and related meta-data to state and local agencies via a Web-based, CROMERR-compliant reporting system. SLEIS will allow the State to better manage and review collected data, including the quality assurance of emissions inventory data submitted by regulated entities. SLEIS also includes an Exchange Network interface to manage the generation and submission of XML files to EPA's Emissions Inventory System (EIS).

This Contract will initially contain two projects:

AQD Implementation

Contractor will implement the solution in a manner meeting all requirements in **Schedule A, Attachment 1 - Business Specification Worksheet** to replace legacy AQD applications and databases, including the logical separation of data as detailed in the Business Specification Worksheet.

WRD Migration and Implementation.

For WRD, Contractor will configure the hosted solution to ensure that it operates in the same manner as it currently does in the State's environment. The MiWaters configuration of the nVIRO system and related OpenNode2 data flows must function in the hosted environment as they do pre-migration with all security and access maintained. The system must meet all current application requirements post-migration.

Contractor will provide access to execute SQL queries against a read-only copy of the Production database and will define scripts for data corrections. Contractor will provide read/write access to the Test (UAT) database based on a database role that grants access to a defined collection of user tables. SQL query access will be enabled through either Azure Studio or SQL Server Management Studio. Contractor will assist in accomplishing this, in ensuring the fundamental elements of the system do not change and ensuring that no further training is required.

The State reserves the right to purchase any additional services or products from the Contractor during the duration of the Contract. These products and services may be for AQD, WRD, additional EGLE programs, or other State agencies.

2. IT ENVIRONMENT RESPONSIBILITIES

Contractor will self-host the application in Azure Cloud and will utilize Azure managed SaaS and PaaS features, such as Azure SQL Managed Instance, Azure Managed VMs, Azure Managed Disks, Azure Defender, Azure Security Center, and Azure Application Insights, whenever possible to maximize availability, disaster recovery robustness, and compliance with federal and state security standards and guidelines.

Contractor will ensure the components identified below maintain compliance with requirements in the **Schedule E - Data Security Requirements** by, among other things, performing:

- Application scanning: Contractor will perform third party security scanning, providing the State with a vulnerabilities assessment for each major release.
- Infrastructure scanning: Contractor will utilize Azure's native scanning, performance, and monitoring tools, such as Azure Defender, Azure Security Center, and Azure Application Insights to help secure and optimize the application and to confirm that the hosting environment is conforming to best-practice guidelines.

Definitions:

Facilities – Physical buildings containing Infrastructure and supporting services, including physical access security, power connectivity and generators, HVAC systems, communications connectivity access and safety systems such as fire suppression.
Infrastructure – Hardware, firmware, software, and networks, provided to develop, test, deliver, monitor, manage, and support IT services which are not included under Platform and Application.
Platform – Computing server software components including operating system (OS), middleware (e.g. Java runtime, .NET runtime, integration, etc.), database and other services to host applications.
Application – Software programs which provide functionality for end user and Contractor services.
Storage – Physical data storage devices, usually implemented using virtual partitioning, which store software and data for IT system operations.
Backup – Storage and services that provide online and offline redundant copies of software and data.
Development - Process of creating, testing, and maintaining software components.

Component Matrix	Identify contract components with contractor or subcontractor name(s), if applicable
Facilities	Azure East Hosting Facilities
Infrastructure	Azure East Hosting Infrastructure, including Managed VMs, Disks, Storage, and SQL Instances
Platform	The latest version of Windows Server, the latest version of SQL Server, current versions of the .NET framework under long term support (LTS), IIS Web Server
Applications	nVIRO Application Suite and SLEIS system
Storage	Azure Managed Disks and Cloud Storage (geo-redundant)
Backup	Azure Managed Disk, VM, and SQL Server Backups (all geo-redundant and managed by Azure)
Development	Contractor will follow a strict development, build, deployment, testing, and release software lifecycle. All changes, enhancements and bug fixes to the application for each versioned-release will be communicated to the client using a detailed release description document. Additionally, the JIRA Issue and Project Tracking application will be used to manage and prioritize all changes, enhancements, and bug fixes to the application. Versioned builds and deployments of the application must pass strict testing in the following dedicated environments before they are promoted to the next environment: Development -> Alpha -> UAT Local -> UAT. Only after the application has been tested and approved by the client in UAT will it be allowed to be released to Production.
State of Michigan Development	JIRA used for issue project tracking for State of Michigan specific requests to be available to the State of Michigan and kept separate from the development team JIRA mentioned above.

3. ADA COMPLIANCE

The State is required to comply with the Americans with Disabilities Act of 1990 (ADA) and has adopted standards and procedures regarding accessibility requirements for websites and software applications. All websites, applications, software, and associated content and documentation provided by the Contractor as part of the Solution must comply with Level AA of the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines (WCAG) 2.0.

Contractor must provide a description of conformance with WCAG 2.0 Level AA specifications by providing a completed PAT for the Solution. If the Solution is comprised of multiple products, a PAT must be provided for each product. In addition to PATs, Contractors may include a verification of conformance certified by an industry-recognized third-party. If the Contractor is including any third-party products in the Solution, Contractor must obtain and provide the third-party PATs as well.

Each PAT must state exactly how the product meets the specifications. All “Not Applicable” (N/A) responses must be fully explained. Contractor must address each standard individually and with specificity; and clarify whether conformance is achieved throughout the entire product (for example – user functionality, administrator functionality, and reporting), or only in limited areas. A description of the evaluation methods used to support WCAG 2.0 Level AA conformance claims, including, if applicable, any third-party testing, must be provided. For each product that does

not fully conform to WCAG 2.0 Level AA, Contractor must provide detailed information regarding the plan to achieve conformance, including timelines.

Contractor represents that its nVIRO solution has been independently reviewed and certified for adherence to the W3C Web Content Accessibility Guidelines (WCAG) 2.0 AA. As part of the Voluntary Product Accessibility Template (VPAT) certification process, documents have been published for the nFORM electronic form submission component, nSPECT mobile inspection component, nCORE data management component and Site Explorer component, which Contractor will provide to the State upon request.

As part of this project Contractor will recertify nVIRO and subcomponents to ensure compliance, utilizing a third-party vendor as a partner to provide this certification. Contractor will include independent certification for the SLEIS and nVISAGE components as part of this recertification process.

In addition to the formal WCAG certification that Contractor's solutions already hold, Contractor's project approach will include State of Michigan Web Application Review by the eMichigan team, and Contractor will remediate any issues identified prior to production release.

4. USER TYPE AND CAPACITY

The solution must be able to meet or exceed the expected number of concurrent Users shown below. The solution must be able to scale up or down without affecting performance.

Type of User	Access Type	Number of Users	Number of Concurrent Users
Public Citizen	Read Access	Thousands	Hundreds
State Employee – All EGLE*	Read, Write, Admin Access	1200	500
Regulated Community	Read, Write Access	Thousands	Thousands
Approved Third Party/Contractors	Read, Write Access	1500	1500
EPA	Read, Write Access	50	50

*This is the total number of EGLE employees. System should be scalable to support increased number of users as system is expanded into other program areas.

Contractor represents that the nVIRO and SLEIS dashboard contains an intuitive and user-friendly user management module. In the user management module, the State can manage user accounts such as locking or unlocking user accounts or granting signatory status for users who have submitted the required documentation. Internal users can be assigned different access levels, based on job function. For example, only a user with the Enforcement Manager role can approve an enforcement action, and only a user with the Security Administrator role can manage user roles and system access. The entire application can scale both vertically and horizontally. Vertical scaling will be configured to support a baseline number of concurrent users, and the application will scale horizontally using load balancing as the number of concurrent users requires. The entire application can scale up or down depending upon current load requirements.

5. ACCESS CONTROL AND AUTHENICATION

The Contractor's solution must integrate with the State's IT Identity and Access Management (IAM) environment as described in the State of Michigan Digital Strategy (https://www.michigan.gov/dtmb/0,5552,7-358-82547_56345_56351_69611-336646--,00.html), which consist of:

- MILogin/Michigan Identity, Credential, and Access Management (MICAM). An enterprise single sign-on and identity management solution based on IBM's Identity and Access Management products including, IBM Security Identity Manager (ISIM), IBM Security Access Manager for Web (ISAM), IBM Tivoli Federated Identity Manager (TFIM), IBM Security Access Manager for Mobile (ISAMM), and IBM DataPower, which enables the State to establish, manage, and authenticate user identities for the State's Information Technology (IT) systems.
- MILogin Identity Federation. Allows federated single sign-on (SSO) for business partners, as well as citizen-based applications.

- MILogin Multi Factor Authentication (MFA, based on system data classification requirements). Required for those applications where data classification is Confidential and Restricted as defined by the 1340.00 Michigan Information Technology Information Security Policy (i.e. the proposed solution must comply with PHI, PCI, CJIS, IRS, and other standards).
- MILogin Identity Proofing Services (based on system data classification requirements). A system that verifies individual's identities before the State allows access to its IT system. This service is based on "life history" or transaction information aggregated from public and proprietary data sources. A leading credit bureau provides this service. This service must integrate back to the application and provide a "flag" for the successfully identity proofed individual.
- MILogin reauthentication. Required for submittal of Environmental Protection Agency (EPA) priority reports which requires the user to re-credential and successfully respond to a randomized security question.

To integrate with the SOM MILogin solution, the Contractor's solution must support SAML, or OAuth or OpenID interfaces for the SSO purposes.

In support of the MiWaters application currently in production for the EGLE Water Resources Division, Contractor is already actively working with EGLE on integration of nVIRO with MILogin. nVIRO has already been successfully integrated using OpenID Connect.

SOM will make modifications to MILogin as necessary to provide the ability to redirect internal and external logins to a single MiLogin URL. The parties will determine during design whether nVIRO will manage challenge/answer questions or if MiLogin will provide this service. MiLogin will provide a service that nVIRO can call to validate a user's password.

Should EGLE desire the ability for the user to initiate an edit of the user profile from nVIRO, edit the information in MiLogin, and have that information synchronize back with the nVIRO profile, then MiLogin needs to provide that service as specified in OpenID Connect. The same applies for password reset initiated from nVIRO and edited within MiLogin. Both would need to support redirect callbacks to nVIRO.

The future system will integrate with third party credit card software and thus the system will not process, transmit, store or affect credit/debit cardholder data.

The Contractor's nVIRO and SLEIS solutions support standard Identity Federation/Single Sign-on (SSO) capabilities for user access. The system currently supports the OpenID Connect protocol and the SAML protocol will provide similar but slightly different flow, which will be implemented. The nVIRO application suite and SLEIS system will be integrated with the MILogin system to authenticate user access. Multi-factor authentication will be supported for all access. It is assumed that the multi-factor capabilities will be provided by the MILogin system which is performing the user authentication.

The nVIRO and SLEIS systems will provide web-based management capabilities to manage users and their associated data. User security roles, organizations and workgroups are assigned to the users in the web application. In addition, a user's profile data (e.g., name, address, phone number, emails, etc.) can be managed in the interface. For external users (permittees, contractors), access to specific sites and associated permits can be also assigned to individual users via the web. Please note that the scope of the profile data that is managed in the system can be impacted based on the data that needs to be owned and managed by the 3rd party authentication system (e.g., MILogin) utilized.

The nVIRO and SLEIS systems will support historical data auditing for all primary entities within the system. For every table/field change made, an audit record is established and logged. Administrative users have the ability to review the logs. These audit logs are presented in a human readable format via the web interface of the system.

6. DATA RETENTION AND REMOVAL

The solution will provide an automated process to identify records which are due to be destroyed per the records retention schedule. The records should be identified and 'marked' for deletion and require an audit and review step by a State of Michigan employee to complete the deletion.

Contractor represents that nVIRO and SLEIS support regulatory required data and records retention, archival and destruction policies. Some common data destruction schedules (e.g., for any unsubmitted applications that have been

dormant for x months, along with notifications to the applicant well in advance) are pre-configured, but for State specific needs, nVIRO and SLEIS will support individual program configurations to support those needs. Contractor acknowledges that various State programs have different data retention schedules and will ensure that the solutions provided will support these divergent needs.

For specific/unique retention policies, nVIRO and SLEIS will utilize a combination of reports to inform on records that are subject to upcoming deadlines, and batch processes that will perform either record destruction or generation of archival packages. Given the typical case-specific conditions that exist within agencies regulatory retention policies, the system will not limit the retention triggers and content to be defined by generic conditions. Each of EGLE's listed policies will be incorporated into the automated processes as precisely as the regulation requires.

The retention criteria for each policy can be configured based on three basic factors:

- **Retention Criteria -** Such as when superseded, record age, expiration / closure dates, plus an optional delay period.
- **Affected Records** - Such as data records, documents, and files.
- **Retention Outcome** - A combination of pre-notification, destruction, archival, either automated or requiring manual confirmation.

These capabilities relate to each of the EGLE's Data Retention Policy items as follows:

- For the Permanent retention items, the data will be retained within nVIRO and SLEIS and the system user security policies will ensure those records cannot be deleted.
- For the items that require archival (e.g., microfilm), nVIRO and SLEIS will include a report / notification and allow bulk download of those records/files for manual archival, as well as manual destruction of paper records where specified by policy.
- For all the remaining items that require records destruction, nVIRO and SLEIS will be configured for an (optional) pre-destruction notification and report for review, and automated batch destruction. The notification warning period is configurable, should manual confirmation be preferred for any or all items.

Data Storage

Hosting data storage will be monitored and managed to ensure it meets current application data storage needs. Contractor will initially provide database storage capacity of up to 1TB and file storage capacity of up to 8TB. The State and Contractor will collaborate to prevent exceeding these capacities (e.g., through separate enhancements implementing retention schedules to remove data). At the State's request, Contractor will provide additional storage capacity at the rates listed in the Pricing Schedule.

7. END USER OPERATING ENVIRONMENT

The SOM IT environment includes X86 VMware, IBM Power VM, MS Azure/Hyper-V and Oracle VM, with supporting platforms, enterprise storage, monitoring, and management.

Contractor must accommodate the latest browser versions (including mobile browsers) as well as some pre-existing browsers. To ensure that users with older browsers are still able to access online services, applications must, at a minimum, display and function correctly in standards-compliant browsers and the state standard browser without the use of special plugins or extensions. The rules used to base the minimum browser requirements include:

- • Over 2% of site traffic, measured using Sessions or Visitors (or)
- • The current browser identified and approved as the State of Michigan standard

This information can be found at https://www.michigan.gov/browserstats. Please use the most recent calendar quarter to determine browser statistics. For those browsers with over 2% of site traffic, the current browser version as well as the previous two major versions must be supported. The State does not require support of Internet Explorer 11.

Contractor must support the current and future State standard environment at no additional cost to the State.

Contractor will self-host the application in Azure Cloud, will keep the environment and applications securely updated and will give access to the hosting environment to very specific, qualified, and pre-approved employees only. For integration with specific services running inside the DTMB environment, the application will utilize securely encrypted and authenticated channels only. Contractor will support this environment throughout the life of the contract.

Contractor will continue to enhance and evolve nVIRO and SLEIS through a combination of internal and client investment. As nVIRO and SLEIS are products used by numerous environmental agencies and programs, any client may benefit from new features added by Contractor or funded by other clients. On occasion a new feature may be identified by one client that, due to differing business practices, other clients do not desire. In these situations, Contractor will design and implement the new feature as a configurable option that clients may turn on or off.

During and post implementation, Contractor will continue to collaborate with clients to identify, groom and prioritize new features and enhancements to nVIRO and SLEIS. This includes definition of the desired changes as stories, identification of story acceptance criteria and any supplemental requirements, and estimation. Once reviewed and approved by clients they are scheduled and added to the product backlog for incorporation into a mutually agreed upon future release. Following go-live, Contractor will provide maintenance and enhancement releases at no additional cost beyond the normal maintenance fees and the cost of services related to developing new enhancements.

The Contractor represents that the nVIRO and SLEIS release cycles are typically 4 months in duration and Contractor development teams practice Agile Scrum Development, implementing new stories and including full design, development and testing life cycles prior to release. Upon release completion, release demonstrations are conducted. Demo recordings are made available to all clients on the Contractor Support Site, along with detailed release notes describing each new feature (story) and bug fix included in the release.

Plugin
The capability for users to edit Microsoft Word documents within a browser context requires that the AceOffix plugin/extension be installed to the user's browser and the user have Microsoft Word or Office 360 installed on their local machine where the browser is running. Only internal users who need to edit generated or uploaded Word documents inside the browser will be required to have the AceOffix plugin installed.

8. SOFTWARE

Licensing Structure
Contractor will provide annual Subscription License for its nVIRO Application Suite products and SLEIS system. The annual Subscription License will permit the State to have an unlimited number of users.

Look and Feel Standards
All software items provided by the Contractor must adhere to the State of Michigan Application/Site standards which can be found at https://www.michigan.gov/standards.

Mobile Responsiveness
The Software must utilize responsive design practices to ensure the application is accessible via a mobile device.

Contractor will continue utilizing responsive design practices during application design and development. As a result, Contractor represents that key user interfaces that are expected to operate on mobile devices including laptops, tablets and phones, will do so efficiently and effectively. Features available in mobile mode:

- Application submission
- Application tracking
- Payment processing
- Applicant response to correction requests
- Application sharing
- Submission printing
- Submission download
- Incident reporting
- Complaint submission
- Compliance reporting
- Public notice
- Public site searching or geospatial searching
- Mobile inspections - connected mode
- Mobile inspections - disconnected mode
- Staff review of application submissions

- Staff collaboration with submitter during application processing

Externally accessible screens will ALL be responsive; however, certain aspects of a line of business application do not lend themselves to be responsive to the smartphone level. Contractor will continue considering this and make decisions during the responsive design process. Internal functions that necessitate large screen real estate or that include complexity such as wide tabular data are left to render on devices of appropriate screen resolution. As a result, there are capabilities that, as part of Contractor's responsive design approach, will not be appropriate for rendering on a smartphone, but on a tablet or laptop instead.

Mobile Device Compatibility
The nVIRO Application Suite and SLEIS products support devices that utilize the following operating systems.

- Android
- iOS
- Windows

Background Technology
The nVIRO Application Suite and SLEIS products use the following background technologies:

- SQL Server
- Visual Studio
- Windows Server/IIS
- .NET Framework, .NET Core, .NET 5, ASP.NET
- Aceoffix (used for invoking Microsoft Word within nVRO)
- Aspose.Words (used to generate Word documents)
- Aspose.PDF
- Aspose.Email
- DevXtreme (used for interactive data reporting, and export to Excel etc.)
- OpenLayers (used for embedded spatial mapping user interfaces)
- ReactJS
- AngularJS

9. INTEGRATION

After the WRD migration, the solution will continue to integrate with or perform the functions of the systems listed below:

- CEPAS
- OpenNode2
- Ext GIS Services list
- DEG
- SMTP server
- MI GIS Service
- MiCaRS
- SIGMA
- MiLogin
- Any other systems to which it is currently integrated.

All nVIRO and SLEIS instigated data flows to the EPA will utilize a cloud instance of OpenNode2.

The solution will have clear pathways for continued troubleshooting and callouts to all existing integrations and for resolving issues that may arise.

For AQD, Contractor will leverage the pre-existing MiCARS and CEPAS integrations and will configure them to address the AQD's specific needs. Contractor will provide services necessary to fully support the integration and security measures in place to protect the State's Hosted Services. The tables below provide further details related to AQD's use of these technologies:

Current Technology	**Michigan Cashiering and Receivable System (MiCaRS)**

	MiCaRS is .NET 4.5.1, Oracle 11g with ODT and ODAC 12.1.0.2.4. Hosted onsite, accessible via RESTful web services. API is exposed through a VPN tunnel establishing gateway to gateway. It is expected that MiCaRS will be the source of record for invoice and payment data associated with the MARIS system.
Volume of Data	There are two annual bulk transmissions of invoices, approximately 1500 in one and 400 in another. There will be sporadic invoices created one at a time over the course of the year.

Current Technology	**Centralized Electronic Payment Authorization System (CEPAS)** The State of Michigan leverages services provided by First Data, Government Solutions (PayPoint) to support electronic payment processing. Users will be redirected from the MARIS system to CEPAS.
Volume of Data	The system will transmit one record at a time in a single session. Regulated facilities can pay invoices by credit card, ACH or EFT. There is no way to determine how many facilities will use credit cards. There are approximately 2500 invoices generated per year.

10. MIGRATION

The nVIRO and SLEIS database indexes and performance statistics are rebuilt nightly to ensure that changes in data complexion and size are accounted for in query plans used to provide data to the application and allow for additional data to be added to index pages. As the database size and document storage needs increase, the Azure hosting environment offers on-demand drive size growth.

Data migration is a one-time event prior to go-live, and ultimately does not have an impact on scalability or system performance.

In the event the nVIRO and SLEIS applications see significant usage increase that poses performance risk, the Azure hosting environment offers robust database scaling options for SQL managed instances. Contractor will provide a sufficient number of virtual cores to the database servers to ensure proper processing power.

Water Resources Division

For WRD, Contractor will migrate the State Software and associated applications/databases, from the State hosting environment to Contractor's hosted environment. Contractor will thereafter continue to host the State Software. Contractor will stand up an internal/external partition for Site Explorer at the time of migration, including application configuration changes necessary to support it. Contractor will establish URL's under the direction and approval of the State.

Contractor will migrate existing JIRA data into a vendor-hosted JIRA environment. Contractor will continue to provide the State with administrative rights and access to the JIRA tool, functionality and State JIRA data. The State will have the system rights to provide access to State-designated individuals.

Contractor will migrate software and databases in a manner and at a time designated by the State so as to minimize system downtime.

Contractor will migrate the following MiWaters data:

- NAS storage (Documents)
- Production Database (D: and E: Drive)
- QA- Database (D: and E: Drive)

The contractor will provide:

- Migration plan for the environment and the data, including testing and acceptance.
- Scripts for migration of all data

Air Quality Division

For AQD, Contractor will migrate the data identified in the tables below. The databases may be increased at the time of transition, if required by the State.

Current Technology	**MAERS State** SQL 2014
Data Format relative to the database technology used.	N/A
Number of data fields to give Contractor awareness of the size of the schema.	2719
Volume of Data	4,353,438 records
Database current size.	12250MB
Contractor Approach: Contractor will follow the migration approach described in the Migration Process section below plus the system-specific approach detailed below. nVIRO & SLEIS house data in SQL Server 2019. As the MAERS State database is housed in SQL 2014, a database backup will be restored in the Windsor Conversion environment using Azure's database Import/Export tool. SQL Server Stored Procedures and Views will be written to convert data from MAERS State into the nVIRO Conversion Database.	

Current Technology	**MERP_Drycleaning** SQL 2014
Data Format relative to the database technology used.	N/A
Number of data fields to give Contractor awareness of the size of the schema.	1070
Volume of Data	774,566 records
Database current size.	1701MB
Contractor Approach: Contractor will follow the migration approach described in the Migration Process section below plus the system-specific approach detailed below. nVIRO & SLEIS house data in SQL Server 2019. As the MERP_Drycleaning database is housed in SQL 2014, a database backup will be restored in the Windsor Conversion environment using Azure's database Import/Export tool. SQL Server Stored Procedures and Views will be written to convert data from MERP_Drycleaning into the nVIRO Conversion Database.	

Current Technology	**Permit Evaluator** MS Access database
Data Format relative to the database technology used.	MS Access
Number of data fields to give Contractor awareness of the size of the schema.	357
Volume of Data	490,559 records
Database current size.	109 MB
Contractor Approach: Contractor will follow the migration approach described in the Migration Process section below plus the system-specific approach detailed below. nVIRO & SLEIS house data in SQL Server 2019. The Permit Evaluator MS Access database will be provided to Windsor and first converted into SQL Server via a SQL Server Integration Services, and then restored in the Windsor Conversion environment using Azure's database Import/Export tool. SQL Server Stored Procedures and Views will be written to convert data from Permit Evaluator into the nVIRO Conversion Database.	

Current Technology	**Central_Air (used for MACES)** SQL 2014
Data Format relative to the database technology used.	N/A
Number of data fields to give Contractor awareness of the size of the schema.	3269
Volume of Data	14,710,665 records
Database current size.	45145MB
Contractor Approach: Contractor will follow the migration approach described in the Migration Process section below plus the system-specific approach detailed below. nVIRO & SLEIS house data in SQL Server 2019. As the Central Air database is housed in SQL 2014, a database backup will be restored in the Windsor Conversion environment using Azure's database Import/Export tool. SQL Server Stored Procedures and Views will be written to convert data from Central Air into the nVIRO Conversion Database. The detailed conversion process can be reviewed in the Introduction to this section.	

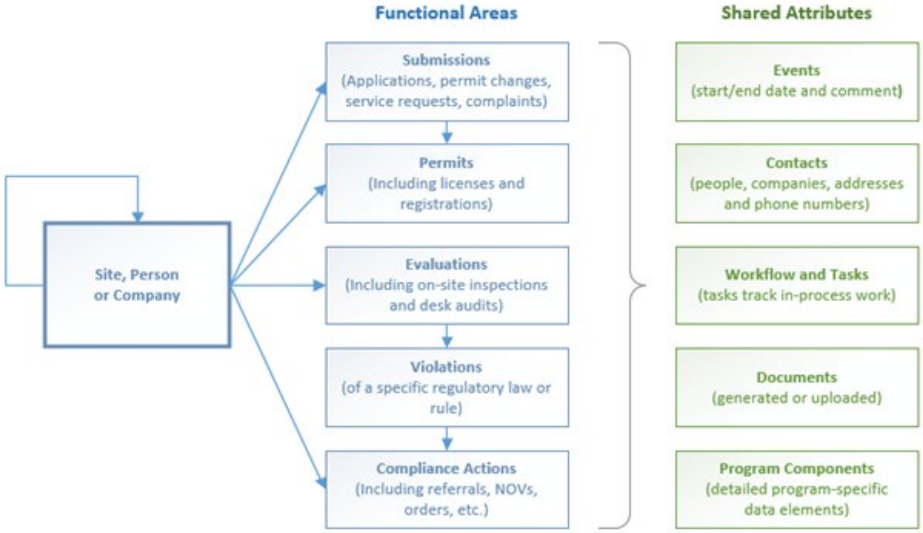
Current Technology	**Chemical Criteria Database** MS Access database
Data Format relative to the database technology used.	MS Access
Number of data fields to give Contractor awareness of the size of the schema.	50
Volume of Data	1250 records
Database current size.	5MB
Contractor Approach: Contractor will follow the migration approach described in the Migration Process section below plus the system-specific approach detailed below. nVIRO & SLEIS house data in SQL Server 2019. The Chemical Criteria MS Access database will be provided to Windsor and first converted into SQL Server via a SQL Server Integration Services package, and then restored in the Windsor Conversion environment using Azure's database Import/Export tool. SQL Server Stored Procedures and Views will be written to convert data from the Chemical Criteria Database into the nVIRO Conversion Database. The detailed conversion process can be reviewed in the introduction to this section.	

Current Technology	**Modeling and Meteorology Project Tracking System (MMPTS)** MS Access database
Data Format relative to the database technology used.	MS Access
Number of data fields to give Contractor awareness of the size of the schema.	30
Volume of Data	6,720 records
Database current size.	18 MB
Contractor Approach: Contractor will follow the migration approach described in the Migration Process section below plus the system-specific approach detailed below. nVIRO & SLEIS house data in SQL Server 2019. The MMPTS MS Access database will be provided to Windsor and first converted into SQL Server via a SQL Server Integration Services package, and then restored in the Windsor Conversion environment using Azure's database Import/Export tool. SQL Server Stored Procedures and Views will be written to convert data from the MMPTS into the nVIRO Conversion Database. The detailed conversion process can be reviewed in the introduction to this section.	

MIGRATION PROCESS
For all the systems for which data is to be migrated, Contractor will follow the same general approach as described here.

Core Data versus Dynamic Data
To understand the data migration approach used during nVIRO & SLEIS deployments, it is first important to understand the difference between nVIRO database's static or core data structures and dynamic data structures.

Core data structures will hold data for the major generic business entities that are common across most or all regulatory programs and business processes. These include database entities for sites, people, addresses and phone numbers, permits, inspections, tasks, charges and payments and so on. The core data tables will offer predictable, structured storage of data that is central to the system.



nVIRO Core Data Logical Diagram

In contrast, **dynamic data** structures will house program-specific data that is flexible and configurable. Dynamic data is presented and maintained by end users in user-defined data entry forms. These dynamic forms are used both for application forms presented to internal and external users and for 'program component' data entry screens within the nVIRO application. Dynamic data forms can be used to extend the nVIRO data entry screens merely through configuration of dynamic forms in the GUI to present the desired data entry fields and business rules. For example, a program component form can be built for a given program to store data such as details on the capacity of Septage tanker trucks, and date last serviced. Program component forms may be attached to any core entity, such as extending the details of an application, permit, site, or compliance action.

Core Data Conversion
All legacy systems that will be migrated into the nVIRO will undergo core conversion. This will establish the primary sites, permits and other core data in nVIRO. Core data conversion routines will be developed by the Contractor data migration lead using database stored procedures. To expedite the development of data conversion routines and to promote consistency, a core conversion template will be used that contains placeholder code for all the core entity types supported in the nVIRO database. The development of the conversion is guided by the conversion documentation as described in the Data Conversion Process section below.

Dynamic Data Conversion
After the core conversion is run, dynamic data conversion appends the program-specific data to the core entities. Dynamic data migration design is intrinsically more intensive than core conversion since it involves the development of dynamic data entry forms to present the migrated data in a way that is most useful for business users including:

- Ordering of screen elements
- Grouping of related elements, such as measurements and units
- Breaking large forms into sections for easier navigation
- Binding elements to their correct data entry control type, such as textboxes, drop downs, or checkboxes
- Configuration of data validation rules such as text length and formats, dates, numeric ranges, and mandatory vs. optional fields
- Configuration of cross-field validation rules, such as the answer provided in one textbox affecting the visibility of another control on the form

All the items listed above are supported in Contractor's dynamic forms engine within nVIRO. In addition to defining these forms, wherever possible, rules will be reverse engineered from the legacy systems so existing business rules are enforced. In addition, business users may want validation rules added or changed, or new fields added as identified during the data conversion analysis phase.

Once a new dynamic form is created, data is mapped from the legacy system to the new dynamic form as part of the conversion process. The data is then connected with the core entity (site, permit, etc.) for display on the screen in the correct context.

To streamline this process, Contractor has developed a dynamic data conversion process which partially automates many of the tasks above. The tool builds a base dynamic form using mappings from one or more legacy system tables. The tool also creates a baseline conversion of the legacy data into the form and connects the form data with the legacy records. The data conversion lead can then embellish and adjust the generated migration logic to account for any nuances in the source data that require special transformation logic. Using the nFORM form designer, fields and sections can also be added or changed on the dynamic form if adjustments are needed.

Program Implementation and Cross-Program Legacy Systems
The implementation plan calls for program areas to be implemented over time into the production system. This enables each program area to receive specialized focus while processes are analyzed and configured, legacy data mapped and migrated, and program area staff trained to use the new system.

Some of the larger legacy systems are used to store data for multiple programs. Assuming one or more of the legacy systems of this type are chosen for replacement by nVIRO, it will be necessary to migrate program data progressively as each program goes live. Contractor has successfully developed incremental migration strategies that enable an agency to migrate horizontal and/or vertical portions of data from legacy systems into nVIRO. This enables programs to continue to work in the legacy system while other programs are moved into nVIRO.

Data Conversion Configuration Environment
Contractor will establish a dedicated configuration instance of the nVIRO & SLEIS software for Contractor and State of Michigan SMEs to configure data that does not exist in any source system. The conversion environment will be used to create items such as dynamic forms used for data entry and form submission, document and letter templates, workflow templates and tasks, data validation rules and other data that cannot be derived directly from source systems.

Data Conversion Process
Initial Data Conversion Analysis and Planning (Gap Analysis)
During the gap analysis phase, the inventory of existing systems will be reviewed. Contractor will work with the State to verify the information, fill in any important gaps in technology used, identify a State data expert for each, and account for any additions or changes that may have taken place since the list was published.

At this time an initial determination will be made as to which systems will be replaced versus those that will be retained. For retained systems, a determination will be made whether data exchange interfaces will be required to synchronize data between the legacy system and the new nVIRO. A preference will be given to replacing systems where possible to eliminate ongoing maintenance and support of those systems.

Each system will be mapped to one or more Program Areas in the master list of State programs that will be developed during gap analysis. The master Program Area list is a critical part of the project execution since each program will be grouped into a Program Set for scheduling on a rolling implementation timeline. Since Program Sets and related processes will be prioritized for implementation, the mapping of each source system to Program Area becomes critical since it will drive the schedule for when the detailed data conversion for each source system is developed.

Detailed Data Conversion Analysis and Development
When one or more programs are embarking on conversion into nVIRO & SLEIS, the first step will be to perform a detailed analysis of the legacy system(s) used by the program. This analysis will focus on understanding the data structures and data elements used to support the program data. This step is performed strictly by analyzing the back-end database tables. Contractor will work with the identified data expert during this process.

Once the structures are understood, the analyst will work with the identified State program area expert to examine the legacy system's screens to understand how the program's business process utilizes the data. This information may impact how data is migrated so that it is presented within nVIRO in the most useful and efficient way.

Core Entity Conversion Documentation
With a full understanding of the program's back-end database and screens, a data migration mapping document will be developed for each program/legacy system. The document will describe the mapping of source-to-target entity

mapping at the table level for core entities. Narrative is included to describe any transformations of these entities where any lumping or splitting of data will be performed as part of the migration. Filtering rules will also be described, such as when certain legacy data is deemed no longer useful or sufficiently poor quality as to not add value to the new system. The document will convey major migration concepts including, but not limited to, the process for reconciling similar site addresses to ensure there are not duplications. Outstanding issues regarding more specific aspects of the conversion will be documented in JIRA as described in the *Identification and Resolution of Migration Issues* section below.

Program Component Conversion Documentation
For all data tables and elements that do not fit into core structures in the nVIRO database, an inventory of needed program component forms will be developed. Again, program component forms are dynamically created data forms and structures to hold program-specific data that is not explicitly modeled in the core nVIRO database. Each needed program component form will be logged as an issue in Contractor's JIRA system. The issue will describe the name of the program component, the source database and table(s) used to feed data to the component, and the entity/level within the nVIRO system to which the program component will be attached (e.g. site, permit, application).

Data Conversion Development
With the core analysis and documentation for conversion of the legacy system complete, the Contractor data migration developer will develop the conversion routines for core entities.

Concurrent to the core entity conversion development, a Contractor analyst will work with the agency data expert to develop the conversion forms and code for the program's data into program component forms and supporting data structures. The JIRA issue tracking system will contain a ticket for the development of each program component form. This enables for tracking the progress of developing each program component.

Execution of Mock Conversions
As part of preparing a program for release into the production system, mock conversions will be executed, dovetailing the data from the legacy system(s) and configuration environment into the UAT database for testing and verification by program staff. This is done in conjunction with other program readiness activities such as end user training and other program-specific system configuration (such as preparing document templates, workflow templates and mobile inspection forms).

The number of mock conversion iterations will vary depending on the complexity of the program with smaller programs requiring as few as three mock conversions to as many as eight or more for highly complex programs. Mock conversions are typically executed once every two weeks and then more frequently immediately before program go-live, although this schedule will be adjusted based on the needs of the specific program.

Testing Converted Data (Pre-Production)
Each time a mock conversion is executed, several types of tests are performed to verify the converted data. Each test is described below:

Conversion Verification Report
Reviewed by: Contractor data conversion developer

An automated database script is run that produces a report of the number of converted rows for each type of entity (e.g., permits, inspections, contacts, etc.). These counts are compared with the number of rows in the source database to verify that all the expected data was converted. Also, conversion counts are compared with previous mock conversions of the same dataset. The numbers will be expected to increase or decrease depending on the adjustments to conversion in the most recent iteration.

In addition to row counts, data integrity checks are performed to ensure the converted data meets all data integrity requirements of the nVIRO & SLEIS system. As an example, the integrity verification script will ensure that each permit has an assigned permittee. The script produces output messages for each verification check performed, indicating either success or the number of records that violate each data integrity rule, if any.

Conversion Verification Checklist
Reviewed by: Contractor analyst(s), AQD program data expert, WRD program data expert, program staff

Contractor will provide a spreadsheet containing a list of items to verify are present in the converted dataset. Once the mock conversion is finished, the verification checklist is provided to program staff for review. The checklist provides not only an opportunity to verify converted data, but also serves to train staff as to where converted data can

be found and how to verify it. The checklist provides a column for staff to indicate whether the checklist item passes or fails. Each failed item is logged into JIRA for follow-up and correction, along with any other identified conversion issues.

Since manual conversion verification can be a time-intensive task (depending on the breadth of program data), it is typically performed up to three times during the later portion of the mock conversion cycles for a given program as the program nears production release. Contractor analysts perform the first cycle through the checklist before passing to program staff to review. This way, any conversion anomalies are noted by Contractor before engaging program staff. This serves to reduce the likelihood that program staff will discover any significant issues in their review.

The data conversion verification step ties into the weekly program readiness checkpoint meetings since conversion verification is tracked as a task in JIRA, and any conversion issues that are identified are also tracked in JIRA and are included in the go-live readiness checkpoint summary charts and data reviewed during the weekly meeting.

Targeted Spot-Check of Representative Datasets
Reviewed by: AQD program data expert and WRD program data expert

The AQD and WRD program data experts will identify several records that are representative of the various types of data stored in the legacy system being migrated. The AQD data expert and the WRD data experts will also identify several sites for which each division has an interest and which will be collocated as part of Migration. For example, when migrating data from the legacy AQD permitting database, the data expert may select a specific large industrial facility and a large municipal facility that are known to be of regulatory interest to both divisions, and contain a breadth of data in the legacy system. After a mock conversion is completed, the experts will perform an A-to-B comparison of data for the representative records as a means of verifying data conversion. As with all other identified issues, a JIRA issue will be created to track any conversion anomalies that are identified.

Program Readiness Checkpoint Meetings
Readiness checkpoint meetings will be conducted regularly throughout each program implementation cycle. These meetings provide an opportunity to review the status of all outstanding program readiness activities, including status of data migration stories and issues.

Production Deployment of Converted Data / Program Go-Live
When the program is ready to be released into production, Contractor and the State will follow a tightly controlled and monitored series of steps, as detailed above. During conversion, status milestone/check-points are communicated. Post conversion, data is validated in the production environment. Contingency plans are developed enabling back-out of changes in the rare event of a critical failure.

Data Migration Risks and Mitigation Strategies
It is inevitable that data migration issues will be identified when analyzing and mapping legacy data. There are two major risk factors inherent in the data being converted:

1. **Data Quality Issues** – source data is incomplete, inconsistent or lacks integrity/relationships between entities including orphan data.
2. **Incongruent Source/Target Data Models** - the heterogeneous nature of the source and target databases will require decisions and tradeoffs between multiple conversion options.

Aside from issues with the data and conversion itself, there are risks related to the conversion and verification process:

1. **Identified Issues are Not Resolved** – Conversion testing often results in many potential conversion issues being identified. A robust tracking system to log and track each issue is essential.
2. **Lack of Sufficient Testing** – Converted data may have been insufficiently tested, leading to issues being identified only after program implementation in production.
3. **Lack of Decision-Making Authority** – When the source and target data models are substantially disparate, decisions need to be made by the Agency as to how to migrate the data. These decisions need to take into consideration how the data is used and therefore dovetails with business process. The decisions need to be made by a program data expert, supported by a Contractor data analyst, who is knowledgeable and empowered to make these decisions when necessary.

Proper handling of these issues is critical to ensure the migration of data from a legacy system is thorough and each identified issue is tracked and resolved.

Below are some of the common risk mitigation strategies that Contractor employs to address these risks:

Mitigation Strategy 1: Identification of AQD/WRD Program Data Experts
For each source system, a program area data expert will be identified. This individual will serve as the primary point of contact for discussing identified issues with the Contractor data migration developer, will assist in evaluating alterative solutions, and will be empowered to make migration decisions. The program data expert also has specific roles in the conversion verification process.

Mitigation Strategy 2: Formal Documentation and Tracking of Identified Issues
Perhaps the most important strategy, each identified data migration issue will be tracked as an issue within the Contractor's JIRA issue management software. Data migration issues are categorized, prioritized, and assigned to ensure they are actively tracked through to ultimate resolution. To streamline the data conversion testing and troubleshooting, the nVIRO user interface can be configured to display source system identifiers (legacy ids) on each detail screen. This makes it easy to track a record in nVIRO back to the record in the source system. Once conversion is complete and verified, a system flag can be set to hide these identifiers from the screen, removing unneeded visual clutter.

Mitigation Strategy 3: Iterative Mock Conversions
Iterating the data migration process for each program provides multiple opportunities to test and refine the data migration logic.

Mitigation Strategy 4: Data Cleanup Prior to Migration
Many of the identified data quality issues can be resolved through cleanup of data on the source system prior to migration. It is much more difficult to try to cleanse data during migration. The migration itself is often complex given the transformations that are performed, it adds much more complexity to cleanse that data during the same process. Cleansing data in the source system also helps to identify and resolve post-migration data issues since the data in the source and target systems is more comparable if post-conversion analysis is required to troubleshoot migration issues. For this reason, it is important to engage a State data expert who is empowered to assist with this, including the ability to run bulk data updates on the legacy database.

Mitigation Strategy 5: Structured, Multi-faceted Testing of Converted Data
Contractor will employ multiple different approaches to verifying data post-conversion. These involve source-to-target record count verification reports, database health check reports, verification testing spreadsheets, and targeted spot checks of specific, known records.

Mitigation Strategy 6: Weekly Program Readiness Checkpoint Meetings
During the period when a given program is being readied for release to production, weekly checkpoint meetings where program configuration tasks metrics are reviewed to gauge progress toward program implementation. This readiness checkpoint meeting provides real-time status metrics on all tasks and issues in JIRA related to program implementation. In addition to tracking progress on configuration tasks (such as document template configuration), progress tracking is also performed on all data conversion stories and issues. This gives all program area stakeholders visibility on progress towards implementation readiness goals.

Mitigation Strategy 7: Mechanisms to Patch Post Conversion Data
Even with the most rigorous mapping, testing and verification processes, there are times when it is discovered that some data in the legacy system needs to be re-migrated into the production system. For example, perhaps a data element that was identified as unneeded turns out it does in fact need to be migrated. Contractor has designed a migration approach that ensures that post-conversion patching can be done in a straightforward manner. The two principal keys to doing this are 1) storing legacy system unique identifier in each record in nVIRO for easy matching of data back to the source system, and 2) storing the legacy system database backup on a database server that is accessible from the target database so that cross-system queries and scripts can be easily run.

11. TRAINING SERVICES

The Contractor must provide administration and 'train the trainer' training on the nVIRO Application Suite and the SLEIS solution for implementation, go-live support, and transition to self-sufficiency for facility and internal users. State staff will be responsible for end user training.

Training Approach
nVIRO with SLEIS is a comprehensive and highly configurable environmental data management solution that supports different configurations and system artifacts (workflows, document templates). A key to a successful

implementation is the training of staff, empowering them to take responsibility for the management, maintenance, operation and configuration of the solution.

A principal Contractor goal is to enable clients to become self-sufficient in all solutions provided. This will require that designated staff understand the various configuration options, understand how the components interrelate, and are able to aid with the configuration and operation of the solution, ultimately working with their program users to develop forms, document templates, etc.

To meet this goal, Contractor will partner with agency staff during the initial implementation of the solution. Contractor team members will work alongside key agency staff training them in the use and administration of the solution. These staff will then be able to take more responsibility during implementation of additional program areas, sharing responsibility in the enterprise implementation of nVIRO and SLEIS.

Contractor will utilize a describe/demonstrate/do approach, which introduces a topic, demonstrates the topic and then has the participants complete a related exercise. Such an approach will help the user better understand what is being taught.

The State will identify staff to dedicate to the project as part of the configuration team. These State staff will learn the application functionality and the various aspects of system configuration. By learning the application early in the project and participating in the configuration, the identified staff will become experts in the system, positioning The State for a successful support model following completion of the final transition to production. This will also position staff for a train-the-trainer model, where Contractor trains the key State project staff, who then provide training to end users during the Implementation Phase.

Training of State staff will be progressive with each session/topic building on the next. Starting with general familiarity on system, building up to detailed operation and configuration of the system as to allow the State staff to assume responsibility for maintenance, operation and configuration of the solution implementation. Each major phase of the project will address elements of training of State staff. These include:

Analysis and Planning
Contractor will work with the State to ensure the training plan addresses the State's objectives and to reflect any additional details determined during project initiation and detailed project planning. While this training plan provides a comprehensive approach to training agency staff, the plan will be adapted to address the State's needs.

Requirements Analysis
Initial user training will take place with key program staff, as each program area begins analysis familiarizing the program staff on key aspects of the system. For the program staff to assess their current practices and workflows and conceptualize how they would be realized in a largely automated environment, they must have a high level understanding of key capabilities and how they are implemented within nVIRO and SLEIS.

Release and Go-Live
The majority of in-depth user training will take place during each release and go-live and involves training in system use as well as configuration. Program configuration and implementation is a repeating activity, cycling for each program implemented in nVIRO and SLEIS. After initial instruction (train the trainer) State trainers would work with program staff (and supported by Contractor staff) to instruct them on the configuration of different program specific components (forms/workflow/documents) as well as working with end system-users for day-to-day use of the system. It is critical that a core group of users be trained in advance of User Testing for each program area implemented.

Training Plan
The nVIRO and SLEIS Training Plan will provide a description of the requirements, strategy, approach, and resources for training of State program users as well as State operations and support personnel.

The scope of the plan includes training to be executed for the purpose of 1) preparing State users for go-live use of the software, 2) training for each major release, and 3) providing knowledge transfer to State technical and operational staff to support production operations. Training for end users is based on a Train-the-Trainer approach, with in-person or remote training and webinars as well as training and support materials.

The following list is a synopsis of the steps Contractor will take to provide training in the use of nVIRO and SLEIS:

- Provide initial product training.
- Provide on-site Train-the-Trainer sessions for all State-designated trainers in all application components (with end-user focus).

- Participate in State-led user training sessions (at least one per release) and addressing user related questions.
- Provide Application and System Administrator training for all State-designated technology staff.
- Provide system configuration training to identified staff.
- Provide supporting training materials in the form of documentation and digital media to support training and knowledge transfer.

One or more training plans will be established to prepare for the required training sessions in support of go-live for each major release, and transition to self-support. The plan(s) will identify users to be trained, the user's roles (e.g., Permit Writer, Compliance Officer, Agent, Administrator, Configuration Specialist), and map the corresponding training delivery based on those roles. The training plan should include scheduling of training sessions, pre-training requirements, and communications to end users.

Training will follow a train-the-trainer model, including support for the initial user training sessions for each major release. Training materials will be made available to State to support end-user training prior to program go-live. As programs enter the Program Configuration phase, key program users should be identified and trained on nVIRO and SLEIS so that they are able to 1) better understand the base capabilities of the system and 2) be prepared for testing of the business processes as they are implemented for their Program. This includes participation in *Initial Product Training* early in the phase, followed by *Key User Training* prior to business process testing.

Initial Product Training
Following the agreed training plan, Contractor will prepare for an initial product training session. This session may be facilitated via web meeting. This session is assumed to be fairly high-level in nature and is intended to familiarize the agency team with the tool capabilities and possible configurations.

Train the Trainer / Key User Training
In preparation for testing, Contractor will prepare for a train-the-trainer session for key program users, in accordance with the agreed training plan. One or more of these key users should also be identified as the program point of contact for first line user support after Implementation / Go-live. This session will focus on training the trainers and key users on the core system capabilities and features of the system. This will include hands-on classroom training and may be supplemented by available training videos and remote training sessions via web conference. In addition, a Contractor staff person will be made available as needed to provide support for the initial user training sessions facilitated by the State for each major release, participating in one or more State-led sessions and answering questions.

Training to Support Transition to Self-Support
In preparation for the State's goal of self-support, Contractor will prepare for a Configuration training session, in accordance with the agreed training plan. Once prepared, Contractor will facilitate this onsite training session. This session will focus on the hands-on configuration features of the system that users may need to use on a semi-regular basis, such as changing a label on a form, editing a document template, adding a lookup, etc. Should the State wish to participate more fully in configuration, more advanced form configuration training sessions can be delivered to designated support staff. Follow up trainings are generally conducted, ad hoc, in response to open questions or to cover key topics.

Application and System Administrator Training
In preparation for the State's goal of self-support, Contractor will prepare for an application and System administration training session, in accordance with the agreed training plan. Once prepared, Contractor staff will provide training to the key agency staff responsible for Administration of the application. This session will focus on the key administrative areas identified as necessary to support the system in production.

Dependencies / Constraints / Limitations
Contractor Technical Operations staff are expected to have the following pre-requisite skills and experience:
- Microsoft Windows Server support and operations
- Microsoft Web Server (IIS) support and operations
- Microsoft SQL Server and SQL Server Reporting Services support and operations

Contractor Development staff are expected to have the following pre-requisite skills and experience:
- SQL
- SQL Server Reporting Services
- Relational database development experience with Microsoft SQL Server, including development and maintenance of Stored Procedures

Contractor Technical and System Administration staff are expected to have the following pre-requisite skills and experience:

- Strong understanding of MS Windows environment
- Understanding of relational databases
- Solid Microsoft SQL Server (Structured Query Language) experience

Training Sessions

State nVIRO and SLEIS Application Users

Contractor will deliver training in modules, with each module based on functional area of the system. In addition, a foundational 'Introduction to nVIRO and SLEIS' training module will provide coverage of common functionality that all (or most) end-users should understand. This module will include:

- Introduction To nVIRO and SLEIS
    - nVIRO Overview and Concepts
    - User Interface and Navigation
        - Menus
        - Search and Filtering
        - Using Browser Tabs
        - Using URLs to direct others to a record of interest
    - Workflow and Tasks
    - Notifications
    - Favorites / Recent lists
    - Document Upload / Download
    - Document Generation and Editing
    - Contacts
    - Running Queries / Reports
    - SLEIS Overview and Concepts

Contractor will deliver additional modules to cover specific topics as follows and as needed. Not all participants will require instruction of all aspects of the system:

- External Site
    - Site Navigation
    - External User Registration / Authorized Users
- Site Management and GIS
    - Site Search and Details
    - Site Plan / Features
- Site Explorer
    - Inquiry
    - Data Export
- Applications, Permitting, and Service Request Processing
    - New/reissued/modified Permits
        - Drafting/Issuing
        - Site Visit
        - Permit Components
    - Public Notice
    - Permit Modifications; Terminations
    - Service Requests
    - Processing paper-based Applications, Requests, Submissions
- Permit Submissions
    - Schedule Submissions
    - Other submissions
- Compliance and Enforcement
    - Permit Submittals and Evaluations
    - Inspections and nSPECT
    - Compliance Actions
- Financials
    - Financial Instruments
    - Payment and Invoice Process Overview
    - Payment Status Inquiry and Refunds
    - Invoice Generation
- Incidents, Complaints, Spills, Reports

    - Recording and Processing Complaints and Spill Incidents
    - Reports
- Administration
    - User, Security Group, and Workgroup Management
    - Notification Management; System Announcements
    - Workflow Definition
    - Forms
    - Schedule Templates
    - Limit Set Templates
    - Document Templates
    - Lookups
    - Integrated Compliance Information System data flow
    - SLEIS to Emissions Inventory System data flow
- Operations
    - Data Sources (Views for Doc Templates, Notifications, Queries/Reports)
    - Online Help
    - Server Tasks Log
    - System Interfaces
- SLEIS
    - Inventory Administration
    - Reports
    - Application Administration
    - Facility User Functionality

Contractor will deliver formal sessions on-site at State headquarters (or other State-designated location) or through online webinars for field offices. Contractor will record the training sessions (online and voice) for replay by State trainers, or other future training needs.

Contractor will deliver Train-the-Trainer sessions prior to User Acceptance Testing to allow time for end-user training prior to system production. In both cases, training sessions will involve both lecture, demonstrations as well as directed State staff hands on instruction.

State Technical Staff
Contractor will deliver the following core training sessions for Operations and Technical Support:

- Technical Operations. This session will cover a variety of technical knowledge transfer topics necessary for supporting the application in production including:
    - Overview of the technical architecture of the nVIRO and SLEIS applications
    - Overview of the external interfaces
- Technical Maintenance and Support. This session will cover a variety of technical knowledge transfer topics necessary for maintaining the application:
    - Overview of the technical architecture of the nVIRO and SLEIS applications
    - Overview of the nVIRO and SLEIS Databases
    - Structure of the nVIRO and SLEIS Applications: Service Layer, GUI Layer
- System Administration. This training is composed of two components—training on the “Admin” portion of the nVIRO and SLEIS Applications, and training on how to extend certain components of the nVIRO and SLEIS applications (e.g. Queries)

Contractor will deliver all training sessions on-site at State Headquarters (or other State-designated location) or through online webinars for field offices. Contractor will record the training sessions (online and voice) for replay by State trainers, or other future training needs.

Contractor will deliver System Operations training prior to User Acceptance Testing in order to provide operations staff time and experience in supporting the application prior to production.

Digital Media and Documentation involved in Training & Support
Contractor will utilize several techniques to support training including digital media and documentation. These include:

Training Videos (electronic training segments)

Contractor will share with the State its collection of training videos that address key functions of nVIRO and SLEIS. Additionally, Contractor will record training sessions of State staff and make them available to the State. This will be especially useful for training sessions addressing State specific topics.

nVIRO and SLEIS Wiki
An online resource addressing the daily use, operation and configuration of the nVIRO and SLEIS products is under development. Contractor will continue to update this online resource as new functions are added to nVIRO and SLEIS, or as Contractor staff identify areas requiring additional information or clarification as a result of interacting with customers as well as internal Contractor staff. This resource will also be used by Contractor staff in their day-to-day project work as well as to on-board and train new staff. Wiki pages/modules can be exported to MS Word documents and printed to also serve the purpose of physical user manuals. This will allow the State to easily build custom user manuals specific to staff roles and responsibilities.

Training Outlines
Each training session provided by Contractor will follow a planned outline. Contractor will work with the State to customize these course outlines and associated support material to address the State's unique needs and processes. These training outlines will be used by Contractor in "Training the Trainer" and will also be made available to the State as their trainers instruct agency staff.

nVIRO and SLEIS Online Help
Integrated within the nVIRO and SLEIS tools is online system help that provides help content for each page/area of the system.

12. TESTING SERVICES AND ACCEPTANCE

Contractor will perform testing services in compliance with the Contract Terms, including load testing**.** The State's DTMB QA/UAT team will test for compliance, and EGLE's team will test for functional use.

13. DOCUMENTATION

Contractor must provide all user manuals, operating manuals, technical manuals and any other instructions, specifications, documents or materials, in any form or media, that describe the functionality, installation, testing, operation, use, maintenance, support, technical or other components, features or requirements of the Software. Contractor must develop and submit for State approval complete, accurate, and timely Solution documentation to support all users, and will update any discrepancies, or errors through the life of the contract. The Contractor's user documentation must provide detailed information about all software features and functionality, enabling the State to resolve common questions and issues prior to initiating formal support requests.

The following is a non-exhaustive list of documentation Contractor will provide:

- nVIRO New Program Starter Kit
- nVIRO End User Training Guide
- Orientation Templates
- User Training Manuals (nVIRO, nSPECT, nFORM, SLEIS)
- nFORM Advanced Design Guide
- All Hosted Services documentation

14. CONTRACTOR PERSONNEL (NON-KEY)

Contractor will provide the following non-key resources:

Contractor Contract Administrator. Contractor resource who is responsible to (a) administer the terms of this Contract, and (b) approve and execute any Change Notices under this Contract. This will be a named resource.

John Kostakos 386 S Macadam Ave Suite 101 Portland, OR 97239 503-330-5171 john_kostakos@windsorsolutions.com

Contractor Security Officer. Contractor resource who is responsible to respond to State inquiries regarding the security of the Contractor's Solution. This person must have sufficient knowledge of the security of the Contractor Solution and the authority to act on behalf of Contractor in matters pertaining thereto.

Brett Peake
4386 S Macadam Ave, Suite 101
Portland, OR 97239
503-675-7833
brett_peake@windsorsolutions.com

Role	Responsible for:
Training Lead	● Developing training plans and materials ● Delivering training to a group of State trainers, i.e., 'train the trainers'
QA Test Lead	● Developing and executing QA test plans ● Creating and executing tests based on documented requirements ● Managing the testing backlog
Lead Developer	● Development of technical designs, and unit and system test plans ● Evaluating requests for new or modified features to determine feasibility and compatibility with current design ● Performing code reviews, troubleshooting and problem solving ● Communicating with development team and business stakeholders

15. CONTRACTOR KEY PERSONNEL

Contractor Project Manager. Contractor resource who is responsible to serve as the primary contact with regard to services who will have the authority to act on behalf of the Contractor in matters pertaining to the implementation services, matters pertaining to the receipt and processing of Support Requests and the Support Services.

John Kostakos
4386 S Macadam Ave Suite 101
Portland, OR 97239
503-330-5171
john_kostakos@windsorsolutions.com

Data Architect. Contractor resource who is responsible to develop and define the data model and database design, define data standards, develop a data management strategy, maintain formal descriptions of the data and data structures, and is responsible for the efficient use of data resources.

Mike Abramczyk
4386 S Macadam Ave, Suite 101
Portland, OR 97239
503-675-7833
mike_abramczyk@windsorsolutions.com

Technical Lead. Contractor resource who is responsible to provide expertise in the integration with existing systems, security, overall system design, implementation, and ensures that the architecture complies with the State of Michigan Strategic Plans and Policies.

Ted Morris
4386 S Macadam Ave, Suite 101
Portland, OR 97239
503-675-7833
ted_morris@windsorsolutions.com

Lead Business Analyst. Contractor resource who is responsible for eliciting business requirements through the use of Joint Application Development (JAD) sessions, documenting and maintaining requirements in a user story format, developing process models and maintaining the product backlog.

John Bosco
26 Center Street Ste. 10
Northampton, MA 01060
413-570-0203
John_Bosco@windsorsolutions.com

Scrum Master. Contractor resource who is responsible for the day to day management of the project including tasks such as facilitating sprint planning, backlog grooming, demoes and retrospectives, ensuring project goals and scope are communicated to the entire project team, and removing impediments to the progress of the project.

John Kostakos
4386 S Macadam Ave Suite 101
Portland, OR 97239
503-330-5171
john_kostakos@windsorsolutions.com

Contractor Service Manager. Primary contact with respect to the Services, who will have the authority to act on behalf of Contractor in matters pertaining to the receipt and processing of Support Requests and the Support Services.

Balaji Narayanan
4386 S Macadam Ave Suite 101
Portland, OR 97239
360-402-9107
Balaji_Narayanan@windsorsolutions.com

Contractor Security Officer. individual to respond to State inquiries regarding the security of the Contractor's systems.

Ted Morris
4386 S Macadam Ave Suite 101
Portland, OR 97239
503-544-3151
Ted_Morris@windsorsolutions.com

16. CONTRACTOR PERSONNEL REQUIREMENTS

Background Checks. Contractor must present certifications evidencing satisfactory Michigan State Police Background checks, ICHAT, and drug tests for all staff identified for assignment to this project. In addition, proposed Contractor personnel will be required to complete and submit an RI-8 Fingerprint Card for the National Crime Information Center (NCIC) Finger Prints, if required by project. Contractor will pay for all costs associated with ensuring their staff meets all requirements.

17. STATE RESOURCES/RESPONSIBILITIES

The State will provide the following resources as part of the implementation and ongoing support of the Solution.

State Contract Administrator. The State Contract Administrator is the individual appointed by the State to (a) administer the terms of this Contract, and (b) approve and execute any Change Notices under this Contract.

Sarah Platte

517-219-2406 PlatteS3@michigan.gov

Program Managers. The DTMB and Agency Program Managers (or designee) will jointly approve all Deliverables and day to day activities.

DTMB Program Manager
Laura Brancheau 517-618-9646 brancheaul@michigan.gov

EGLE AQD Program Manager
Dave Morgan 616-824-1139 morgand2@michigan.gov

EGLE WRD Program Manager
Sarah Ehinger 269-216-1341 ehingers1@michigan.gov

18. MEETINGS

At start of the engagement, the Contractor Project Manager must facilitate a project kick off meeting with the support from the State's Project Manager and the identified State resources to review the approach to accomplishing the project, schedule tasks and identify related timing, and identify any risks or issues related to the planned approach. From project kick-off until final acceptance and go-live, Contractor Project Manager must facilitate weekly meetings (or more if determined necessary by the parties) to provide updates on implementation progress. Following go-live, Contractor must facilitate monthly meetings (or more or less if determined necessary by the parties) to ensure ongoing support success.

The Contractor must attend the following meetings, at a location and time as identified by the State:

Project Management

Project Status Meetings

Weekly project status meetings will be scheduled in collaboration with AQD project management.
Attendees – Contractor Project Manager, Contractor Business Analysts, AQD Project Manager, AQD Program Manager.

Program Implementation and Testing Meetings

Program Process Analysis and Design meetings

In relation to implementation of the Air programs, Process Analysis and Design meetings will be conducted with program staff to inventory process workflows and to define the components needed to implement those processes within nVIRO and SLEIS (for example, application forms, workflow tasks, document templates, or inspection forms).
These sessions occur during the Analysis and Planning phase of the project.
Attendees – Contractor Business Analyst Lead, Contractor Business Analysts, AQD Program Manager, AQD SMEs.
Frequency – 2-3 sessions/week until process analysis is complete.

Process Walkthrough Sessions

Once the process inventory is confirmed, Contractor will incrementally implement several processes, configuring and testing the components. Process Walkthrough Sessions will be conducted with AQD program staff, identifying any

adjustments to be made, and once made will be turned over to program staff for user testing. User testing continues in parallel with implementation of the next set of processes until all processes have been implemented and tested.
These sessions occur during the Program Configuration and Implementation phase of the project.
Attendees – Contractor Business Analyst Lead, Contractor Business Analysts, AQD Program Manager, AQD SMEs.
Frequency – Every other week during Program Configuration and Implementation (until all processes are implemented).

Program Process Status Checkpoint Meetings
Following Process Analysis and throughout the implementation, weekly program status checkpoint meetings will be conducted with program staff to review process implementation status, process testing status, and any issues. Follow-on meetings may be scheduled as needed.
These sessions begin during the Program Configuration and Implementation phase of the project through Go-live, and for several weeks post go-live.
Attendees – Contractor Project Manager, Contractor Business Analyst Lead, Contractor Business Analysts AQD Program Manager, AQD SMEs.
Frequency – Weekly.

Development Meetings
Story Grooming / Review Sessions
Development stories will be identified in the Analysis and Planning phase from Integration Planning Meetings, Process Analysis and Design Meetings and Requirement Review sessions. Contractor will work with identified AQD and state technical staff to provide input to the stories. These sessions are similar to JAD sessions, however the focus is on story grooming to add detail and acceptance criteria needed to develop the story. Upon confirmation and approval, stories will be added to the appropriate product and/or project backlog for development. It is not the case that all stories are dependent on the product release cycle, as certain stories may be developed independently of a product release. This is often the case for development of system interfaces.
These sessions are conducted during Program Configuration and Implementation phase of the project.
Attendees – Contractor Scrum Manager, Contractor Project Manager, Contractor Business Analyst Lead, AQD/DTMB Project Manager, AQD Program Manager, AQD SMEs or Technical staff depending on story type.
Frequency –As needed to groom stories for backlog.

Story Prioritization Sessions
Contractor will conduct prioritization meetings with AQD to ensure stories are properly prioritized for development on overall business value, which will take into account business user priority, dependencies (business or technical), and estimated effort vs benefit.
These sessions are conducted during Program Configuration and Implementation phase of the project.
Attendees – Contractor Project Manager, Contractor Business Analyst Lead, AQD/DTMB Project Manager, AQD Program Manager.
Frequency –As needed to review and update priorities.

Demonstration Sessions
Upon completion of stories, Contractor will conduct Demonstration sessions in the context of the product release. Depending on story significance and impact (e.g., new user interface), intermediate demonstrations may also be conducted to review and receive feedback on work in progress.
These sessions are conducted during Program Configuration and Implementation phase of the project, and ongoing during maintenance.
Attendees – Contractor Project Manager, Contractor Business Analyst Lead, AQD/DTMB Project Manager, AQD Program Manager, AQD SMEs.
Frequency – With new product release, or intermediate reviews as needed.

Agile Scrum Development Meetings
The Agile Scrum approach to software development includes Sprint Planning, Daily Scrum, Sprint Demo, and Sprint Retrospective meetings. Contractor practices Agile Scrum in its product nVIRO and SLEIS development, and these

meetings are central to the product development teams. These scrum related meetings will continue to be conducted by the product development teams within that context.
Conducted by Contractor product teams throughout product release development.

19. PROJECT CONTROL & REPORTS

Once the Project Kick-Off meeting has occurred, the Contractor Project Manager will monitor project implementation progress and report on a weekly basis during the project status meetings to the State's Project Manager. As a part of this progress reporting, a written status report will be provided including the following information:

- Progress to complete milestones, comparing forecasted completion dates to planned and actual completion dates.
- Accomplishments during the reporting period, what was worked on and what was completed during the current reporting period.
- Indicate the number of hours expended during the past week, and the cumulative total to date for the project. Also, state whether the remaining hours are sufficient to complete the project.
- Tasks and key activities planned for the next reporting period.
- Identify any existing issues which are, or are at risk of, impacting the project and the current and future steps being taken or will be taken to address those issues.
- Identify any new risks and describe progress in mitigating high impact/high probability risks previously identified.
- Indicate the amount of funds expended during the current reporting period, and the cumulative total to date for the project.

Contractor will ensure the project schedule (which will be maintained using a Gantt chart) is kept up to date, when schedule adjustments are agreed upon. Additionally, Contractor will maintain % complete values for all work packages included in the project Gantt. An updated Gantt will be provided to the State's Project Manager in conjunction with the project status report.

In conjunction with invoices, Contractor will provide the State with an effort and budget update. These updates will include an overall assessment for each major deliverable of the amount of work that has been performed, the amount of work that is understood to remain, the amount of budget utilized, the amount of budget remaining, and amount invoiced to date.

During the project planning process, Contractor will work with the State's Project Manager to identify and agree upon additional metrics that will be monitored during the project. These could include measurements such as: return on investment, on time delivery, data migration success/defects, testing defects, etc. Contractor will work with the State's Project Manager to define the report format and capture of these metrics throughout the project.

20. PROJECT MANAGEMENT

The Contractor Project Manager will be responsible for maintaining a project schedule (or approved alternative) identifying tasks, durations, forecasted dates and resources – both Contractor and State - required to meet the timeframes as agreed to by both parties.

Changes to scope, schedule or cost must be addressed through a formal change request process with the State and the Contractor to ensure understanding, agreement and approval of authorized parties to the change and clearly identify the impact to the overall project.

SUITE Documentation
In managing its obligation to meet the above milestones and deliverables, the Contractor is required to utilize the applicable State Unified Information Technology Environment (SUITE) methodologies, or an equivalent methodology proposed by the Contractor.

SUITE's primary goal is the delivery of on-time, on-budget, quality systems that meet customer expectations. SUITE is based on industry best practices, including those identified in the Project Management Institute's PMBoK and the Capability Maturity Model Integration for Development. It was designed and implemented to standardize methodologies, processes, procedures, training, and tools for project management and systems development lifecycle

management. It offers guidance for efficient, effective improvement across multiple process disciplines in the organization, improvements to best practices incorporated from earlier models, and a common, integrated vision of improvement for all project and system related elements.

While applying the SUITE framework through its methodologies is required, SUITE was not designed to add layers of complexity to project execution. There should be no additional costs from the Contractor, since it is expected that they are already following industry best practices which are at least similar to those that form SUITE's foundation.

SUITE's companion templates are used to document project progress or deliverables. In some cases, Contractors may have in place their own set of templates for similar use. Because SUITE can be tailored to fit specific projects, project teams and State project managers may decide to use the Contractor's provided templates, as long as they demonstrate fulfillment of the SUITE methodologies.

Contractor will meet the requirements set forth above by establishing the documents described in the tables below. These tables below provide the PMM and SEM process/document name and the Agile Project Tailored Equivalent. It is anticipated that these matrices are draft and will need to be reviewed, discussed, refined and agreed by Contractor and the State to ensure full compliance.

Document	Document Section	Project Tailored Equivalent
Project Charter	N/A	No tailoring (Project Charter will be completed). It is assumed that this document has already been created by the State.
Project Management Plan	Project Summary	No tailoring anticipated (Project Management Plan will be completed)
Project Management Plan	Project Schedule	No tailoring anticipated (Project Schedule will be completed)
Project Management Plan	Human Resource Management Plan	Tailoring needed to include Agile team roles such as Product Owner, Development Team, etc.
Project Management Plan	Project Budget Estimate	No tailoring anticipated (Project Budget Estimate will be completed)
Project Management Plan	Communication Management Plan	Tailoring needed to include Agile ceremonies such as daily standups, sprint planning meetings and sprint reviews.
Project Management Plan	Change Management Plan	The Product Owner manages changes in the course of sprint planning and backlog grooming. However, changes to the release schedule and cost must be approved by the Product Owner and tracked in the enterprise PMM tool. This should be reflected in this section of the document.
Project Management Plan	Quality Management Plan	The sprint review process serves the same purpose as the structured walkthrough and stage exit process when done with the participation of the entire Scrum Team including Product Owners. Depending on the needs of the project, a separate Review and Approval form (SEM-0185) can be created for each sprint performed during the life of the project. The form must be completed and signed for each release as it serves as the stage exit for production implementation.
Project Management Plan	Risk Management Plan	No tailoring anticipated (Risk Management Plan will be completed)
Project Management Plan	Issue Management Plan	No tailoring anticipated (Issue Management Plan will be completed)
Project Management Plan	Approval Information	No tailoring anticipated (Approval information will be completed)
Lessons Learned	N/A	Lessons learned will be incorporated for each Program Rollout to help improve processes for future implementations.
Project Closeout Report	N/A	No tailoring anticipated (Project Closeout Report will be completed). It is assumed the State will establish this plan.

The following describes the anticipated SEM tailoring needed for the project.

Document	Project Tailored Equivalent

EA Solution Assessment	Will be created or updated as part of the project. It is assumed the State will establish this assessment.
Maintenance Plan and Installation Plan	Depending on project needs, tailoring may combine (or keep separate) these two documents.
Software Configuration Management Plan	Will be created or updated as part of the project.
Requirements Traceability Matrix	Linages will be established between requirements and agile stories (where applicable) in the issue tracking tool (Jira).
Requirements Specification	Product Backlog consisting of stories with acceptance criteria.
Functional Design Document	Stories with functional requirements, criteria and supplemental documents (as needed). Stories are reviewed and approved prior to development.
Conversion Plan	a.k.a. Data Migration Plan. Will be created or updated as part of the project.
Test Plan	Test planning identifying types of tests, test scenarios and test cases to be developed. Processes for defect resolution should be included in either the quality section of the project management plan or in the test plan document.
Test Type Approach and Reports	This will be included in the Test Plan.
Test Cases	Should include steps to execute against the defined business process or story acceptance criteria. It is assumed the State will have primary responsibility for user test cases with Contractor input and support.
System Design Document	As nVIRO is a product, the core system design is established. However, system design documents will be established for user interfaces, in particular where a third party is involved.
Transition Plan	Will be created or updated as part of the project.
Training Plan	Will be created or updated as part of the project.
Stage Exits and Structured Walkthroughs	Contractor will provide demos and structured walkthroughs at multiple points in time during the project when the customer and stakeholders will review the deliverables in detail and accept or reject the work (or accept with noted revisions). Each deliverable will be reviewed and approved if required before proceeding to the next sprint. Depending on the needs of the project, a separate Review and Approval form (SEM-0185) can be created for each Release performed during the life of the project. At a minimum, the form must be completed and signed for each release as it serves as the stage exit for production implementation. These agile processes replace the stage exit and structured walkthrough forms.
Security Plan	Will be created or updated as part of the project.
Infrastructure Services Request	Will be created or updated as part of the project, as needed.
Contracts and Procurement Documents	Will be created or updated as part of the project, as needed.
Business Continuity Plan	It is assumed the State will establish this plan. Contractor will develop a Disaster Recovery Plan, which is a component of, and contributes to an overall business continuity plan.

Milestones and Deliverables
Contractor will implement the project in accordance with the table below and the Gantt chart which follows. The parties reserve the right to mutually modify these project artifacts as needed throughout the project.

WRD Migration and Implementation

Milestone Event	Associated Milestone Deliverable(s)	Schedule (PROJECTED FINISH)

Project Management Plan and Project Kickoff	Project Management Plan Project Schedule (Baselined) Project Kickoff Meeting	Project Start + 7 calendar days
MiWaters UAT/Training Environment	UAT Base Environment Configured - Database, Document Repository, Base Integrations	Project Start + 16 calendar days
MiLogin Integration	Integration Requirements/High Level Design	Project Start + 10 calendar days
MiLogin Integration	Integration Developed / Tested in UAT environment	Project Start + 32 calendar days
SOM UAT Environment Verification	UAT Environment Verification Support UAT Environment Issue Resolution	Project Start + 44 calendar days
MiWaters Production Environment	Prod Environment Configured - Database, Document Repository, Base Integrations	Project Start +52 calendar days
Operations and Support Prep	Disaster Recovery Plan	Project Start + 60 calendar days
Operations and Support Prep	Security Plan	Project Start + 57 calendar days
Operations and Support Prep	Backups Configured and Implemented	Project Start + 65 calendar days
Operations and Support Prep	Disaster Recovery Test Execution Disaster Recovery Test Results	Project Start + 72 calendar days
Operations and Support Prep	Support software installed and configured	Project Start + 60 calendar days
Operations and Support Prep	Monitoring and Reporting Procedures	Project Start + 75 calendar days
SOM UAT Environment Verification	Prod Environment Verification Support Prod Environment Issue Resolution	Project Start + 94 calendar days
Transition and Deployment Planning	Production Transition Plan	Project Start + 80 calendar days
MiWaters Production Transition / Go Live	MiWaters Production Live in Cloud Environment	Project Start + 107 calendar days

AQD Implementation

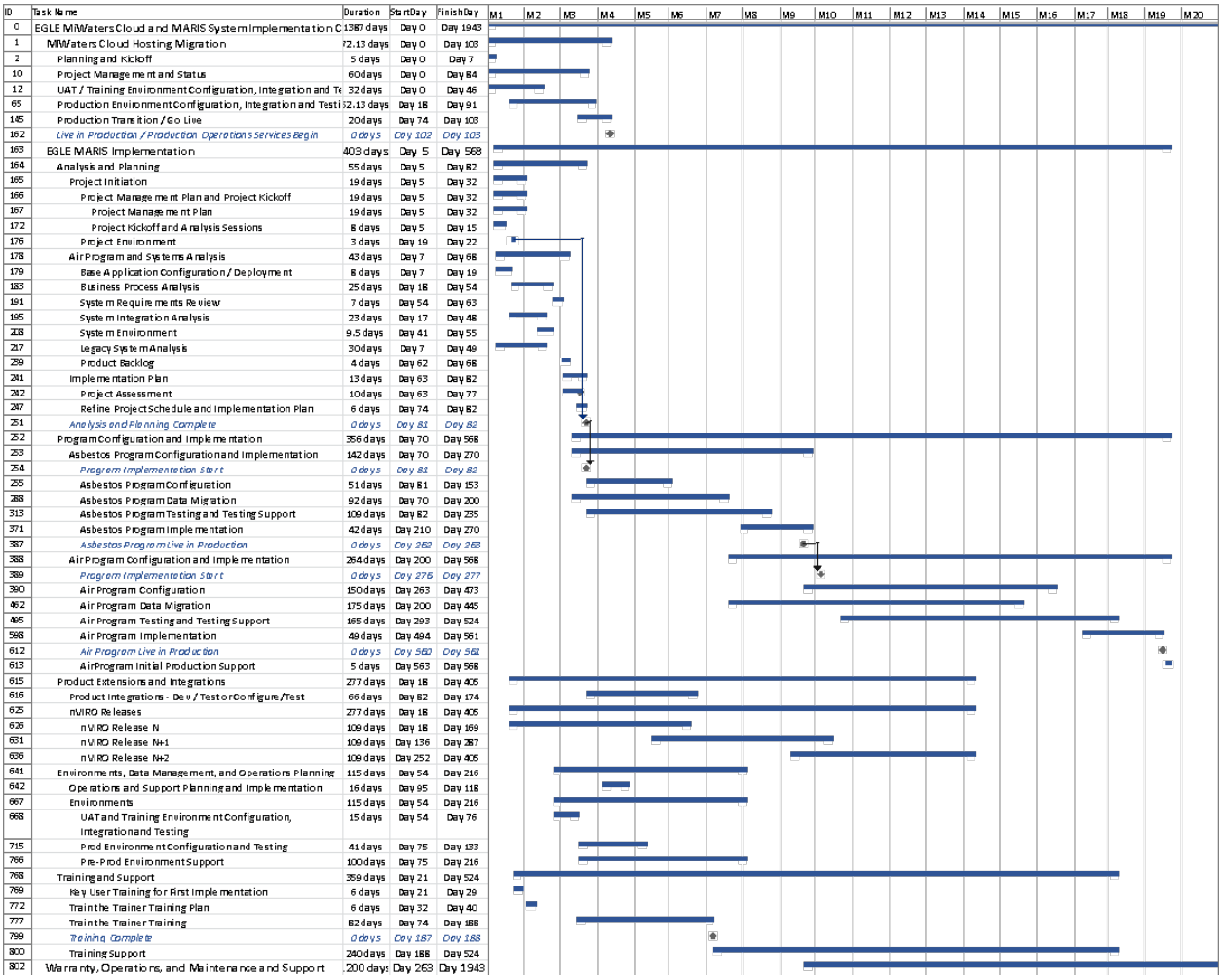
Milestone Event	**Associated Milestone Deliverable(s)**	**Schedule (PROJECTED FINISH)**
Analysis and Planning - Project Initiation	Project Management Plan Project Schedule (Baselined) Project Kickoff Meeting	Project Start + 15 calendar days

Analysis and Planning - Project Initiation	Jira Issue Tracking Configured	Project Start + 15 calendar days
Analysis and Planning - High-Level Analysis and Requirements	Base Application Environment Configured (Windsor Environment) Base Application Software Deployed and Configured Business Process Requirements with Configuration Items (as Configuration Stories) Integration Functional Design and Requirements (as Integration Stories) Environment Configuration Requirements Document and Stories Environment Implementation Schedule Data Migration Plan Data Migration Stories Product Backlog: Stories defined within JIRA Tracking System and available to EGLE: - Business Processes and Related System Configuration Stories - Data Migration Stories - System Integration Stories - Report Development Stories - Requirement Review / Jira Tracking	Project Start + 65 calendar days
Analysis and Planning - High-Level Analysis and Requirements	Refined Project Schedule and Implementation Plan	Project Start + 75 calendar days
Product Enhancements and Integrations - Development and Implementation Interfaces By Sprint	Centralized Electronic Payment Authorization System (CEPAS) - Integration Developed and Delivered to UAT Michigan Cashiering and Receivable System (MiCaRS) - Integration Developed and Delivered to UAT Content Manager 9 (CM9) - Integration Developed and Delivered to UAT	TBD based on Analysis and Design
Product Enhancements and Integrations - Development and Implementation Extensions / Enhancements By Release	TBD Product Extensions (identified in Analysis and Planning)	TBD based on Project start and nVIRO Release Cycle
Product Enhancements and Integrations - Testing By Release	Core Product Integrations Tested and Issues Resolved Core Product Extensions Tested and Issues Resolved	TBD based on Project start and nVIRO Release Cycle
Training - Key Users	Core Concepts / Core Configuration Training	Project Start + 70 Calendar Days
Training - Train the Trainer	Form Configuration Training Document Template Configuration Training nSITE/nVISAGE Configuration Training Evaluation and Inspection Configuration Training Advanced Form Configuration Training Application and System Administrator Training SLEIS Training	Project Start + 181 Calendar Days

Program breakout for early production implementation. To be validated during analysis and design and with EGLE approval. ***Program 1 Implementation***		
Asbestos Program Configuration and Implementation - Configuration	Process Configuration Definition Process Configuration Stories in Jira Process Configuration Stories Implemented Report Stories Implemented	Project Start + 150 Calendar Days Incrementally developed and delivered for test throughout the period
Asbestos Program Configuration and Implementation - Data Migration	Core Entity Data Migrated (Migration Script Execution) Program Components Configured Program Component Migration (Migration Script Execution)	Project Start + 110 Calendar Days Initial conversion complete, followed by Mock Conversion test cycles
Asbestos Program Configuration and Implementation - Data Migration	Mock Data Conversions (with issue resolution) to UAT Environment	Project Start + 190 Calendar Days Multiple Mock Conversion test cycles following initial data conversion
Asbestos Program Configuration and Implementation - Testing Planning	Test Management Plan (Master Test Plan) Test Schedules (incorporated into overall project schedule Test Scenarios / Test Scripts (e.g., for process/configuration, integration testing)	Project Start + 123 Calendar Days
Asbestos Program Configuration and Implementation - User Testing (Pre-Acceptance Test)	Processes Stories Tested / Issues Resolved Data Conversion Stories Tested / Issues Resolved	Project Start + 196 Calendar Days Incrementally tested following on process story delivery and mock conversion test/fix cycles
Asbestos Program Configuration and Implementation - Acceptance Test	Acceptance Application Deployment Issue Resolution System Acceptance (for Program Impl)	Project Start + 221 Calendar Days
Asbestos Program Configuration and Implementation - Implementation	End User Training	Project Start + 229 Calendar Days
Asbestos Program Configuration and Implementation - Implementation	Production Release Plan Production Release	Project Start + 249 Calendar Days Go live following User Training
Asbestos Program Configuration and Implementation - Implementation	Initial Go-Live Production Support	Project Start + 254 Calendar Days

		Go live following Use Training
Program 2 Implementation		
Air Program Configuration and Implementation - Configuration	Process Configuration Definition Process Configuration Stories in Jira Process Configuration Stories Implemented Report Stories Implemented	Project Start + 459 Calendar Days Incrementally developed and delivered for test throughout the period
Air Program Configuration and Implementation - Data Migration	Core Entity Data Migrated (Migration Script Execution) Program Components Configured Program Component Migration (Migration Script Execution)	Project Start + 305 Calendar Days Initial conversion complete, followed by Mock Conversion test cycles
Air Program Configuration and Implementation - Data Migration	Mock Data Conversions (with issue resolution) to UAT Environment	Project Start + 475 Calendar Days Multiple Mock Conversion test cycles following initial data conversion
Air Program Configuration and Implementation - Testing Planning	Test Management Plan (Master Test Plan)	Project Start + 390 Calendar Days
Air Program Configuration and Implementation - Testing / Testing Support	Test Schedules (incorporated into overall project schedule Test Scenarios / Test Scripts (e.g., for process/configuration, integration testing)	Project Start + 480 Calendar Days
Air Program Configuration and Implementation - User Testing (Pre-Acceptance Test)	Processes Stories Tested / Issues Resolved Data Conversion Stories Tested / Issues Resolved	Project Start + 196 Calendar Days Incrementally tested following on process story delivery and mock conversion test/fix cycles
Air Program Configuration and Implementation - Acceptance Test	Acceptance Application Deployment Issue Resolution System Acceptance	Project Start + 510 Calendar Days
Air Program Configuration and Implementation - Implementation	End User Training	Project Start + 526 Calendar Days
Air Program Configuration and Implementation - Implementation	Production Release Plan Production Release	Project Start + 547 Calendar Days
Air Program Configuration and Implementation - Implementation	Initial Go-Live Production Support	Project Start + 52 Calendar Days

Warranty Period	Warranty Period Complete	Implementation + 90 Calendar Days
Project Closure	Project Closeout / Retrospective	Warranty Period + 10 Calendar Days
Production Support Services	Ongoing after Acceptance	Ongoing



ID	Task Name	Duration	StartDay	FinishDay
0	EGLE MiWaters Cloud and MARIS System Implementation C	1387 days	Day 0	Day 1943
1	MiWaters Cloud Hosting Migration	72.13 days	Day 0	Day 103
2	Planning and Kickoff	5 days	Day 0	Day 7
10	Project Management and Status	60 days	Day 0	Day 84
12	UAT / Training Environment Configuration, Integration and Te	32 days	Day 0	Day 46
65	Production Environment Configuration, Integration and Testi	52.13 days	Day 18	Day 91
145	Production Transition / Go Live	20 days	Day 74	Day 103
162	*Live in Production / Production Operations Services Begin*	*0 days*	*Day 103*	*Day 103*
163	EGLE MARIS Implementation	403 days	Day 5	Day 568
164	Analysis and Planning	55 days	Day 5	Day 82
165	Project Initiation	19 days	Day 5	Day 32
166	Project Management Plan and Project Kickoff	19 days	Day 5	Day 32
167	Project Management Plan	19 days	Day 5	Day 32
172	Project Kickoff and Analysis Sessions	8 days	Day 5	Day 15
176	Project Environment	3 days	Day 19	Day 22
178	Air Program and Systems Analysis	43 days	Day 7	Day 68
179	Base Application Configuration / Deployment	8 days	Day 7	Day 19
183	Business Process Analysis	25 days	Day 18	Day 54
191	System Requirements Review	7 days	Day 54	Day 63
195	System Integration Analysis	23 days	Day 17	Day 48
208	System Environment	9.5 days	Day 41	Day 55
217	Legacy System Analysis	30 days	Day 7	Day 49
239	Product Backlog	4 days	Day 62	Day 68
241	Implementation Plan	13 days	Day 63	Day 82
242	Project Assessment	10 days	Day 63	Day 77
247	Refine Project Schedule and Implementation Plan	6 days	Day 74	Day 82
251	*Analysis and Planning Complete*	*0 days*	*Day 81*	*Day 82*
252	Program Configuration and Implementation	356 days	Day 70	Day 568
253	Asbestos Program Configuration and Implementation	142 days	Day 70	Day 270
254	*Program Implementation Start*	*0 days*	*Day 81*	*Day 82*
255	Asbestos Program Configuration	51 days	Day 81	Day 153
288	Asbestos Program Data Migration	92 days	Day 70	Day 200
313	Asbestos Program Testing and Testing Support	109 days	Day 82	Day 235
371	Asbestos Program Implementation	42 days	Day 210	Day 270
387	*Asbestos Program Live in Production*	*0 days*	*Day 262*	*Day 262*
388	Air Program Configuration and Implementation	264 days	Day 200	Day 568
389	*Program Implementation Start*	*0 days*	*Day 276*	*Day 277*
390	Air Program Configuration	150 days	Day 263	Day 473
462	Air Program Data Migration	175 days	Day 200	Day 445
495	Air Program Testing and Testing Support	165 days	Day 293	Day 524
598	Air Program Implementation	49 days	Day 494	Day 561
612	*Air Program Live in Production*	*0 days*	*Day 560*	*Day 561*
613	Air Program Initial Production Support	5 days	Day 563	Day 568
615	Product Extensions and Integrations	277 days	Day 18	Day 405
616	Product Integrations - Dev / Test or Configure/Test	66 days	Day 82	Day 174
625	nVIRO Releases	277 days	Day 18	Day 405
626	nVIRO Release N	109 days	Day 18	Day 169
631	nVIRO Release N+1	109 days	Day 136	Day 287
636	nVIRO Release N+2	109 days	Day 252	Day 405
641	Environments, Data Management, and Operations Planning	115 days	Day 54	Day 216
642	Operations and Support Planning and Implementation	16 days	Day 95	Day 118
667	Environments	115 days	Day 54	Day 216
668	UAT and Training Environment Configuration, Integration and Testing	15 days	Day 54	Day 76
715	Prod Environment Configuration and Testing	41 days	Day 75	Day 133
766	Pre-Prod Environment Support	100 days	Day 75	Day 216
768	Training and Support	359 days	Day 21	Day 524
769	Key User Training for First Implementation	6 days	Day 21	Day 29
772	Train the Trainer Training Plan	6 days	Day 32	Day 40
777	Train the Trainer Training	82 days	Day 74	Day 188
799	*Training Complete*	*0 days*	*Day 187*	*Day 188*
800	Training Support	240 days	Day 188	Day 524
802	Warranty, Operations, and Maintenance and Support	1200 days	Day 263	Day 1943

SCHEDULE A, Attachment 1 – Business Specifications

A	B	C					D
Business Specification Number	**Business Specification**	**Current Capability**	**Requires Configuration**	**Customization to Software**	**Future Enhancement**	**Not Available**	**Bidder to explain how they will deliver the business Specification. Explain the details of any configuration/customization and the impacted risk that may be caused if configured/customized to meet the business specification.**
MANDATORY MINIMUM							
1	Vendor must have a current contract with an implemented system with another U.S. State or Local Government, Environmental Protection Agency for a system that functionality supports processes associated with permitting, inspection and/or enforcement.	**Y**					Windsor has multiple current contracts with an implemented system (nVIRO) with other state environmental agencies, including Michigan EGLE. All of our nVIRO implementations support permitting, inspection, and enforcement. Please refer to the proposal response for description of current nVIRO contracts and references.
REQUIRED							
Global/General							
Search Functions							
5.0	The solution must allow users to search for items or activities in the system based on user input criteria (i.e., able to search for permits, inspections, facilities, owners, contractors, or enforcement actions, based on location, business/contact type, or date range).	Y					This is a current capability of nVIRO.

5.1	The solution must support the use of multiple Boolean values (i.e., includes, exact match, greater than, equal to, less than) and can include multiple criteria in the same search.	Y					This is a current capability of nVIRO.
5.2	The solution must allow a user to save search criteria, define default search criteria and refine a search.	Y					This is a current capability of nVIRO.
6.0	The solution must allow the user to easily navigate to an item in the result set.	Y					This is a current capability of nVIRO.
7.0	The solution must support search and filter features using interactive maps.	Y					This is a current capability of nVIRO.
Data Sorting and Filtering							
8.0	The solution must support data sorting and filtering of data result sets.	Y					This is a current capability of nVIRO.
Data Export							
9.0	The solution must support export of data result sets to common formats including Excel.	Y					This is a current capability of nVIRO.
9.1	The solution must support exporting of tabular and text-based data	Y					This is a current capability of nVIRO.
9.2	The solution must support exporting GIS data that is compatible with ESRI software formats.	Y					This is a current capability of nVIRO.
10.0	The solution must allow a user to define the location and file name of the exported data file (i.e., a dialogue box).	Y					This is a current capability of nVIRO.
11.0	The solution must maintain the same header values and data values in the export file as are displayed (i.e., if the display is a concatenation or calculation, that same displayed value is to be represented in the data export).	Y					This is a current capability of nVIRO.
Editing Tools							

12.0	The solution must systematically use editing tools, such as spell check and grammar check, for data entry text fields, to include notes, email content, notification/alert content, etc..	Y					Real time spell checking is supported via the browser for system entry fields. Document and notification management supports spell checking and grammar checking using MS Word.
12.1	The solution must use an administratively managed system-wide dictionary (i.e., one dictionary maintained for all users/use).	Y					Supported for documents via MS Word add-in - managed by the State.
12.2	The solution must allow a user to maintain a supplemental dictionary for their own use.	Y					Supported for documents via MS Word add-in - managed by the State.
12.3	The solution must support real time identification of unrecognized spelling and grammar.	Y					Real time spell checking is supported via the browser for system entry fields. Document and notification management supports spell checking and grammar checking using MS Word.
Notes							
13.0	The solution must allow users to enter notes/comments for various activities and/or users in the system.	Y					nVIRO supports comment fields for specific record types, plus the ability to record Event comments. Each event comment may be categorizing the type of event, date and time, and creator of the note.
13.1	The solution must maintain each entered note as a separate entry (versus one large data field).	Y					nVIRO supports comment fields for specific record types, plus the ability to record Event comments. Each event comment may be categorizing the type of event, date and time, and creator of the note.
13.2	The solution must systematically record the user and time/date the note was created and/or modified.	Y					nVIRO supports comment fields for specific record types, plus the ability to record Event comments. Each event comment may be categorizing the type of event, date and time, and creator of the note.
13.3	The solution must support a minimum notes field size of 1000 characters.	Y					Comment field lengths are not limited
13.4	If a size limit is applicable, the solution must display in real time the used/remaining and total character count.	Y					Comment field lengths are not limited

13.5	The data entry field must allow equal to or less than character entry, than the associated data record.	Y					Comment field lengths are not limited
Note Categories							
14.0	The solution must support a note category associated with each note.	Y					This is a current capability of nVIRO.
14.1	The solution must allow a System Administrator to maintain note categories.	Y					This is a current capability of nVIRO.
15.0	The solution must support systematically populating the note category (based on where note is being added) as well as allowing user selection of a note category.	Y					The note (event) category is systematically populated for system created events. User created events are categorized by users.
Notes Entry via Cut and Paste							
16.0	The solution must allow a user to complete data entry into the notes field via 'Cut and Paste'.	Y					This is a current capability of nVIRO.
16.1	The solution must truncate the pasted content to accommodate character limits of the notes field.	Y					Note comment fields are not limited, thus truncation is not necessary.
16.1.1	The solution must display a user message when the pasted content is truncated.	Y					Note comment fields are not limited, thus truncation is not necessary.
Help							
17.0	The solution must provide context sensitive help (i.e., available help functionality must result in initial information related to the current screen/data field).	Y					Context sensitive help is provided for all forms and data fields, with added emphasis on those available to external users. Online help is also provided via Windsor's Support Wiki which provides extensive documentation for the application. Users may link directly to the support Wiki from the nVIRO application.
17.1	The solution must allow the help content to be administratively maintained.	Y					The support site content is maintained by Windsor.
18.0	The solution must provide mouse-over text for specific fields (within ADA compliance rules).	Y					Mouse over text is supported per ADA compliance rules.

19.0	The solution must allow a System Administrator to attach a training or reference manual for access by any system user.		Y				nVIRO's help menu is easily configured to link to client specific web pages. nVIRO clients typically link to an agency specific site where they may provide custom training materials such as videos and training documents. This configuration incurs no risk to the solution.
Address Validation							
20.0	The solution must have the capability to verify and standardize mailing addresses.	Y					nVIRO supports USPS address validation and standardization.
Dates							
21.0	The solution must maintain both calendar year dates and fiscal year dates.	Y					The system is agnostic to specific dates allowing it to support both calendar and fiscal dates.
21.1	The solution must allow some programs to operate on a fiscal year basis and other programs to operate on a calendar year basis.	Y					The system is agnostic to specific dates allowing it to support both calendar and fiscal dates.
21.2	The solution must allow a System Administrator to maintain calendar and fiscal year dates.	Y					The system is agnostic to specific dates allowing it to support both calendar and fiscal dates. In addition, date calculations may take into account calendar or business days (taking into account weekends and state holidays)
Data and Document Availability							
22.0	The solution must allow all AQD users access to related information in areas outside of the workflow they are working in (i.e., while reviewing a permit application, users can view related data such as facility, emissions, compliance, inspections, enforcement, etc.).	Y					This is supported via unlimited browser tabs, each which may present different nVIRO pages and records.
22.1	Related system information must include, at a minimum, current and past: (a) Facility information (b) Permits (c) Permit applications	Y					nVIRO and SLEIS will support management of current and historical information in each of the functional areas listed. In nVIRO, data elements may be managed directly or through the use of user definable

	(d) Emissions inventory						data capture screens using what it calls 'Program Components'. Program Components are user defined forms containing controls for capture and maintenance of data. Historical information will be migrated into nVIRO as part of the implementation from the existing systems used by the program today. Historical emissions reports will be migrated into the SLEIS database from the existing MAERS database.
	(e) Compliance activities						
	(f) Violation notices						
	(g) Enforcement activities						
	(h) Complaint information						
	(i) Monitoring and reporting data						
	(j) Inspection information						
	(k) Toxics information						
	(l) Modeling information						
22.2	The data elements identified in these requirements, both above in 22.1 and throughout this document, are indicative of the type of data to be stored. However they are not inclusive of all required data, and in many cases more data may be needed.	Y					nVIRO supports additional user definable data using what it calls 'Program Components'. Program Components are user define forms containing controls for capture and maintenance of data.
Confidential Documents							
23.0	The solution must allow attachments to be marked as 'confidential' in multiple areas of the system including (but not limited to):	Y					nVIRO supports designating documents as Confidential (e.g., for Applications, Permits, Evaluations, Compliance Actions, Projects). Applicants submitting documents may request them to be confidential. In addition, Compliance / Enforcement Actions may be designated as Confidential.
	(a) Enforcement						
	(b) Permit to Install						
	(c) Renewal Operating Permit						
23.1	The solution must limit access to 'confidential' documents to specific user groups or roles.	Y					Users designating confidentiality may grant access to specific users. A specific security role may also be granted to provide access to confidential items.
23.2	The solution must provide the ability for an AQD user to remove a confidential designation from an attachment.	Y					This is a current capability of nVIRO.
Document Repository							

24.0	The solution must store documents in the Microfocus Content Manager 9 (CM9) solution (or most current version) via integration.			Y			The nVIRO architecture is designed to support integration with content management solutions. Integration requirements are typically client specific requiring custom development. EGLE should consider whether storing documents in CM9 is necessary given the sophisticated document management capabilities already present within nVIRO. This customization incurs no risk as nVIRO also maintains copies of all documents.
25.0	The solution must create and maintain appropriate meta data attributes for content submitted to CM9 via the solution.			Y			The nVIRO architecture is designed to support integration with content management solutions. Integration requirements are typically client specific requiring custom development.
26.0	The solution must allow for a user to initiate an action to move a file or files to the document management system.			Y			The nVIRO architecture is designed to support integration with content management solutions. Integration requirements are typically client specific requiring custom development.
Mobile Capabilities							
27.0	The solution must allow AQD users to enter, view and edit all data from a mobile device.	Y					Users must have an internet connection (e.g., WiFi, 4G). The exception to this is nSPECT which supports offline inspections.
27.1	The solution must support design features for ease of use while in the field, such as: (a) Shortcut keys customizable by user (b) "Favorites" for values and data sets (c) Autofill for data entry fields	Y					As a browser based application, nVIRO supports this through capabilities provided by the browser or browser add-ins. Form entry also supports auto-fill capabilities based on previous user entry.

CROMERR Compliance							
28.0	The system must be Cross-Media Electronic Reporting Rule (CROMERR) compliant in managing certified facility users and reporting.	Y					CROMMER provides the legal framework for electronic reporting under environmental regulatory programs. As a previously certified solution, nVIRO includes an existing template so that DEQ can attain certification for their nVIRO instance in as little as 30 days (actual times can vary). As CROMERR compliant solutions, both nVIRO and SLEIS satisfies these requirements : Per CROMERR nVIRO has strict password requirements including the requirement for passwords to be of at least 8 characters including at least one lower case, one upper case, one numeric, and one special character. These are stored in an encrypted format that is a one way, "salted", hash, using the SHA-512 bit algorithm. Additionally a history is maintained, passwords expire and new passwords cannot have been used before. Before a user can submit using electronic signatures they must be authorized to do so by the agency and must have established a set of five (out of twenty two) challenge questions. At the time of form/report submission the user is asked to certify that they are who they say they are through acknowledging that · They are the owner of the account used to perform the electronic submission and signature. · They have the authority to submit the data on behalf of the facility I am representing. · They agree that providing the account credentials to sign the submission

							document constitutes an electronic signature equivalent to my written signature. · They have reviewed the electronic form being submitted in its entirety, and agree to the validity and accuracy of the information contained within it to the best of my knowledge. This is affirmed by the user answering a randomly selected challenge question from their set as well as entering their password. Upon certification and submission, a copy-of-record is established as a legally binding record of the submission. It is stored with timestamps, watermarks and the electronic signature and the submitter is notified.
29.0	The solution must provide an access code or similar functionality for submission of emission reports.	Y					See response to item 28 above
Administration							
User Roles							
30.0	The solution must allow an authorized user administrator to create and manage user roles and system access (create, modify, delete, deactivate, etc.).	Y					This is a current capability of nVIRO.
31.0	The solution must provide a 'certified' role for facility users to certify application and reporting submissions.	Y					This is a current capability of nVIRO.
User Activity Logs							
32.0	The solution must allow an authorized user administrator to review activity logs for users (e.g., last logged in, last update, etc.).	Y					This is a current capability of nVIRO.
User Management							

33.0	The solution must provide for a user administrator to view and manage login requests from MILogin to associate with user roles.				Y		nVIRO has integrated with third party user identify management. Specific integration with MILogin is a new requirement that will be implemented for nVIRO (MiWaters).
33.1	The solution must allow an authorized user administrator to associate external users to a facility.	Y					This is a current capability of nVIRO.
33.1.1	The solution must allow an authorized user administrator to associate a single consultant user to multiple facilities.	Y					This is a current capability of nVIRO.
33.1.2	The solution must allow an authorized user administrator to associate multiple consultant users to a single facility.	Y					This is a current capability of nVIRO.
34.0	The solution must allow an authorized user administrator to associate AQD users with geographic locations for use in workflow queue assignment and/or system notifications.	Y					This is accomplished through nVIRO Workgroups. Work may be routed to Workgroups based on geographic location. A user may belong to multiple workgroups.
Audit Logs							
36.0	The solution must maintain audit logs.	Y					This is a current capability of nVIRO.
36.1	Audit logs must include: (a) Password changes (b) Specified data changes	Y					This is a current capability of nVIRO. nVIRO also sends automated notifications for user security changes made during the prior day.
36.2	The solution must allow an auditor to view and search the audit logs (via system functionality).	Y					This is a current capability of nVIRO.
37.0	The solution must maintain the following change details on data changes: (a) User that made the change (b) Date/time of change (c) Previous data value (d) Updated data value	Y					This is a current capability of nVIRO.
37.1	The solution must display the date the record was last updated.	Y					This is a current capability of nVIRO.
Environment							
Training Environment							

38.0	The solution must provide a training environment for multiple user types including external authenticated users.		Y				A separate training environment is included in the proposal. This configuration incurs no risk to the solution.
Technical Requirements							
Geospatial Address Data							
39.0	The solution must contain a Geographic Information System (GIS) component.	Y					nVIRO provides very sophisticated GIS capability allowing extensive definition and mapping of GIS features in the nVIRO Site Plan, as well as GIS inquiry (both internal and Public) through the nSITE Explorer component.
39.1	The solution must use geospatial-based data associated with addresses and locations.	Y					This is a current capability of nVIRO.
39.2	The solution must allow a user to view or edit points, lines, and polygons on a map, by location.	Y					This is a current capability of nVIRO.
39.3	The solution must display the latitude and longitude for a location associated with a point on a map.	Y					This is a current capability of nVIRO.
40.0	EGLE uses ESRI ArcGIS as its standard, ideally the solution will leverage integration with that platform and tools to meet any GIS related requirements.	Y					This is a current capability of nVIRO.
Credit Card Processing							
41.0	The solution must integrate with CEPAS/Pay Place to redirect a user to CEPAS for online credit card payment processing.	Y					nVIRO has been fully integrated with CEPAS/Pay Place.
41.1	The integration must occur ‘behind the scenes’ with minimal intervention by the user.	Y					nVIRO has been fully integrated with CEPAS/Pay Place.
Attach Supporting Documents							
42.0	The solution must allow users to upload/attach supporting	Y					This is a current capability of nVIRO.

	documents/files to items throughout the system, including at a minimum: (a) Permit to Install Application (b) Renewable Operating Permit Application (c) General PTI Application (d) Modeling Input Files (attached to PTI applications) (e) Modeling Final Files (f) Inspections (g) Compliance Activities (h) Violation Notices (i) Enforcement Referrals (j) Billable Emissions Estimates (k) Enforcement Cases (l) Complaints (m) Public Comments (n) Public Hearings (o) Compliance Monitoring (p) Settlement Process (q) Emissions Reports (r) Fee Challenges (s) Report Submissions (t) Emissions Plans, Tests and Reports (u) Asbestos Notifications (v) Toxics Review						
42.1	The solution must allow users to view or download supporting documents/files.	Y					This is a current capability of nVIRO.
42.2	The solution must allow multiple documents/files to be attached to an item.	Y					This is a current capability of nVIRO.

42.3	The solution must allow documents/files to be attached at various points in the workflow.	Y					This is a current capability of nVIRO.
42.4	The solution must allow users to remove/delete an attached document/file based on user role.	Y					This is a current capability of nVIRO.
File Attach Format							
43.0	The solution must support the following digital content formats for attached files:	Y					This is a current capability of nVIRO.
	(a) *.pdf						
	(b) *.doc, *.docx						
	(c) *.jpeg, *.jpg						
	(d) *.gif						
	(e) *.png						
	(f) GIS formats (bidder to specify supported formats)						
	(g) *.zip						
	(h) *.xls, *.xlsx						
	(i) *.csv						
	(j) *.txt						
	(k) *.msg						
	(l) *.mov						
	(m) *.mp4						
	(n) *.dta						
	(o) *.inp						
	(p) *.adi						
	(q) *.bpip						
	(r) *.bpi						
	(s) *.lst						
	(t) *.ado						
	(u) *.pip						

43.1	Bidder to specify the file size their solution will support for attached files.	Y					The system has been tested to support attached files up to 500mb. However, most clients desire to limit the file size to roughly 200mb.
Digital Content Metadata							
44.0	The solution must maintain metadata associated with attached digital content e.g., the GPS coordinates, time/date stamp information associated with photos, etc.).	Y					Any metadata stored with the digital content is retained in the file.
Session Recovery							
45.0	The solution must save transactional/temporary data values for session recovery purposes.	Y					nVIRO relies on SQL Server, which supports this
Configurable Data Entry Fields							
46.0	The solution must allow an administrative user to configure custom text and numeric fields associated with entities (e.g., application, permits, etc.).	Y					nVIRO supports additional user definable data using what it calls 'Program Components'. Program Components are user definable data forms containing user design sections and controls to maintain data.
47.0	The solution must provide the capability to trigger business rule calculations upon creation or modification of an entity, or explicitly via a workflow action.		Y				nVIRO can be configured to support this requirement without risk.
48.0	The solution must provide the capability to trigger actions such as workflows and notifications based on the result of business rule process.	Y					This is supported using nVIRO System Actions.
Integration with Office 365							
Integration with Word for Templates and Documents							
49.0	The solution must integrate with Office 365 for use in templates and documents.	Y					The solution is integrated with Microsoft Office 365 for creation and editing of document templates and documents.
49.1	The solution must allow a template administrator to create and maintain templates using Microsoft Office 365 (specifically MS Word).	Y					Document templates are maintained as MS Word provided the end user has a valid Microsoft Office 365 license.

49.2	The solution must open any documents which are developed from templates, in Microsoft Office 365 (i.e., Word).	Y					Documents open and are editable in the nVIRO application provided the end user has a valid Microsoft Office 365 license.
49.3	The solution must allow all documents which are created from templates to be edited or printed in Microsoft Office 365 (i.e., Word), based on the status of the document.	Y					Documents open and are editable in the nVIRO application provided the end user has a valid Microsoft Office 365 license.
Public Web Portal							
Public Portal Data							
50.0	The solution must allow for systematic and manual publishing of data on a public portal or web-based access point available to non-authenticated users.	Y					This is provided through the nSITE Explorer component of nVIRO
50.1	Public data must include at a minimum: (a) Permit applications (b) Issued permits (c) Facility information (d) Emissions inventory (e) Emissions reports (f) Stack test reports (g) Compliance reports (h) Violation Notices and responses (i) Complaints (minus Personally Identifiable Information) (j) Full Compliance Evaluations (k) Toxics information	Y					This is provided through the nSITE Explorer and nVisage components of nVIRO
50.2	The solution must allow a non-authenticated public user to search for data in the public portal based on various search criteria.	Y					This is provided through the nSITE Explorer and nVisage component of nVIRO
Access							
51.0	The solution must allow a non-authenticated (public) user to interact	Y					This is provided through the nSITE Explorer and Public Notice components of nVIRO.

	with public accessible data via a web portal.						
Dashboards/Display							
52.0	The public web portal must support public dashboards (and related dashboard functionality for navigation).	Y					This is a current capability of nVIRO for authenticated public users..
53.0	The solution must track usage metrics, associated access to and use of the public web portal (e.g., web analytics).	Y					nVIRO supports Google Analytics.
Branding							
54.0	The solution must brand the public web portal to be associated with the State of Michigan EGLE and be consistent with published SOM public standards.	Y					nVIRO has been branded for EGLE and approved by SOM (DTMB) standards.
Communications/Messages/Alerts							
Format							
55.0	The solution must support the use of formatted content for messages and notifications/alerts.	Y					This is a current capability of nVIRO.
55.1	The solution must support links within the notification that direct a user to a reporting system, AQD website or supporting documents.	Y					This is a current capability of nVIRO.
55.2	The solution must support attachments within email notifications (e.g., invoice or violation notice attached to email).	Y					This is a current capability of nVIRO. Depending on the attachment content and any associated security considerations, rather than attaching the document, it may be preferable to configure the notifications with links to the applicable document in nVIRO
Notifications							

56.0	The solution must allow a System Administrator to create and manage participant notifications and alerts.	Y					This is a current capability of nVIRO. nVIRO supports administrator configuration of Notifications (internal inbox and email) to be automatically triggered based on a multitude of events, program areas, record types, date calculations (n days prior to x date) and recipients. nVIRO also supports System Alerts which display upon login to nVIRO. Alerts may be targeted to internal and/or external users and display for a particular date range.
56.1	The solution must allow notifications to be sent as the result of as a step in a workflow.	Y					Notifications are automatically sent to the process owner when a workflow step is completed. Other notifications may be configured to trigger based on workflow related events.
56.2	The solution must allow a System Administrator to set a date range and audience for notifications.	Y					System alerts may be targeted to internal and/or external users and display for a particular date range.
56.3	The solution must allow bulk notifications to be sent (i.e., notice to facilities of upcoming emissions reporting period).	Y					Notifications are sent to all specified users (in bulk) based upon configuration.
56.4	The solution must allow notifications to be sent based on milestone dates (i.e., notification sent X number of days before permit expiration).	Y					Notification may be configured to trigger based on date calculations (n days prior to x date)
57.0	The solution must allow facilities to acknowledge receipt of certain notifications such as: (a) Notification of upcoming emissions reporting period (b) Receipt of billable emissions estimates	Y					
58.0	The solution must monitor for acknowledgement by each facility that notification has been received.		Y				This configuration incurs no risk to the solution.
Notification Preferences							

59.0	The solution must allow a user to maintain notification method by activity type (i.e., email and dashboard notification for inspections, dashboard only notification for complaint).		Y				The system supports user customization of notification method at the system level (In the system, email), but can be configured to support it at the activity level. This configuration incurs no risk to the solution.
59.1	Supported notification methods must include: (a) Email (b) Dashboard	Y					This is a current capability of nVIRO.
59.2	The solution must require a valid email address when notification preference of email is chosen.	Y					This is a current capability of nVIRO.
60.0	The solution must allow a System Administrator to designate certain notifications must be sent via email.	Y					This is a current capability of nVIRO.
Table Maintenance							
Reference Tables							
61.0	The solution must allow a System Administrator to add or edit values in reference tables.	**Y**					This is a current capability of nVIRO.
61.1	The solution must use a reference value expiration field to manage when reference values are available for use (e.g., when a value is no longer needed, set the expiration date for that value so that the relationships for historical records is still maintained).	**Y**					This is accomplished by inactivating the reference value.
61.2	Go-Live functionality must support approximately 80 references tables with 2-8 field values each (in addition to the fields to support expiration)	**Y**					This is a current capability of nVIRO.
61.3	The solution must allow a System Administrator to set the sequence of each item in a reference table.	**Y**					This is a current capability of nVIRO.

61.4	The solution must allow a System Administrator to set an item in a reference table as the default item.	**Y**					For look up (reference) values on nVIRO data collection forms, a default can be specified where appropriate.
61.5	The system must allow a System Administrator to import data into a reference table from an external file such as .csv or .xlsx.	**Y**					All reference table can have data imported to them from a csv
Dashboards							
Display							
62.0	The solution must display items on the dashboard based on a user role (i.e., individual users will view at a user level, managers will have a view at the Unit, Section or District level, supervisors will view at State level.)	Y					The solution contains multiple dashboards, one for external users, one for program level (user/managers) operations, and an 'executive' dashboard. The latter two dashboards may be configured based on role preferences.
63.0	The solution must display 'counts' of items for each activity (i.e., number of inspections pending).	Y					The executive dashboard includes aggregation and charting capabilities.
Content Administration							
64.0	The solution must allow a Dashboard Administrator to configure the dashboard content by user role.		Y				This is currently supported using a UI configurator outside the of nVIRO, but it is straightforward to make it available from within nVIRO. This configuration incurs no risk to the solution.
64.1	The solution must present a summary of items specific to an authenticated user, including at a minimum: (a) Work assignments (permits, inspections, etc.) (b) Tasks (c) Notifications/Alerts (d) Activities	Y					This is a current capability of nVIRO.

User Settings							
65.0	The solution must allow a user to customize their dashboard to determine item categories or activities that display on their dashboard.	Y					This is a current capability of nVIRO.
66.0	The solution must allow a user to apply filters to items on the dashboard.	Y					This is a current capability of nVIRO.
66.1	The solution must include a “reset” option to return a user-customized dashboard to the default settings.	Y					This is a current capability of nVIRO.
Navigation							
67.0	The solution must allow the user to navigate to more details about a dashboard item (navigationally interactive).	Y					This is a current capability of nVIRO.
Templates							
Template Administration							
68.0	The solution must allow a Template Administrator to create templates for:	Y					This is a current capability of nVIRO.
	(a) Narrative reports						
	(b) Letters						
	(c) Permits						
	(d) Emails						
	(e) Licenses						
68.1	The solution must allow a template administrator to edit templates.	Y					This is a current capability of nVIRO.
68.2	The solution must allow a template administrator to maintain the status of a template.	Y					This is a current capability of nVIRO.
68.2.1	Statuses must include:	Y					This is a current capability of nVIRO.
	(a) Active						
	(b) Inactive						
	(c) Under Review						
68.2.2	The solution must limit use of a template based on status.	Y					This is a current capability of nVIRO.

69.0	The solution must allow the use of full text editing when creating and editing templates.	Y					Templates support not just full text edition but full 100% formatting compatibility with Microsoft Word.
70.0	The solution must allow a user to edit a document which was created from a template.	Y					Users may edit documents online in the browser with full Microsoft Word editing capabilities.
Versioning							
71.0	The solution must maintain versioning for templates.	Y					Templates (e.g. forms, documents, reports) can be versioned, either by naming of major versions, or via system tracking of minor revisions.
71.1	Versioning must include: (a) Time/date of change (b) User completing the change (c) Optional comments describing the change	Y					While template versioning is not explicitly supported, changes to templates support time/date, user and change comments.
Workflow							
Business Process Automation							
72.0	The solution must automate, at a minimum, business processes supporting the following air quality programs and activities: (a) Permit to Install (b) Renewable Operating Permit (c) Enforcement (d) Emissions Monitoring (e) Emissions Reporting (f) Inspections (g) Enforcement (h) Fees and Invoicing (i) Reports Received (j) Complaints (k) Public Notice/Public Comment	Y					Windsor will utilize the nVIRO online tools to implement the business processes and activities in the system. These will be implemented using current nVIRO capabilities including definition of any forms, workflows, business rules, notifications, document templates, permit types, evaluations, inspection forms, compliance actions, fees, etc., needed to automate / support the listed business processes and activities.
Go-Live							

73.0	The solution must support, at a minimum, up to 72 workflows with the initial implementation with the following complexities: (a) 12 high-complexity (b) 45 medium-complexity (c) 15 low-complexity	Y					Windsor will utilize the nVIRO online tools to implement the business processes and activities in the system. These will be implemented using current nVIRO capabilities including definition of any forms, workflows, business rules, notifications, document templates, permit types, evaluations, inspection forms, compliance actions, fees, etc., needed to automate / support the listed business processes and activities.
Configuration							
74.0	The solution must allow an authorized workflow configuration administrator to define workflows for various program areas and business processes.	Y					This is a current capability of nVIRO.
Reports							
Canned Report Administration							
75.0	The solution must allow a Report Administrator to maintain canned reports.	Y					This is a current capability of nVIRO.
75.1	Canned report functionality must include at a minimum: (a) Filters (b) Sort order (c) Export (d) Printability	Y					This is a current capability of nVIRO.
Go-Live							
76.0	The solution must support up to 95 canned reports with the initial implementation with the following complexities: (a) 32 high-complexity (b) 26 medium-complexity (c) 27 low-complexity	Y					nVIRO supports report creation, organization and security control. Custom reports by client are a common need.

76.1	The solution must support output of reports to Excel.	Y					This is a current capability of nVIRO.
76.2	The solution must support output of approximately 12 reports to .pdf.	Y					This is a current capability of nVIRO.
Headers, Footers and Branding							
77.0	The solution must allow a Report Administrator to update non-data field content to support changes to organizational structure (i.e., logos, department name, division name, director name, governor name, et al).	Y					This is a current capability of nVIRO.
Versioning							
78.0	The solution must maintain versioning for reports.	Y					This is a current capability of nVIRO.
78.1	Versioning must include: (a) Time/date of change (b) User completing the change (c) Optional comments describing the change	Y					This is a current capability of nVIRO.
Custom Report Creation							
79.0	The solution must allow a Report Administrator to create, save, edit, or delete custom reports.	Y					This is a current capability of nVIRO.
79.1	The solution must allow a custom report to be used as the foundation for a new report.	Y					This is a current capability of nVIRO.
79.2	The solution must allow a custom report created by one user to be accessed by other users.	Y					This is a current capability of nVIRO, either by saving the report as a 'Shared report' for all authorized users, or my saving it as one of 'My Reports' then sharing the report web address (an obscure URL) with another user.
80.0	The solution must support the use of Microsoft Excel for the output of custom reports.	Y					This is a current capability of nVIRO.
Queries							
Ad Hoc Query							

81.0	The solution must allow an AQD user to create, edit or delete an ad hoc query based on user roles.	Y					This is supported via the reporting tool. Users may save the report/query to their own folder or share them.
81.1	The solution must allow only the user who created a query to edit or delete the query.	Y					This is supported via the reporting tool. Users may save the report/query to their own folder or share them.
81.2	The solution must allow an AQD user to save an ad hoc query.	Y					This is supported via the reporting tool. Users may save the report/query to their own folder or share them.
81.3	The solution must allow an existing ad hoc query to be used as the foundation for a new ad hoc query.	Y					This is supported via the reporting tool. Users may save the report/query to their own folder or share them.
81.4	The solution must allow query results to be filtered, sorted, exported, and printed.	Y					This is supported via the reporting tool. Users may save the report/query to their own folder or share them.
Libraries							
82.0	The solution must maintain a library of developed ad hoc queries.	Y					These are facilitated as shared reports
82.1	Library information must include at a minimum: (a) Created By (user) (b) Created On (date/time) (c) Last date/time it was used (d) Update Date (date/time) (e) Category (f) Description	Y					This is a current capability of nVIRO.
82.2	The solution must allow an ad hoc query created by one user to be used by another user.	Y					This is accomplished by saving a report in a shared folder. Users must have
Access to Data Tables							
83.0	The solution must allow for administrative access to the complete data tables at the database tier-level for on demand data extracts to assist in additional querying and reporting.	Y					Access would be granted to a read-only end-point providing an access to an up to the minute replica of the data.
Metrics and Analytics							
Metrics							

84.0	The solution should provide the ability for a System Administrator to define metrics including counts, durations, and reporting values across program areas.	Y					This is a current capability of nVIRO.
84.1	The solution must allow any AQD user to view metrics which have been defined and captured.	Y					This is a current capability of nVIRO.
Functionality							
85.0	Analytical functionality must include, at a minimum:	Y					This is a current capability of nVIRO.
	(a) Trend analysis						
	(b) Geospatial analysis						
	(c) Statistical analysis						
	(d) Workflow durations						
	(e) Work queues						
85.1	The solution must track dates associated with workflows (such as date item received, date issued, etc.) in order to produce metrics.	Y					This is a current capability of nVIRO.
85.2	The solution must provide metrics on workflow duration to include items such as number of days an item was in a given status, number of days from application submittal to permit issuance, etc.	Y					This is a current capability of nVIRO.
85.3	The solution must provide counts of items by status (i.e., 28 permits in review status, 8 permits in public comment period, etc.).	Y					This is a current capability of nVIRO.
Analysis							
86.0	Analytical analysis must include:	Y					This is a current capability of nVIRO.
	(a) Systematic analytics triggered by data value changes						
	(b) Systematic analytics scheduled based on point in time data values						
	(c) On-demand						
Presentation							

87.0	The solution must support multiple analytics presentations: (a) Graph formats (b) Pie-chart formats	Y					This is a current capability of nVIRO.
87.1	The solution must allow the data analyst to associate analytics with dashboard panes.	Y					This is a current capability of nVIRO.
Maintenance							
88.0	The solution must allow the data analyst to manage the business rules and priorities applicable to the analytics (i.e., will not require a code change to refine the analysis).	Y					This requirement is a current capability of nVIRO, however, this description is open ended, and some forms of advanced analytics (e.g. AI), may be beyond the ability within the user interface, but in general, yes the reporting and analytical capabilities support these needs. However, nViro allows data sets to be easily exported to Excel (or other data tools), for unique/elaborate analytics.
88.1	The solution must allow the data analyst to manage the data set used by the analytics (i.e., will not require a code change to modify the data elements being included).	Y					This is a current capability of nVIRO.
Online Forms (for data entry)							
Functionality							

89.0	The solution must allow a System Administrator to define and maintain online forms.	Y					nVIRO includes a fully featured online form submission component called nFORM. System users with appropriate rights may design and maintain online forms through the nFORM Designer which includes the ability to add and remove forms, sections, and controls. Form design features include a large array of user configurable control types, such as text, numeric and date fields, dropdown lists, tables, and many more. Controls and entire sections can be made conditional based on responses elsewhere in the forms. Individual controls can be pre-populated from system information when desired, and information entered by the submitter can in turn populate system fields.
89.1	Online forms must include: (a) Application for Permit to Install (PTI) (b) Applications for Renewable Operating Permit (ROP) Program (c) Application for General PTI (d) Emissions Reporting (e) Complaints (f) Compliance Reports	Y					Construction and operating permit application forms, complaint forms, and compliance report forms, such as MACT reports, annual compliance certifications, will be designed in the nVIRO nFORM component as described above. Emissions reporting online forms will be managed by the SLEIS component and will include all required facility inventory and point emissions data fields.
89.2	The solution must support form design features that allow for an interview type user experience when filling out the form (i.e., based on user responses, additional fields, drop down values, and data entry logic will vary).	Y					nVIRO includes a fully featured online form submission component called nFORM. System users with appropriate rights may design and maintain online forms through the nFORM Designer which includes the ability to add and remove forms, sections, and controls. Form design features include a large array of user configurable control types, such as text, numeric and date fields, dropdown lists, tables, and many more. Controls and entire sections can be made conditional based on responses elsewhere in the forms. Individual controls can be pre-populated from system information when

							desired, and information entered by the submitter can in turn populate system fields.
90.0	The solution must allow for pre-population of fields based on facility, existing permits and emissions inventory information contained in the system.	Y					Information on construction and operating permit application forms, complaint forms, and compliance report forms, will be pre-populated from system information as needed. For emissions reporting to the SLEIS component, previous annual reports are typically used to pre-populate the current year report to aid the facility user in entering data. Specific fields to be pre-populated can be configured.
Access/Use							
91.0	The solution must allow an AQD user to enter and maintain facility and emissions inventory data outside of a workflow process.	Y					Program users are able to maintain all facility, and emissions inventory data independently of the typical facility user reporting process. Note that agency managed data is tracked separately from facility managed data to ensure CROMERR compliance with data being combined for EPA EIS reporting.
Printing Online Forms							

92.0	The solution must allow an authorized user to print reports on demand from online forms, based on user role. Reports to include, at a minimum: (a) PTI Application (b) ROP Application (c) General PIT Application (d) Asbestos Notification Form (e) Annual Emissions Report	Y					Authorized users are able to print online forms as part of native functionality.
92.1	The solution must allow an authorized user to print blank forms on demand, based on user role. Blank forms to include, at a minimum: (a) PTI Application (b) ROP Application (c) General PTI Application (d) Annual Emissions Report	Y					Authorized users are able to print blank online forms as part of native functionality.
92.3	The solution must maintain synchronization of content between the online form and the printable form if modifications are made to the online forms.	Y					When printing a form, the latest content is used.
Facility and Contact Management							
Facility Information							
93.0	The solution must maintain facility information.	Y					This is a core component of nVIRO. Facilities are called 'Sites' in nVIRO and the nVIRO design is 'Site Centric', meaning core entities (applications, permits, evaluations, compliance actions, projects, etc.) are related to a Site. Also, an nVIRO 'Site' may represent a Site/Facility, Organization, or a Person, each of which may be permitted/licensed in nVIRO. For example a Person may be licensed as an Asbestos Contractor, an

							Organization as a certified Asbestos Training Provider.
93.1	The solution must maintain a system-assigned unique identifier for facilities.	Y					This is a current capability of nVIRO.
93.2	Available facility information fields must include, at a minimum: (a) Name (b) Company (c) Common Name (i.e., nickname) (d) Address(es) (e) Phone Numbers (i.e., mobile, FAX, business) (f) Email (g) County (h) District (i) AQD Staff Assigned (j) Status (k) Contact(s) (l) Registration Status (registered facility or unregistered facility)	Y					This is a current capability of nVIRO.
Existing Facility ID's							

94.0	The solution must support the use of existing Source Registration Numbers (SRN's) that identify registered facilities. Current format of SRN is 5 digit, alphanumeric.	Y					nVIRO supports the definition of any number of alternate numbers/names for facility records. Examples include the eight-digit facility number required by the EPA EIS system, and the eighteen character number used by the EPA ICIS-Air system. The existing SRNs will be migrated from the current system and will be tracked as one of these alternate numbers. nVIRO allows full searching and reporting capabilities for any of these alternate numbers.
94.1	The system must allow for 'unregistered' facilities.	Y					This is a current capability of nVIRO.
Contact Information							
95.0	The solution must maintain contact information.	Y					This is a current capability of nVIRO.
95.1	Available contact information fields must include, at a minimum:	Y					This is a current capability of nVIRO.
	(a) Name						
	(b) Contact Type						
	(c) Company (if applicable)						
	(d) Title						
	(e) Associated Facility(ies)						
	(f) Address(es)						
	(g) Phone Numbers (i.e., mobile, FAX, business)						
	(h) Email						
	(i) Status						
95.2	The solution must support multiple contact types including, at a minimum:	Y					This is a current capability of nVIRO. nVIRO supports multiple a contact to have multiple contact "affiliation types" in relation to the site. 'Affiliation types' may be created by authorized administrative users as global or program specific (e.g., 'Consultant' may be a global affiliation type and 'Emission
	(a) Consultant						
	(b) Responsible Official						
	(c) Compliance Manager						
	(d) Owner						
	(e) Attorney						

	(f) Emissions Inventory Contact (g) Fee Invoice Contact						Inventory Contact' may be program specific.)
95.2.1	The solution must allow a contact to have more than one contact type for a facility (e.g., a contact could be both the Compliance Manager and Owner).	Y					This is a current capability of nVIRO. nVIRO support multiple a contact to have multiple contact types (affiliation types) in relation to the site.
Contact Information Relationships/Hierarchy							
96.0	The solution must associate contacts with facilities (e.g., John Smith, Consultant, is associated with Adams Painting, facility.)	Y					This is a current capability of nVIRO. Contacts may be associated with facilities, applications, permits, compliance actions, inspections, etc.
96.1	The solution must allow a contact to be associated with more than one facility.	Y					This is a current capability of nVIRO.
Address							
97.0	The solution must allow multiple address types (e.g., mailing, billing, location, etc.).	Y					This is a current capability of nVIRO.
98.0	The solution must allow one or more addresses per facility (based on address type).	Y					Sites have one primary address. Additional addresses are supported through multiple contact types. For example, the billing address is specified by the billing contact.
99.0	The solution must allow one or more addresses per contact (based on address type).	Y					This is a current capability of nVIRO.
100.0	The solution must allow a user to enter latitude and longitude associated with an address.	Y					The system automatically derives latitude and longitude based on the address
100.1	The solution must populate latitude and longitude associated with an address using a map and GIS.	Y					The nVIRO Site plan provides the ability to specify the Site Location as a latitude longitude (point), or a polygon, either of which may be drawn on the map by an authorized user. Within the site plan, locations may also be derived by entering the address to position the map for placement of the site location.

100.2	The solution must allow a user to indicate method used to determine latitude and longitude from values maintained in a reference table.	Y					This is a current capability of the nVIRO Site Plan.
County Association							
101.0	The solution must systematically identify the county based on the provided address information.	Y					This is a current capability of nVIRO.
101.1	The solution must systematically identify the district associated with a particular county based on values in a reference table.	Y					This is a current capability of nVIRO.
101.2	The solution must allow a user to override the pre-populated county or district.	Y					This is a current capability of nVIRO.
Historical Information							
102.0	The solution must maintain historical information about a facility to include:	Y					This is a current capability of nVIRO.
	(a) Changes to location information						
	(b) Changes to facility name						
	(c) Changes to contact associations						
103.0	The solution must maintain historical information about a contact to include:	Y					This is a current capability of nVIRO.
	(a) Changes to contact name						
	(b) Changes to contact type						
104.0	The solution must provide a search filter and identify historical values (“also known as”) in search results for:	Y					This is a current capability of nVIRO.
	(a) Facility names						
	(b) Contact names						
Regulatory Information							

105.0	The solution must maintain regulatory information for each facility including at a minimum: (a) EPA Class (b) Fee Category (c) CMS (d) Compliance Status (e) Pollutant category (by program, could be 3-10 programs) (f) Regulations Subject To (includes multiple regulations by part and subpart) (g) 40 CFR 60, 61, 62, 63, State rules 1-1,000	Y					Regulatory information such as that listed here is managed using program components in nVIRO. These program components can be designed to capture and manage any type of regulatory data that may be required for permits, inspections, and enforcement actions. For example, the air program codes required by the EPA ICIS-Air system for these records will be captured at the appropriate level, including the required subparts. Fee categories and types are fully configurable in nVIRO, with fee types being associated with permits as appropriate.
Duplicate Facilities or Contacts							
106.0	The solution must have functionality to prevent duplicate records (i.e., look up of existing facilities or contacts before completing the creation of a new record).	Y					
Maintenance							
107.0	The solution must allow an authorized AQD user to add, edit or remove any facility or contact information.	Y					This is a current capability of nVIRO.
108.0	The solution must allow a facility user to edit specified facility or contact information.	Y					This is a current capability of nVIRO.
109.0	The solution must allow a System Administrator to identify which facility and contact information can be edited by the facility user.	Y					Contact update forms are made available to facility users. The form processor decides which edits to keep/discard.
110.0	The solution must allow an authorized facility user to request an update to facility information or contact information which cannot be edited by the facility.	Y					Contact update forms are made available to facility users. The form processor decides which edits to keep/discard.
110.1	The solution must provide notification to a facility or contact when updates to the	Y					This is a current capability of nVIRO.

	facility or contact information have occurred.						
Permits							
Permit Categories and Types							
111.0	The solution must support multiple permit categories, including at a minimum: (a) Permit to Install (PTI) (b) Renewable Operating Permit (ROP) (c) General Permit to Install	Y					Permit categories are fully configurable by system users with administrative permissions.
112.0	The solution must support multiple permit types within permit categories, including at a minimum: (a) Initial (b) Renewal (c) Modification (d) Seven (7) types of General PTI's	Y					Permit categories are fully configurable by system users with administrative permissions.
113.0	The solution must allow an authorized workflow administrator to configure workflows for each combination of permit category and type.	Y					Workflows are fully configurable by system users with administrative permissions and different workflows can be established for each permit category/permit type.
Permit Application Entry							
Online Input by Facility							
114.0	The solution must allow a facility user to input data to an online application for a permit for: (a) An existing facility	Y					nVIRO includes a fully featured online form submission component called nFORM. Online forms allow for the input of data to the online application and submission to the agency. Both new and existing facilities will make use of these online forms.

	(b) A new facility						
114.1	The solution must allow a facility user to select the permit category.	Y					When applying for a permit, the facility user is guided to selecting the appropriate permit category/type.
114.2	The solution must allow a facility user to select the permit type within permit category.	Y					The permit category and permit type are determined by the program user when selecting and submitting an application.
114.3	The solution must support an interview type experience when filling out a permit application (i.e., based on user responses, fields, drop down values and logic will vary).	Y					The online forms support conditional logic whereby responses to controls or questions can result in the inclusion or exclusion of other questions or form sections.
Online Input by AQD Staff							
115.0	The solution must allow an AQD user to enter application form data on behalf of an applicant (e.g., when paper application is received).	Y					Agency staff are able to complete online form submissions on behalf of an applicant. The paper form can additionally be scanned and attached to the staff established submission.
115.1	The solution must allow an AQD user to record the date a paper application is received.	Y					A data entry field supports the ability to capture the date a application was received.
115.2	The solution must allow an AQD user to enter contact information for a paper application that was received (contact name, phone, email) for purposes of notifications.	Y					Online data entry fields support the ability to capture contact information for a paper application and to subsequently include in notifications.
Work in Progress Application							
116.0	The solution must maintain the work in progress application (i.e., able to save and come back to complete and submit in a later session).	Y					Users may initiate an application and it is automatically saved as a draft. They may return at any time to further the draft or fully complete and submit their application.

116.1	The solution must allow a user to assign an identifying name to a work in progress application.		Y				Application forms support the addition of any fields intended only for internal use/users. An identifying name can be supported this way. This configuration incurs no risk to the solution.
116.2	Minimum inputs to maintain a work in progress application must include: (a) Permit Category (b) Permit Type (c) Facility (d) Application Name (e) Contact Information (f) Email Address	Y					All these data elements are fully supported by nVIRO.
117.0	The solution must complete data validations to confirm the accuracy of fields prior to allowing a user to save the application.	Y					Fields must be valid for the application to be saved. Required fields must be populated for the application to be submitted.
118.0	The solution must allow a facility user to request an application be reviewed by AQD staff prior to submission.	Y					nVIRO supports an internal user manual 'pre-processing' review (with the option of providing feedback to the submitter) for all submissions prior to their acceptance for further processing of the application.
Configure Delete for Work in Progress Applications							
119.0	The solution must allow an authorized System Administrator to set the number of calendar days an unsubmitted or unedited online work in progress application is maintained before the solution deletes the application.	Y					This is a current capability of nVIRO and may be set at the individual form level.

120.0	The solution must allow an authorized System Administrator to set the number of calendar days before the deletion date that an applicant is provided a reminder notification.	Y					The nVIRO notification template designer and email engine support this need.
Delete Work in Progress Application							
121.0	The solution must allow an applicant to delete a work in progress application and all associated attachments that have not been submitted.	Y					Drafts can be deleted by selecting the delete option within the online form submission tool.
122.0	The solution must delete a work in progress application that has not been submitted or edited for an administratively configurable number of days.	Y					After a set period of days (defined at the form level) any unsubmitted applications will be deleted.
Notifications on Deleted Applications							
123.0	The solution must notify the applicant an administratively configurable number of days prior to deleting the work in progress application (i.e., remind the applicant to submit their application before it is deleted).		Y				This reminder would need to be configured as an nVIRO System Actions. The notification template designer and email engine exists today. This configuration incurs no risk to the solution.
123.1	The solution must notify the applicant when an in-process application has been deleted.		Y				The notification template designer and email engine exists today. This configuration incurs no risk to the solution.
Application Submission							
Submit Process							
124.0	The solution must complete data validations to confirm required fields are completed prior to allowing submission of a permit application.	Y					Fields must be valid for the application to save. Required fields must be populated for the application to be submitted.
124.1	The solution must indicate to the submitter which fields failed validation.	Y					Fields that fail validation are clearly marked in order for a user to easily identify and address any concerns.
125.0	The solution must require a Certified Facility User to indicate that a permit application is certified prior to application submission.	Y					Certification can be required for submissions where the submitter acknowledges and electronically signs the application.

125.1	The solution must allow a Certified Facility User to submit an online permit application.	Y					Certified facility users submit and electronically sign application submissions.
126.0	The solution must allow a new facility to request a unique source identification number from AQD staff prior to submitting a completed application.	Y					This is supported by nVIRO. The facility could request this through a form submission. This would not technically be required by nVIRO prior to submitting a completed application, but could be made a requirement for the application form submission if required by AQ business rules.
Workflow Initiation							
127.0	The solution must initiate a workflow when an application has been submitted.	Y					When defining an application process, nVIRO provides the ability to automatically assign a workflow upon submission, or to allow an authorized user to assign the workflow after reviewing the application.
ID							
128.0	The solution must assign and maintain a unique number for each accepted application.	Y					Each application has a submission / application number assigned upon creation.
128.1	Format of application number: [APP]-[calendar year]-[4 digit sequential number] Example: APP-2020-0001		Y				The application submission number is automatically assigned by the system. Submission date is available of the application record for searches, filtering and sorting. However, inclusion of the year can be accommodated with minor customization. This configuration incurs no risk to the solution.
Notifications of Submitted Application							
129.0	The solution must provide notification to an applicant when their permit application has been submitted.	Y					Notifications are established to consistently notify applicants when their submission has been submitted.
129.1	The solution must provide notification to an applicant when a paper permit application has been entered and submitted on their behalf.	Y					This is fully supported by nVIRO.

129.2	The solution must provide notifications to identified AQD recipients based on the permit application category and type and facility location when a permit application has been submitted.	Y					Identified AQD recipients can be notified when a permit application is submitted, which can be done based on various characteristics of the submission.
Multiple Applications							
130.0	The solution must allow an applicant to have more than one active application in process at the same time.	Y					Applicants can have many active applications at a given time.
Application Corrections							
131.0	The solution must allow an applicant to update an online application after it has been submitted (for updates to resolve open or incomplete items), including attaching additional files.	Y					Applicants may select to make changes to an already submitted form. In this instance a new revision of the same submission is established. Staff can compare differences between revisions to easily see what was changed. nVIRO also supports a Correction Request capability where a reviewer / processor may mark any question as needing correction or additional information. The application is then automatically put on hold and the applicant is notified that corrections are needed. The applicant navigates through the items needing correction, making changes or adding comments as necessary, and upon completion, can re-submit their application.
Application Reviews							
Configure Administratively Complete							
132.0	The solution must allow an authorized system administrator to configure administratively complete criteria for an application category and type.	Y					Authorized staff can configure administratively complete criteria.
Review for Administratively Complete							

133.0	The solution must allow an AQD Supervisor to assign an application to an AQD user for review of administratively complete.	Y					Applications may be automatically assigned to workgroups and individual staff (workgroup supervisors or other staff) based upon form and location (county). Reassignment to staff can be made by workgroup supervisor.
133.1	The solution must allow an AQD user to enter comments/notes and attach additional documentation to a permit application.	Y					The system supports the inclusion of comments / notes, issues and correction requests that help a reviewer communicate needed changes with the applicant and colleagues.
Determination of Administratively Complete							
134.0	The solution must allow an AQD user to record if a received permit application is administratively complete or not administratively complete.	Y					Workflow steps and status values are able too indicate that an application is or has been marked as administratively complete or not administratively complete and the date it was deemed administratively complete.
Record Deficiencies							
135.0	The solution must allow an AQD user to record the non-administratively complete content and/or items.	Y					The reviewer is able to mark items that are not administratively complete by inserting correction requests or notes on those items within the application (see 131 above).
135.1	The solution must allow an AQD user to select the items which are incomplete from a pre-populated list.	Y					The solution allows any item in the form-section or individual control to be selected as needing correction. These items may be annotated with notes to explain the deficiency or additional information needed for completeness. When returned to the application, the select items are available to the application for direct navigation to the area of the application in question.
135.2	The solution must allow an AQD user to record when additional information for a non-administratively complete permit application is due.	Y					Internal control items, notes and email messages are all available to communicate and record necessary due dates for applicants to address non-administratively complete items.

135.3	The solution must allow an applicant to submit additional information for a non-administratively complete permit application.	Y					An applicant is able to respond to a non-administratively complete application by establishing and submitting a revised application that addresses the necessary non-administratively complete items.
135.4	The solution must allow an AQD user to record additional information received from an applicant for a permit application (i.e., additional materials or updates received outside of the system related to being administratively incomplete, etc.).	Y					nVIRO provides the ability for applicants to attach any electronic file to a permit application, which is preferable and important when CROMERR is concerned. However, a reviewer also has the ability to upload and attach documentation receive outside of he application process to the application record.
Administratively Incomplete Notifications							
136.0	The solution must notify the applicant a complete list of non-administratively complete content and/or items (one message or document listing all items).	Y					An email is sent from the system with a list of the non-administratively complete items indicated. From this email a user can link directly to their application to address the necessary items via a revision.
136.1	The solution must provide notifications to AQD recipients a complete list of non-administratively complete content and/or items (one message or document listing all items).		Y				Windsor would modify the system to include a notification to internal AQD staff of the same non-administratively complete items that were sent to the applicant. This configuration incurs no risk to the solution.
136.2	The solution must provide notifications to AQD recipients when additional information has been submitted for a non-administratively complete permit application.	Y					Newly submitted revisions will result in the same notifications that occurred for an original submission and AQD staff will therefore be made aware of a revised submission being made.
Administratively Complete Notifications							
137.0	The solution must provide notification to the applicant when a permit application is recorded as administratively complete.	Y					Notifications are sent periodically and certainly when important events such as an administratively complete determination is made, the applicant is notified.
137.1	The solution must provide notifications to AQD recipients when an application is recorded as administratively complete.	Y					Notifications can be sent to program staff when an application is determined to be administratively complete.

137.2	The solution must provide notifications to identified AQD recipients based on the permit application category and facility location.	Y					Applications may be automatically assigned to program staff based upon permit form type and facility location. Notifications are provided upon assignment.
Permit Document Preparation and Review							
Develop Draft Permit Review Documents							
138.0	The system must allow an authorized workflow administrator to configure workflows to support document preparation based on permit category and type (i.e., each permit application category and type has different documents generated for it).	Y					This is a current capability of nVIRO.
139.0	The solution must allow an AQD user to create various permit review documents from templates including, but not limited to:	Y					This is a current capability of nVIRO. Documents may be generated based on document templates, or uploaded.
	(a) Draft Technical Review Document						
	(b) Draft Permit (based on permit category and type)						
	(c) Draft Staff Report Document (based on permit category and type)						
139.1	The solution must auto-populate fields in the permit review documents with facility and permit application information.	Y					This is a current capability of nVIRO, fully supported by user configurable MS Word document templates and full MS Word editing capabilities after generation.
139.2	The solution must auto-populate fields in the permit review documents with standard sections of text that would be applicable to a given permit (e.g., exempt equipment, Maximum Achievable Control Technology, New Source Performance Standards).	Y					This is a current capability of nVIRO, fully supported by user configurable MS Word document templates and full MS Word editing capabilities after generation.
139.3	The solution must allow the AQD user to include data from existing permits into permit review documents.	Y					This is a current capability of nVIRO, fully supported by user configurable MS Word document templates and full MS Word editing capabilities after generation.
Request Additional Reviews							

140.0	The system must allow an authorized workflow administrator to configure workflows to support additional permit application review(s) based on permit category and type. This would include, at a minimum: (a) Modeling requested (b) Toxics review request (c) Public comment period required (d) Public hearing required (e) EPA review period required (f) Peer review (g) Specialist review (h) Supervisor review (i) Secretary review	Y					Ability to add workflows is fully supported by nVIRO. Specific workflow tasks would be defined in a workflow template.
141.0	The solution must allow an AQD user to indicate a permit application requires modeling.	Y					This is a current capability of nVIRO supported through definition of workflow tasks.
142.0	The solution must allow an AQD user to indicate a permit application requires a toxics review.	Y					This is a current capability of nVIRO supported through definition of workflow tasks.
143.0	The solution must allow an AQD user to indicate a permit application requires a public comment.	Y					This is a current capability of nVIRO supported through definition of workflow tasks.
144.0	The solution must allow an AQD user to indicate a permit application requires a public hearing (i.e., definite or 'if requested').	Y					This is a current capability of nVIRO supported through definition of workflow tasks.
145.0	The solution must allow an AQD user to indicate a permit application requires an EPA review period.	Y					This is a current capability of nVIRO supported through definition of workflow tasks.
146.0	The solution must allow an AQD user to indicate which additional peer, specialist or supervisory reviews are needed for a permit application.	Y					This is a current capability of nVIRO supported through definition of workflow tasks.
Request Additional Information							

147.0	The solution must allow an AQD user to indicate that additional information is required from the applicant for a permit application.	Y					nVIRO supports a Correction Request capability where a Reviewer may mark any question as needing correction or additional information. The application is then automatically put on hold and the applicant is notified that corrections are needed. The applicant navigates through the items needing correction, making changes or adding comments as necessary, and upon completion, can re-submit their application.
147.1	The solution must allow an AQD user to enter or update the due date when additional information is required to be returned.		Y				This configuration incurs no risk to the solution.
148.0	The solution must allow an AQD user to indicate additional information has been provided.	Y					Upon completion of a correction request and re-submittal (see 147), the assigned permit processor is automatically notified of the re-submission.
Request Additional Information Notifications							
149.0	The solution must provide notification to an applicant that additional information is required for a permit application.	Y					nVIRO supports a Correction Request capability where a Reviewer may mark any question as needing correction or additional information. The application is then automatically put on hold and the applicant is notified that corrections are needed. The applicant works through the items needing correction, making changes or adding comments as necessary, and upon completion, can re-submit their application.
149.1	The solution must provide additional notifications if information is not received from an applicant by the due date.		Y				This configuration incurs no risk to the solution.
149.2	The solution must provide notifications to AQD recipients when additional information has been attached to a permit application by an applicant.	Y					Upon completion of a correction request and re-submittal (see 147), the assigned permit processor is automatically notified of the re-submission.
AQD Review Cycle							
150.0	The solution must allow a reviewer(s) to record or attach their comments and	Y					This is a current capability of nVIRO.

	recommendations to the permit application.						
151.0	The solution must allow an AQD user to edit application data fields and record username and date of edits.	Y					This is a current capability of nVIRO.
151.1	The solution must require an AQD user to enter comments for any modifications made to the permit application.		Y				Although modification comments can be tracked, they are optional currently, but can be made to be mandatory.
152.0	The solution must allow an AQD user to attach updated documents with feedback received from reviewers.	Y					AQD users may upload documents, however, for the documents to considered part of a CROMERR compliant application, they should be attached by the applicant to the application submission or submission revision.
Technically Complete							
153.0	The solution must allow an AQD user to indicate the date a permit application is technically complete.	Y					This is a current capability of nVIRO.
Applicant Review Cycle							

154.0	The solution must allow an AQD user to indicate a permit application and associated documents are ready for applicant review.	Y					
155.0	The solution must allow an applicant to view the application, attachments, and draft permit documents.	Y					This is a current capability of nVIRO.
155.1	The solution must allow an applicant to provide comments to the permit applications and associated documents.	Y					This is a current capability of nVIRO.
155.2	The solution must allow an AQD user to attach applicant comments received via email.	Y					Applicant comments received via email may be uploaded to an application as a document attachment. However, if this is done via email rather than the form, it would not be considered part of the official CROMERR application. Thus, use of nVIRO's online form revision or correction request capability is encouraged as any comments or attachments provided by the applicant are incorporated into the CROMERR copy of record.

155.3	The solution must clearly indicate any changes to the application made by the applicant.	Y					nVIRO supports a comparison function which allows the processor to easily see any changes made in a form submission revision.
155.4	The solution must allow an applicant to indicate that the review of the application and associated documents is complete.		Y				This configuration incurs no risk to the solution.
156.0	The solution must maintain an 'official' version of the documents that cannot be edited by the applicant.	Y					In the context of applications, based on CROMERR rules, any documents attached to the application cannot be edited by the applicant without submitting a revision. If this is in the context of Agency created permit documents, they are only editable by authorized agency staff based on rules such as workflow assignment and document status.
Review Cycle Notifications							
157.0	The solution must provide notifications to additional reviewers when added to a review work queue.	Y					This is a current capability of nVIRO.
157.1	The solution must provide notifications to an applicant when a permit application and associated documents are ready for review.		Y				This configuration incurs no risk to the solution.
157.2	The solution must provide notifications to AQD when applicant review of a permit application and associated documents is complete.		Y				This configuration incurs no risk to the solution.
Document Updates							
158.0	The solution must allow an AQD user to update the permit documents based on feedback from the public comment period and EPA comment period.	Y					This is a current capability of nVIRO.
Application Outcome							
Application Approval							

159.0	The solution must allow an AQD user to indicate a permit application has been approved.	Y					This is a current capability of nVIRO.
159.1	The solution must allow an AQD user to indicate an application has been denied and indicate the reason for denial.	Y					This is a current capability of nVIRO.
159.2	The solution must allow an AQD user to indicate an application has not been approved and requires modification.	Y					This is a current capability of nVIRO.
Issue Permit							
160.0	The solution must assign and maintain a unique number for each approved permit.	Y					The system will assign a unique business identifier to each permit based on a numbering prefix configured for the relevant permit category/permit type.
160.1	Format of permit number: [SRN]-[calendar year]-[2 digit sequential number]		Y				nVIRO permit numbers are configurable. Typical new permit numbering in nVIRO is in a format of: [PmtCatType]-[Sequence] [Version].[Revision]. This configuration incurs no risk to the solution.

	Example: A0085-2020-01						
Develop Final Permit Documents							
161.0	The system must allow an authorized workflow administrator to configure workflows to support final document preparation based on permit category and type (i.e., each permit application category and type has different final documents generated for it).	Y					This is a current capability of nVIRO.
162.0	The solution must allow an AQD user to prepare final permit documents (e.g., Certification, Permit, Permit Conditions, Staff Report, etc.).	Y					This is a current capability of nVIRO. Supported through document generation or upload and in browser MS Word editing.
162.1	The solution must allow an AQD user to generate a letter to the applicant for an approved permit based on a template.	Y					This is a current capability of nVIRO.
163.0	The solution must allow an AQD user to finalize permit and associated documents.	Y					This is a current capability of nVIRO.
164.0	The solution must generate a .pdf of the finalized permit documents.	Y					This is a current capability of nVIRO.
165.0	The solution must allow a user to print the final permit documents.	Y					This is a current capability of nVIRO.
Notifications of Permit Approval							
166.0	The solution must provide notification to specified AQD users when a permit application has been approved.	Y					This is a current capability of nVIRO.

166.1	The solution must provide notification to an applicant upon permit approval.	Y					This is a current capability of nVIRO.
166.2	The notification to the applicant must include the final permit documents.	Y					A notification is sent to the applicant with a secure link to the documents in the applicant's user account.
Update Public Listing/Information							
167.0	The solution must allow an AQD user to post the finalized permit and associated documents to the AQD website or public access portal.	Y					This is a current capability of nVIRO.
168.0	The solution must allow an AQD user to post updated public facing reports with the issued permit to the AQD website or public access portal.	Y					Any document may be uploaded to the application or permit and made publicly available
Document Versions							
Versioning							
169.0	The solution must maintain the 'original' version of the application and associated documents as submitted by the applicant.	Y					All versions of the application submission and associated documents are maintained and accessible by authorized users. Within the internal application, if the applicant has submitted multiple versions of the application, nVIRO also indicates which documents have changed and which are unchanged
169.1	The solution must maintain a 'current' version of the application and associated documents including any modifications and comments.	Y					This is a current capability of nVIRO.
169.2	The solution must maintain a 'final' version of the application and associated documents at the time the permit is issued.	Y					This is a current capability of nVIRO.
Void a Permit Application							
Request to Void a Permit Application							
170.0	The solution must allow an applicant to request to void their online application prior to final decision.	Y					Applications may be requested to be "Withdrawn" by the applicant. However, the application may only be set to a withdrawn status by an authorized internal user.

170.1	The solution must prevent an applicant from requesting to void their online application based on the status of the application (i.e., after a certain point in the workflow, the application cannot be voided).	Y					This is a current capability of nVIRO today due to 170 above.
Application Voids							
171.0	The solution must allow an AQD user to void an in-process application after request is received from a facility to void the application.	Y					This is a current capability of nVIRO.
171.1	The solution must allow an AQD user to update the application record with notes regarding the application void.	Y					This is a current capability of nVIRO.
171.2	The solution must allow an AQD user to void an application on behalf of an applicant (facility notifies AQD outside of the system).	Y					This is a current capability of nVIRO.
171.3	The solution must maintain supporting documentation with the voided application.	Y					Authorized internal users may upload supporting documentation (e.g., withdrawal request) when withdrawing the application. If desired, the request to withdraw could be configured as a form submission, which would automatically add the request to the application record.
171.4	The solution must maintain a record of the voided application and action to void.	Y					This is a current capability of nVIRO.
171.5	The solution must provide functionality to archive supporting documentation for a voided application after an administratively configurable number of days based on AQD retention policies.		Y				This configuration incurs no risk to the solution.
Notifications for Voided Applications							
172.0	The solution must provide notifications to AQD recipients when a request to void a permit application has been submitted.	Y					If configured as a form, the request to void/withdraw would notify the processor or other designated users.
172.1	The solution must provide notification to the applicant when their permit application has been voided.	Y					This is a current capability of nVIRO.

172.2	The solution must provide notifications to AQD recipients when a permit application has been voided.	Y					This is a current capability of nVIRO.
Void Existing Permits							
Request to Void Existing Permits							
173.0	The solution must allow a facility user to input data to an online form to request to void one or more existing permits.	Y					This is a current capability of nVIRO. A permit termination request form would be submitted by the permittee or other authorized external user.
173.1	The solution must allow a facility user to submit the request to void a permit(s).	Y					This is a current capability of nVIRO. A permit termination request form would be submitted by the permittee or other authorized external user.
173.2	The solution must require a Certified Facility User to indicate that a request to void an existing permit(s) is certified prior to submission.	Y					This is a current capability of nVIRO. A permit termination request form may be configured to require certification consistent with CROMERR rules.
173.3	The solution must allow an AQD user to initiate an action to void an existing permit(s) if facility request is not received.	Y					This is a current capability of nVIRO.
Void Permit							
174.0	The solution must allow a Supervisor to assign a request to void an existing permit(s) to an AQD user.	Y					This is a current capability of nVIRO. A supervisor may assign the request to an AQD user, or the request may be automatically routed via form configuration rules.
174.1	The solution must allow an AQD user to update the status of an existing permit(s) to 'void'.	Y					This is a current capability of nVIRO.
174.2	The solution must require an AQD user to enter comments to an existing permit(s) which has been set to 'void'.	Y					This is a current capability of nVIRO.
Notification of Voided Permits							
175.0	The solution must provide notification to an AQD Supervisor when a request to void an existing permit(s) is received.	Y					This is a current capability of nVIRO. Recipients are configurable by authorized internal users.

175.1	The solution must provide notification to an AQD user when assigned a request to void an existing permit(s).	Y					This is a current capability of nVIRO. Recipients are configurable by authorized internal users.
175.2	The solution must provide notification to a facility when an existing permit(s) has been set to 'void'.	Y					This is a current capability of nVIRO.
Permit Construction Waiver							
Input Permit Construction Waiver							
176.0	The solution must allow a facility user to request a permit construction waiver.	Y					Application forms and service requests are configured as online submission forms using the nVIRO nFORM component. As part of the standard online form configuration will be indication that a given form/report requires certification by a facility user.
176.1	The solution must associate a requested waiver with a permit application.	Y					This is a current capability of nVIRO.
Review Permit Construction Waiver							
177.0	The solution must allow an AQD user to review and edit a permit construction waiver.	Y					Internal users are not able to edit the contents of submitted applications of any type since this would contravene CROMERR regulations concerning Copy of Record maintenance. However, information from a submitted application may be replicated to program component forms for editing by internal users.
178.0	The solution must allow an AQD user to select the outcome of a permit construction waiver.	Y					An internal system user can determine and record the status of a construction waiver or other type of application.
178.1	Outcomes to include: (a) Approved (b) Denied (c) Not Applicable	Y					Final status values are configurable
Permit Construction Waiver Notification							

179.0	The solution must provide notifications to a facility user when the outcome of a permit construction waiver had been determined.	Y					When applications and service requests are designed, notifications can be configured to automatically be sent when decisions have been made. In addition, workflows can be configured and assigned to each type of application form submission. it is possible to configure notifications to be sent as processing workflow steps are assigned, due, late, or completed.
179.1	The solution must provide a method for a facility to indicate they agree to the conditions outlined in the waiver.	Y					This will be achieved by requiring the facility user to positively accept the conditions of an electronic submission.
Renewal Operating Permit – Renewal Process							
Expiration Notice							
180.0	The solution must notify a facility an administratively configurable number of days prior to the expiration of an existing ROP.	Y					The system will automatically detect that a permit has reached expiration without a renewal application having been received and can be configured to issue notifications to both internal and external users. Permit renewal notifications are typically configured to be sent well in advance of an expiration date, for example 180 days before.
180.1	The solution must allow an authorized System Administrator to set the number of calendar days prior to the expiration.	Y					The number of days before expiration on which to send a renewal notification can be configured, along with the text of the notification message. Multiple reminder notifications can be configured by the system administrator.
Workflow Initiation							
181.0	The solution must initiate a workflow when an ROP has expired.	Y					Processing workflows can easily be configured in the system and multiple workflows may be associated with a given application, including expiration or closure workflows.
Status							

182.0	The solution must allow an AQD user to indicate that an ROP is past expiration date but an administratively complete application for renewal has been received.	Y					The system will automatically detect that a permit has reached expiration without a renewal application having been received and can be configured to issue notifications to both internal and external users. Permit renewal notifications are typically configured to be sent well in advance of an expiration date, for example 180 days before.
Notification of ROP Expiration							
183.0	The solution must provide notifications to AQD recipients when an ROP is past expiration and an administratively complete renewal application has not been received.	Y					When applications and service requests are designed, notifications can be configured to automatically be sent when a report is due, late, or submitted to both internal and external users. In addition, workflows can be configured and assigned to each type of application form submission. it is possible to configure notifications to be sent as processing workflow steps are assigned, due, late, or completed.
Portable Sources							
Portable Sources							
184.0	The solution must support maintaining and tracking portable sources.	Y					Portable sources will be tracked as a typical site record with associated ownership and other contact information, permits, compliance reports, inspections, and other information.
184.1	The solution must assign a unique identifier to the portable source.	Y					Each site is given a unique identifier in nVIRO. In addition, alternative names/numbers may also be assigned to any site, including state and EPA source numbers, e.g., MI00000000000Annnn
184.2	The solution must allow an AQD user to indicate the “status’ of a portable source (i.e., dormant, operating, permanently closed, seasonal, etc.).	Y					Detailed information about the operation of the portable source will be maintained using a program component form that will be designed for the purpose. This will include the operating status of the source, the emission units, the locations and timeframes.

184.3	The solution must allow a portable source to be associated with an owner of the equipment.	Y					Portable sources will be tracked as a typical site record with associated ownership and other contact information, permits, compliance reports, inspections, and other information.
185.0	The solution must allow for a portable source to be a single source (an emissions unit) or a group of sources (multiple emissions units).	Y					Detailed information about the operation of the portable source will be maintained using a program component form that will be designed for the purpose. This will include the operating status of the source, the emission units, the locations and timeframes.
185.1	The solution must allow for individual emissions units to be added to or removed from a group of portable sources.	Y					Component form information for a portable source can be edited by any internal user with edit permissions
186.0	The solution must allow an AQD user to review and update portable source information.	Y					Component form information for a portable source can be edited by any internal user with edit permissions
187.0	The solution must allow for a portable source to be located at an existing facility or at an unregistered facility with or without an address.	Y					Portable sources and other types of facility are not required to have a location address
187.1	The solution must maintain the current and all historical locations of a portable source.	Y					Detailed information about the operation of the portable source will be maintained using a program component form that will be designed for the purpose. This will include the operating status of the source, the emission units, the locations and timeframes.
187.2	The solution must maintain the dates that a portable source was in a specific location.	Y					Detailed information about the operation of the portable source will be maintained using a program component form that will be designed for the purpose. This will include the operating status of the source, the emission units, the locations and timeframes.
187.3	The solution must allow a user to select the location of a portable source from a map.	Y					The component form can include a map control for locating the source.

187.4	The solution must allow an owner to enter a Relocation Notice for a portable source to indicate a 'new' location for the portable source.	Y					Relocation notices will be configured as online submission forms using the nVIRO nFORM component, and will be processed by internal staff to record the new location of a portable source.
188.0	The solution must allow for a permit to be associated with a portable source or group of sources.	Y					Portable sources will be tracked as a typical site record with associated ownership and other contact information, permits, compliance reports, inspections, and other information.
Notification of Portable Source Relocation							
191.0	The solution must provide notifications to AQD recipients when a Relocation Notice has been submitted.	Y					When applications and service requests are designed, notifications can be configured to automatically be sent when a report is due, late, or submitted to both internal and external users. In addition, workflows can be configured and assigned to each type of application form submission. it is possible to configure notifications to be sent as processing workflow steps are assigned, due, late, or completed.
Search for Portable Sources							
192.0	The solution must allow for an AQD user to search for portable sources by various criteria, including location.	Y					nVIRO includes comprehensive tabular and map-based search capabilities. The Explorer map-based search component will allow the user to search spatially using a map, including the ability to zoom to specific locations using an address, latitude/longitude pairs, or Public Land Survey Information.
Inspections							
Identify Facilities for Potential Inspection							
193.0	The solution must provide the ability to generate a targeted inspections report for stationary source facilities or portable sources based on numerous factors including, at a minimum: (a) District (b) EPA Class	Y					nVIRO's Inspection Planning module provides functionality to build targeted lists based on system data and schedule inspections based on the list. Custom targeting lists are built as nVISAGE reports which are then used to identify sites input to the inspection planner.

	(c) Calendar Year						
	(d) Regulations Facility is Subject To						
	(e) Staff Member						
	(f) Facility Type						
194.0	The solution must generate a targeted inspections report for asbestos compliance monitoring which calculates target points based on factors and weights maintained in the asbestos targeting factors table.		Y				See 193 above. Configuration will be required to incorporate the targeting factors table. This configuration incurs no risk to the solution.
194.1	Asbestos Targeting report is calculated and generated by:	Y					See 193 above.
	(a) Start Date						
	(b) End Date						
	(c) District						
	(d) City						
	(e) County						
	(f) Contractor Type						
195.0	The solution must generate a report of dry cleaning facilities that have not been inspected during the current fiscal year to select for an upcoming inspection.	Y					See 193 above.
Select Facilities for Inspection							
196.0	The solution must allow an AQD user to select facilities required for stationary source inspection.	Y					Using nVIRO' Inspection Planning module, nVIRO users can select facilities for inspections/type from the targeting list returned. The inspection planner can assign the type of inspection inspector and target completion date/quarter. The same functionality is available when planning inspections at the individual site/inspection level.
196.1	The solution must allow an AQD user to select the inspection type and inspection sub-type for a stationary source inspection.	Y					See 196 above

196.2	The solution must allow a District Supervisor to assign a stationary source inspection to an Inspector.	Y					See 196 above
197.0	The solution must allow an Inspector to select a facility and/or contractor for asbestos inspection.	Y					See 196 above
197.1	The solution must allow an Inspector to select the inspection type and inspection sub-type for an asbestos inspection.	Y					See 196 above
197.2	The solution must provide the ability to relate up to 3 entities to a single asbestos inspection (i.e., building owner, contractor, government entity).	Y					nVIRO permits the assignment of up to 3 entities to the inspection.
198.0	The solution must allow an Inspector to select a dry cleaning facility for inspection.	Y					See 196 above
198.1	The solution must allow an Inspector to select the inspection type for a dry cleaning inspection.	Y					See 196 above
Workflow Initiation							
199.0	The solution must initiate a workflow when a facility or contractor has been selected for inspection.	Y					Workflows based on customer defined templates are initiated when inspections are initiated (e.g. tasks might include - Gather sampling equipment, Complete Chain of Custody...)
Notification of Inspection Assignment							
200.0	The solution must provide notification to an Inspector when a stationary source inspection has been assigned.	Y					On scheduling of an inspection, it will show up as a to do in the inspector My Tasks list. Visual indicators are provided as the inspection comes due and if late.
Inspection Dates							
201.0	The solution must allow an Inspector to record the date of an onsite or offsite inspection.	Y					nVIRO permits the recording of scheduled AND actual inspection dates.
Input Inspection Information							

202.0	The solution must allow an Inspector to enter or select information related to an inspection such as compliance status, inspection contact, rules/regulations evaluated, equipment evaluated, etc.).	Y					nSPECT is Windsor's mobile inspection data collection tool. This tool runs on both tablets in the field and desktops for use in the office. It provides capabilities to design and develop inspection data collection forms with form controls. This may be done by trained staff. Windsor has base forms to bring to the table from other clients or forms will be produced to address the AQD's needs.
202.1.0	The solution must support an interview type experience when filling out inspection information (i.e., based on inspection type selected, the fields, drop down values and logic will vary).	Y					See 202 above. nSPECT supports the ability to have "interview" like format and drive question/section display based on form responses e.g Does this facility have an air scrubber ? A response of Yes results in a new form section appearing with additional questions being rendered - which in an of themselves can have additional conditional logic.
202.2	The solution must allow an Inspector to record the date an inspection or compliance activity was conducted.	Y					See 202 above.
202.3	The solution must allow an Inspector to capture geospatial data related to the inspection (i.e., lines, points and polygons related to inspection notes and/or activities).	Y					The inspector is able to track multiple point locations using the mobile device and these can be used to define different types of spatial extent
202.4	The solution must allow an Inspector to add inspection or compliance activity items to an active inspection (i.e., add a new piece of equipment discovered while conducting the inspection).	Y					nSPECT supports the addition of items discovered during and inspection. This can be accomplished in several different ways: Add new forms (e.g. Boiler Form) to the inspection, or the use of tables controls that support the addition of new lies for data collection and lastly through the use of repeating sections - which support unlimited (or limited) addition of new sections of questions .
202.5	The solution must allow an Inspector to add notes and comments associated with the inspection or compliance activity.	Y					This is a current capability of nVIRO.

Finalize Inspection							
203.0	The solution must allow an Inspector to record the outcome of an inspection or compliance activity.	Y					This is a current capability of nVIRO
203.1	Inspection outcomes must include, at a minimum: (a) Compliant (b) Non-Compliant (violation found)	Y					This is a current capability of nVIRO
203.2	The solution must allow an Inspector to enter specific violation information (i.e., violation type, rule violated, pollutants, etc.)	Y					This is a current capability of nVIRO
203.3	The solution must allow an Inspector to record any minor items that result from an inspection.	Y					This is a current capability of nVIRO
203.4	The solution must allow an Inspector to record minor or self-corrected inspection items as resolved.	Y					This is a current capability of nVIRO
203.5	The solution must allow an Inspector to indicate that a referral has been made to another SOM agency.	Y					This is a current capability of nVIRO
Inspection/Activity Report							
204.0	The solution must allow an Inspector to create a draft Inspection/Activity Report from a template containing inspection information entered in the inspection record.	Y					This is a current capability of nVIRO.
204.1	The solution must support Inspection/Activity Report templates with variables that contain standard sections of text applicable to an inspection item.	Y					This is a current capability of nVIRO.
204.2	The solution must allow an Inspector to add comments to an Inspection/Activity Report.	Y					This is a current capability of nVIRO.
204.3	The solution must allow an Inspector to edit an Inspection/Activity Report prior to finalization.	Y					This is a current capability of nVIRO.
205.0	The solution must allow an Inspector to indicate an Inspection/Activity Report is ‘complete and final’.	Y					This is a current capability of nVIRO.

205.1	The solution must prevent edits to a finalized inspection and Inspection/Activity Report.	Y					This is a current capability of nVIRO.
206.0	The solution must allow an Inspector to send final Inspection/Activity report to facility.	Y					This is a current capability of nVIRO.
Review and Approval							
207.0	The solution must allow an Inspector to indicate an Inspection/Activity Report is ready for Supervisor review and comment.	Y					Review and approval are managed in nVIRO through the implementation of process specific workflow templates. Templates allow the agency to customize their flows specific to the activity types e.g., two different inspections reviews could have different workflows
207.1	The solution must allow an Inspector to indicate an Inspection/Activity Report is ready for Supervisor approval.	Y					This is a current capability of nVIRO.
Notifications for Inspection Review and Approval							
208.0	The solution must provide notification to the Supervisor when an Inspection/Activity Report has been forwarded for review.	Y					This is a current capability of nVIRO. See 207 above.
208.1	The solution must provide notification to the Inspector when Supervisor has reviewed an Inspection/Activity Report.	Y					This is a current capability of nVIRO.
208.2	The solution must provide notification to the Inspector when Supervisor has approved an Inspection/Activity Report.	Y					This is a current capability of nVIRO.
208.3	The solution must provide notification to a facility that an Inspection/Activity Report has been completed.	Y					This is a current capability of nVIRO.
Issue Dry Cleaning License							
Generate License							

209.0	The solution must provide the ability to generate a dry cleaning license for a facility where annual inspection has been conducted and license fee has been paid.	Y					Application forms and service requests are configured as online submission forms using the nVIRO nFORM component. Initial and renewal dry cleaner registration forms will be configured in this way. Agency users will process submitted registration forms through a configurable set of workflow steps, and these steps will include verification of fee payment, whether electronically through the system, or through receipt of payment outside of the system. The agency user will also be able to review the inspection history for the facility and/or request an inspection be conducted if required.
209.1	The solution must provide the ability to print a dry cleaning license based on a template.	Y					Document templates can be configured for a variety of purposes, including permits, registrations, letters, supporting documents such as a statement of basis, and various other types of document that may be generated through the typical processing of applications and registrations. Dry cleaning licenses will be configured in this way and may be printed and mailed, or made available electronically to the applicant through the system.
Violation Notices							
Create Violation Notice							
210.0	The solution must allow an Inspector to create a violation record and select one or more violation types.	Y					This is a current capability of nVIRO.
210.1	The solution must support multiple violation types.	Y					This is a current capability of nVIRO.
211.0	The solution must allow an Inspector to create a Violation Notice based on a template.	Y					This is a current capability of nVIRO.
211.1	The solution must support multiple Violation Notice templates based on violation type.	Y					This is a current capability of nVIRO.

211.2	The solution must allow a facility or contractor to respond to a violation notice.	Y					This is a current capability of nVIRO.
212.0	The solution must monitor for facility response to a Violation Notice.	Y					This would be accomplished by adding a compliance schedule to the violation notice, requiring the responsible party to respond via a compliance report.
212.1	The solution must allow an Inspector to update the violation record with the facility response to a Violation Notice.	Y					The agency inspector/compliance person can accomplish this through a variety of means, such as submitting a compliance report on behalf of the responsible party or recording events (date-based comments) on the violation notice
212.2	The solution must set the due date for a facility response to a violation, based on an administratively configured number of days.	Y					Compliance schedules can be assigned a due date. Reminders can be configured to be sent as due dates approach.
212.3	The solution must allow an Inspector to update the due date for facility response to a Violation Notice.	Y					This is a current capability of nVIRO.
212.4	The solution must allow an AQD user to mark a violation notice as resolved.	Y					This is a current capability of nVIRO.
212.5	The solution must allow an AQD user to post the Violation Notice to the AQD website or public access portal.	Y					This is accomplished through integration with the nSITE Explorer product, which allows the public to search for regulatory information on sites of interest, including permits, compliance actions, and published documents.
Notification of Violation Notice							
213.0	The solution must provide notification to a facility of a Violation Notice.	Y					This is a current capability of nVIRO.
213.1	The solution must provide additional notifications to facilities an administratively configured number of days if no or a partial response to a Violation Notice is received.	Y					This is a current capability of nVIRO.
Full Compliance Evaluation (FCE) Process							
214.0	The solution must allow an Inspector to identify a facility for a full compliance evaluation.	Y					This is accomplished through the Inspection Planning screen

214.1	The solution must allow an Inspector to enter a completion date for FCE.	Y					Each inspection must include a Scheduled Date, indicating the date the inspection is anticipated to take place
214.2	The solution must allow an Inspector to define the FCE review period.	Y					This is accomplished by defining inspection workflow templates that set due dates for various assignable tasks
215.0	The solution must summarize and identify all individual compliance activities and partial compliance evaluations that are included in FCE for a given time period into an FCE Summary Report.	Y					The FCE itself is envisioned to be a type of inspection, and can link in all of the other evaluations performed at the facility that were reviewed as part of the FCE. The FCE Summary Report can be based on a configurable Document Template, and editable by the FCE reviewer in the browser-based Word editor.
215.1	The solution must allow a System Administrator to define activities that will be available for the FCE Summary Report.	Y					Evaluations available for selection are limited to those that have taken place for the facility on which the FCE is taking place.
215.2	The solution must generate an FCE Summary Report based on user entered dates and activities.	Y					FCE Summary Report can contain data based on linked inspections and/or events added to the FCD evaluation
216.0	The solution must allow an AQD user to post the FCE to the AQD website or public access portal.	Y					nSITE Explorer displays only those inspections and inspection/evaluation reports that have been completed/published.
Enforcement Initiation							
Create Enforcement Referral							
217.0	The solution must allow an Inspector to create an enforcement referral based on a template.	Y					This is a current capability of nVIRO.
Workflow Initiation							
218.0	The solution must initiate a workflow when a facility or contractor is identified for enforcement.	Y					This is a current capability of nVIRO.
218.1	The workflow must be specific to the program (i.e., stationary source will have a different workflow than asbestos).	Y					This is a current capability of nVIRO.
Notification of Enforcement Referral							

219.0	The solution must provide notification to the Enforcement Unit when an enforcement referral is created.	Y					This is a current capability of nVIRO.
Review Enforcement Referral							
220.0	The solution must allow a Supervisor to assign an enforcement referral to an Enforcement Unit user.	Y					This is a current capability of nVIRO.
Enforcement Case							
Create Enforcement Case							
221.0	The solution must allow an Enforcement Unit user to create an enforcement case from an enforcement referral.	Y					Enforcement and Case Management are a standard feature of nVIRO and are managed in the Compliance and Enforcement Actions module.
221.1	The solution must allow an Enforcement Unit user to close an enforcement referral without creating an enforcement case.	Y					This is a current capability of nVIRO.
221.2	The solution must allow an Enforcement Unit user to create an enforcement case without receiving an enforcement referral.	Y					This is a current capability of nVIRO.
221.3	The solution must allow an Enforcement Unit user to select the enforcement type.	Y					This is a current capability of nVIRO.
221.3.1	Available enforcement types must include: (a) Stationary source (b) Dry cleaning (c) Asbestos	Y					This is a current capability of nVIRO.
222.0	The solution must allow one or more Violation Notices to be associated with an enforcement case.	Y					This is a current capability of nVIRO.
223.0	The solution must identify facilities, owners, or contractors associated with an enforcement case.	Y					This is a current capability of nVIRO.
223.0.1	The solution must support two or more facilities, owners, or contractors on an enforcement case (i.e., both the contractor and the building owner are	Y					This is a current capability of nVIRO.

	responsible parties, or one company has multiple plants).						
223.1	The solution must allow notes and comments to be maintained for an enforcement case (i.e., track communications, scheduled meetings/hearings, referrals, etc.).	Y					This is a current capability of nVIRO. Communications, meetings, hearings.... are all managed through event logs that are an attribute of every enforcement action/case. Events will also permit the staff person to associate documents stored in the document management system (CM9) to the, for example meeting event log, for reference.
223.2	The solution must provide the ability to track milestone dates associated with enforcement cases.	Y					All enforcement actions/cases can have an associated compliance schedule. The compliance schedule has milestones that will show up in both the staff members - My Tasks screen and the regulated entity's reporting portal. The regulated entity will receive additional notifications as items come due/past due. These compliance schedule items are also integrated with the document templates /generation for rendering them in enforcement/case documents.
Workflow Initiation							
224.0	The solution must initiate a workflow when an enforcement case is created.	Y					This is a current capability of nVIRO.
224.1	The workflow must be specific to the enforcement type (i.e., stationary source, asbestos or drying cleaning will have different workflows).	Y					This is a current capability of nVIRO.
Status							
225.0	The solution must maintain and clearly display the current status of an enforcement case.	Y					This is a current capability of nVIRO.
225.1	The solution must clearly display the final outcome of an enforcement case.	Y					This is a current capability of nVIRO.
Enforcement Notice							

Enforcement Notice							
226.0	The solution must allow an Enforcement Unit user to create an Enforcement Notice from a template.	Y					Enforcement and Case Management are a standard feature of nVIRO and are managed in the Compliance and Enforcement Actions module. Enforcement Notices are generated using document templates.
226.1	The solution must allow an Enforcement Unit user to attach an Enforcement Notice created outside of the system.	Y					Externally generated documents such as Enforcement Notices or letter of responses from parties to the case, can be uploaded to the document management module of nVIRO (CM9). All documents uploaded into nVIRO are stored related to the item for with they were created. For example an enforcement action record will have all its associated documents, letters, supporting evidence associated; a permit application record will have all its associated supporting documentation associated to it as well.
226.2	The solution must allow one or more Enforcement Notices to be associated with an enforcement case.	Y					This is a current capability of nVIRO.
226.3	The solution must maintain the date of issuance of the Enforcement Notice.	Y					This is a current capability of nVIRO.
227.0	The solution must allow a facility or contractor to respond to an Enforcement Notice.	Y					This is a current capability of nVIRO.
227.1	The solution must monitor for facility response to an Enforcement Notice.	Y					This is a current capability of nVIRO.
228.0	The solution must allow an Enforcement Unit user to identify violations as High Priority Violations (HPV) per EPA's HPV policy.	Y					This is a current capability of nVIRO.
228.1	The solution must allow additional dates and deadlines for violations identified as HPV.	Y					Dates and deadlines are managed through compliance schedules associated to compliance and enforcement actions and their linked violations.

Notification of Enforcement Notice							
229.0	The solution must provide notification to a facility or contractor when an Enforcement Notice has been issued.	Y					Enforcement Actions such as Enforcement notices will be made available through the facility or contractors Portal. They will have access to the document once the agency publishes/releases the Enforcement Notice to the portal. They receive notification and notification mechanisms are managed by the facility/contractor
Administrative Consent Order and Administrative Fine Order Processes							
Workflow							
230.0	The solution must allow an authorized workflow administrator to configure workflows for enforcement notice actions.	Y					This is a current capability of nVIRO.
230.1	Enforcement notice actions must include, at a minimum: a) Administrative Consent Order process b) Administrative Fine Order process	Y					This is a current capability of nVIRO. Consent orders are be implemented in nVIRO as Compliance Action records. Compliance actions may be informal, such as a warning/deficiency notice, or formal, such as consent order.
Settlement Process							
231.0	The solution must allow an AQD user to input information related to the settlement process.	Y					This is a current capability of nVIRO.
231.1	The solution must allow an AQD user to input a settlement ID.	Y					This is a current capability of nVIRO.
232.0	The solution must allow an AQD user to enter the amount of the enforcement penalty as a result of the settlement process.	Y					This is a current capability of nVIRO.
232.1	The solution must allow a payment plan to be set up for an enforcement penalty.	Y					This is a current capability of nVIRO.

Document Preparation and Review							
233.0	The solution must allow an AQD user to create or attach documents supporting an enforcement action including, but not limited to: a) Proposed Administrative Consent Order b) Public Comment Administrative Consent Order c) Enforcement Summary d) Final Administrative Consent Order e) Draft Administrative Fine Order f) Final Administrative Fine Order	Y					This is a current capability of nVIRO. These documents may be created as document templates and then generated based on the type of consent order.
Dates							
234.0	The solution must maintain dates that any documents related to an enforcement action are forwarded to the Department of the Attorney General for review.	Y					This would be configured as an Event on the consent order compliance action, Events may record an event / action type, date, by whom, comments, and related (linked) documents.
234.1	The solution must maintain dates that any documents related to an enforcement action are forwarded to a facility.	Y					When a consent order is issued, nVIRO automatically sends a notification to desired parties. Documents associated with the consent order are made available to the permittee/authorized external users on the external My Account site. If documents are also physically mailed, it could be recorded as an Event on the consent order.
234.2	The solution must maintain dates that any documents related to an enforcement action are forwarded to AQD Management for signature.	Y					This could be configured as either a Workflow Task assigned to AQD management in the system, or as an Event on the compliance action consent order.

234.3	The solution must maintain dates that any documents related to an enforcement action have been received from a facility.	Y					Typically documents that a facility needs to submit in conjunction with a compliance action are configured by the compliance staff as a related compliance schedule. Compliance schedules are displayed on the facility's My Account Dashboard, and email notifications of upcoming (due) submissions, or late submissions are automatically. The facility selects the due schedule uploading the document as necessary. The submission date is automatically recorded. Internal compliance staff are automatically notified of the submission and assigned a workflow task for review and approval.
234.4	The solution must track the termination date of an Administrative Consent Order or Administrative Fine Order.	Y					This is a current capability of nVIRO.
Final Documents							
235.0	The solution must allow an AQD user to attach scanned and notarized versions of enforcement action documents.	Y					This is a current capability of nVIRO.
235.1	The solution must allow users to print final versions of enforcement actions documents.	Y					This is a current capability of nVIRO.
Notifications							
236.0	The solution must provide notifications to a facility that an enforcement action document is available for signature (e.g., Administrative Consent Order, Administrative Fine Order).		Y				This configuration incurs no risk to the solution.
Referrals to Department of Attorney General							
237.0	The solution must allow an Enforcement Unit user to indicate that an enforcement case has been referred to the Department of the Attorney General for settlement or litigation.	Y					This is a current capability of nVIRO.
237.1	The solution must provide the ability to track the date of referrals to the Department of the Attorney General.	Y					This is a current capability of nVIRO.

237.2	The solution must provide the ability to track major milestones and associated dates of the settlement or litigation process.	Y					These would be tracked workflow tasks, events or a combination of both.
237.3	The solution must allow an Enforcement Unit user to attach final settlement agreements or court orders that result from the settlement or litigation process.	Y					This is a current capability of nVIRO.
Environment Protection Agency (EPA) Enforcement Cases							
238.0	The solution must allow an Enforcement Unit user to indicate that an enforcement case has been referred to the Environment Protection Agency (EPA).	Y					This is a current capability of nVIRO.
238.1	The solution must provide the ability to track the date of referrals to the Environmental Protection Agency (EPA).	Y					These would be tracked as events on the compliance action.
238.2	The solution must provide the ability to track dates associated with EPA-initiated cases.	Y					These would be tracked as events. Alternately, an administrator could configure a 'program component' to capture dates for EPA cases.
238.3	The solution must provide the ability to track major milestones and associated dates of the EPA settlement or litigation process.	Y					These would be tracked as events. Alternately, an administrator could configure a 'program component' to capture dates for EPA cases.
238.4	The solution must allow an Enforcement Unit user to attach final settlement agreements or court orders that result from the EPA settlement or litigation process.	Y					This is a current capability of nVIRO.
Termination of Consent Order							
239.0	The solution must monitor for the termination date of a Consent Order.	Y					This is a current capability of nVIRO.
240.0	The solution must allow a facility or contractor user to request that a Consent Order be terminated.	Y					This is a current capability of nVIRO.

240.1	The solution must allow an AQD user to indicate that a Consent Order can be terminated after AQD review, termination date has been reached and request from facility has been received.	Y					This may be indicated in the Compliance Action comments, the consent order document, or in a program component.
241.0	The solution must allow an AQD user to create a Termination Letter based on a template.	Y					This is a current capability of nVIRO.
241.1	The solution must update the status of an enforcement case when a Termination Letter has been sent.	Y					The user / compliance officer would update the status as part of the workflow task to generate the termination letter. The system does not assume that generation / finalization of a particular document should automatically terminate/close a compliance action.
Approval for Consent Order Termination							
242.0	The solution must allow a Division Director to review and approve a request to terminate a Consent Order, when required.	Y					This can be accomplished by assigning a workflow task and marking that the task complete.
Notification of Consent Order Termination							
243.0	The solution must provide notification to the facility a configurable number of days prior to the projected termination date of a Consent Order.	Y					This is a current capability of nVIRO.
243.1	The solution must provide notification to AQD recipients a configurable number of days prior to the projected termination date of a Consent Order.	Y					This is a current capability of nVIRO.
243.2	The solution must provide notification to AQD recipients when a facility has submitted a request to terminate a Consent Order.	Y					This is a current capability of nVIRO.
243.3	The solution must provide notification to the facility that a Termination Letter has been generated.	Y					This is triggered by the update of the status of the compliance action, which would be performed in conjunction with the generation of the Termination Letter.
243.4	The solution must provide notification that a Consent Order is past its termination date.	Y					This is a current capability of nVIRO.

Supplemental Environmental Projects (SEP's)							
248	The solution must allow an Enforcement Unit user to add one or more Supplemental Environmental Projects (SEP's) to an enforcement case.	Y					SEP information for an enforcement action will be managed using Component Forms
248.1	The solution must track milestones, costs, and completion of SEP's.	Y					SEP information for an enforcement action will be managed using Component Forms
Enforcement Compliance Monitoring							
249.0	The solution must allow an AQD user to update an enforcement case with on-going notes and compliance information.	Y					This is a current capability of nVIRO.
249.1	The solution must track dates and milestones associated with on-going compliance monitoring.	Y					These would be tracked as events or schedules of compliance.
250.0	The solution must allow an AQD user to create a Violation Notice if a facility has not complied with an Administrative Consent Order.	Y					This is a current capability of nVIRO.
251.0	The solution must allow an Enforcement Unit user to enter the amount of a stipulated penalty if a facility has not complied with an Administrative Consent Order.	Y					This is a current capability of nVIRO.
Complaints							
Complaint Submission							
270.0	The solution must allow a non-authenticated public user to enter complaint information online.	Y					This is a current capability of nVIRO.
270.1	The solution must allow an AQD user to enter complaint information on behalf of a complainant (i.e., complaint received via phone call, email, or letter).	Y					This is a current capability of nVIRO.
270.2	The system must allow previously entered complainant information to be selected when a new complaint is entered by an AQD user.	Y					This is a current capability of nVIRO.
270.3	Complaint information must include, at a minimum: (a) Submitter name	Y					This is a current capability of nVIRO.

	(b) Submitter contact information						
	(c) Location of source of pollutant						
	(d) Date and time of occurrence						
	(e) Health effects experienced due to pollutant						
	(f) Comments						
270.3.1	The solution must allow options for public user to enter location information:	Y					This is a current capability of nVIRO.
	(a) Select point, line, or polygon on a displayed GIS map location						
	(b) Enter street address, city, county						
	(c) Enter facility name						
	(d) Enter latitude and longitude						
271.0	The solution must complete data validations to confirm required fields are completed prior to allowing submission of complaint.	Y					This is a current capability of nVIRO.
271.1	The solution must allow a non-authenticated public user to submit an online complaint from a mobile device.	Y					This is a current capability of nVIRO.
Workflow Initiation							
272.0	The solution must initiate a workflow when a complaint is submitted.	Y					This is a current capability of nVIRO.
Notifications							
273.0	The solution must provide notifications to identified AQD recipients based on facility location when a complaint is submitted.	Y					Submissions can be routed to the correct staff/workgroup based on county.
273.1	The solution must provide notification to the complainant upon complaint submission (given an email address was provided by the complainant).	Y					This is a current capability of nVIRO.
Assignments							
274.0	The solution must allow a District Supervisor to assign a complaint to an AQD user.	Y					This is a current capability of nVIRO.

Complaint Review							
275.0	The solution must allow an AQD user to view and edit submitted complaint information.	Y					This is supported, provided the user has created an account prior to initiating the complaint submission. An anonymously-submitted complaint cannot be revised because the submitter is not known to the system.
275.1	The solution must allow an AQD user to enter additional information regarding the complaint as part of the review process.	Y					This is a current capability of nVIRO.
275.2	The solution must allow an AQD user to copy information from a previous complaint record to a new complaint.	Y					This is a current capability of nVIRO.
275.3	The solution must allow an AQD user to associate multiple complaints received into a single complaint record (i.e., 10 complaints are received for the same issue at the same facility).	Y					Complaints can be related to one another by assigned a common "Incident Identifier" under which all complaints are grouped
276.0	The solution must allow an AQD user to associate a complaint to an existing facility or contractor record (i.e., received complaint is initially associated with a location rather than a facility).	Y					This is a current capability of nVIRO.
276.1	The solution must allow an AQD user to create a new facility record and associate that facility with a complaint record.	Y					A facility record is created as a placeholder if one is not selected in advance of starting the complaint. The complaint can be moved to another site during processing if the related complaint site needs to change, or the sites can be merged.
276.2	The solution must allow an AQD user to ‘reassign’ a complaint to a different facility.	Y					This is a current capability of nVIRO.
277.0	The solution must allow an AQD user to update the status of a complaint.	Y					This is a current capability of nVIRO.
278.0	The solution must allow an AQD user to create a compliance activity record for a complaint.	Y					This is a current capability of nVIRO.
Complaint Resolution							

279.0	The solution must allow an AQD user to select the resolution of a complaint, with comments.	Y					This is a current capability of nVIRO. Resolution Types are configurable.
279.1	The solution must allow an AQD user to unresolve a complaint that was previously marked as resolved.	Y					Any submission, including complaints, can be set back to In Process by authorized staff in the event it needs to be reopened
280.0	The solution must allow an AQD user to create a complaint report from a template.	Y					This is a current capability of nVIRO.
281.0	The solution must allow an AQD user to download complaint information and attachments to send to another agency or department for resolution.	Y					This is a current capability of nVIRO. nVIRO makes it very easy to download PDF versions of the original complaint, all attachments, and additional documents as needed into a single ZIP file for easy relaying to other agencies or departments
281.1	The solution must allow an AQD user to track dates and resolution associated with a complaint that was referred to another agency or department.	Y					This is a current capability of nVIRO.
282.0	The solution must allow a user to publish complaint information to the AQD website or other public access portal.	Y					This is a current capability of nVIRO.
Emissions Inventory							
Emissions Inventory							
283.0	The solution must maintain an inventory of emissions devices per facility.	Y					Information about the equipment in use at a facility (emission devices, control devices, stacks, monitors, etc.) will be maintained in the nVIRO system for association with construction and operating permits. This same equipment inventory information will also be made available to facilities for emissions inventory reporting through the SLEIS component. The permitted emission devices in use at the facility will be maintained against the permit or permits. Emissions reported against emission devices will be managed in the SLEIS component.

283.1	Inventory must include, at a minimum and at a high level, information on: (a) Stacks (b) Emission units (c) Reporting groups (d) Continuous emissions monitors (e) Process operations and activities (f) Emissions	Y					Equipment inventory information in nVIRO and SLEIS will include data about, emission units, emission processes, release points (stacks), control devices, monitors. Emission inventory information will include throughput, supplemental calculation parameters, and emissions for pollutants specified by EGLE.
283.2	The solution must maintain a hierarchy of stacks, emission units and reporting groups for emissions reporting purposes.	Y					Equipment inventory information in nVIRO and SLEIS will include appropriate relationships between components, for example, between emission processes and release points along with percentage allocation.
284.0	The solution must maintain, at a minimum, information for each stack including: (a) ID (b) Description (c) Measurements (d) Temperature/Flow Rate/Velocity (e) Location (f) Emission units (g) Collection Method	Y					Equipment inventory information in nVIRO and SLEIS will include all of the required data points for release points (stacks). In addition, the system can be configured to allow/require additional data points to be collected as desired.
285.0	The solution must maintain, at a minimum, information for each emission unit including: (a) ID (b) Type (c) NAICS Code (d) Installation Information (e) Description (f) Capacity	Y					Equipment inventory information in nVIRO and SLEIS will include all of the required data points for emission units. In addition, the system can be configured to allow/require additional data points to be collected as desired.

	(g) Permit Applicability						
	(h) Control Devices and data related to that device						
	(i) Emission Units Stacks						
286.0	The solution must maintain, at a minimum, information for each reporting group including:		Y				Equipment inventory information in nVIRO will allow definition of reporting groups. SLEIS does not support the concept of reporting groups, but this capability will be added.
	(a) ID						
	(b) Description						
	(c) Emission Units Associated with Reporting Group						
287.0	The solution must maintain, at a minimum, information for each emissions monitor including:		Y				Equipment inventory information in nVIRO will allow definition of emission monitors. SLEIS does not support the concept of emission monitors, but this capability will be added.
	(a) Monitor ID						
	(b) Install Date						
	(c) End Operations Date						
	(d) Manufacturer						
	(e) Model						
	(f) Serial #						
	(g) Design/Type						
	(h) System Type						
	(i) Analytical Tech						
	(j) OPLR (COMS)						
	(k) Span Value						
	(l) Range						
	(m) Comments						
287.1	The solution must allow a user to assign an emission unit to an emissions monitor.		Y				Equipment inventory information in nVIRO will allow assignment of emission units to emission monitors. SLEIS does not support the concept of emission monitors, but this capability will be added.

287.2	The solution must allow a user to unassign an emission unit from an emissions monitor.		Y				Equipment inventory information in nVIRO will allow assignment of emission units to emission monitors. SLEIS does not support the concept of emission monitors, but this capability will be added.
287.3	The solution must allow a user to indicate what rules/regulations each emissions device is subject to.	Y					Applicable regulatory requirements may be indicated for each emissions device
Maintenance							
288.0	The solution must allow a user to add, edit or delete a stack, emission unit or reporting group.	Y					Any equipment inventory element may be added, updated, or deleted in nVIRO and SLEIS.
288.1	The solution must allow for an AQD user to review any emissions inventory changes made by a facility.	Y					Changes to the facility equipment inventory that are made during the emissions reporting process can be reviewed by agency staff and the reported inventory may be promoted to become the mast inventory record if desired.
288.2	The solution must provide notifications to AQD recipients when modifications have been made to emissions inventory items.	Y					Program staff will receive notifications when emissions inventory reports are submitted.
Dry Cleaning Equipment							
Facility Dry Cleaning Equipment							
289.0	The solution must maintain, at a minimum, information on equipment for each dry cleaning equipment including:	Y					Information about the equipment in use at a facility, including dry cleaning equipment will be maintained in the nVIRO system using program component forms which can be designed to manage the requested information and any additional elements that may be required.
	(a) Machine ID						
	(b) Machine Serial Number						
	(c) Description						
	(d) Solvent Type						
	(e) Machine Type						
	(f) Machine Make						
	(g) Machine Model						
	(h) Machine Size						

	(i) Install Date						
	(j) Venting						
	(k) Control Type						
	(l) Control Install Date						
	(m) Contain Type						
	(n) Notes						
289.1	The solution must allow a user to add, edit and deactivate equipment associated with a dry cleaning facility.	Y					Any equipment inventory element may be added, updated, or deleted in nVIRO.
Toxics Review							
Request Toxics Review							
290.0	The solution must allow an AQD user to request a toxics review for a permit application.	Y					The nVIRO solution includes fully user-configurable workflow management. Standard workflows may be defined for typical business processes such as processing a new PTI application, processing a renewal to an ROP permit, and so on. Each workflow may include many tasks, each with target timeframes and notification preferences. In addition to standard workflows, additional non-standard workflows may also be added to specific applications as needed, for example, when toxic pollutant review and required or when modeling is required.
Notifications of Toxics Review Request							
291.0	The solution must provide notification to a Supervisor when a toxics review has been requested.	Y					Notifications to specified users can be configured for any workflow step, in this case to indicate that a toxics review has been requested
Toxics Review							
292.0	The solution must allow a Supervisor to assign a toxics review to a Toxicologist.	Y					Workflow tasks can be automatically assigned to specialist staff, and assignments can be changed by supervisory staff as needed.

292.1	The solution must allow a Toxicologist to enter comments or upload files related to a toxics review.	Y					Detailed notes, comments, and supporting documents can be uploaded to any application or permit during or after the process of application processing or permit issuance.
292.2	The solution must allow a Toxicologist to indicate that a toxics review is complete.	Y					Users can indicate that any workflow task has been completed.
292.3	The solution must allow an AQD user to access lists of pollutants from the pollutants inventory.	Y					The inventory of air pollutants can be managed by users with administrative permissions
292.4	The solution must allow an AQD user to access AQD toxic criteria.		Y				nVIRO will be configured to support the range of additional metadata that is required for air toxic pollutants. As part of this customization, program users will be able to review the additional toxics criteria that will be managed. This configuration incurs no risk to the solution.
Y							
293.0	The solution must provide notification to AQD recipients when a toxics review is complete.	Y					Notifications to specified users can be configured for any workflow step, in this case to indicate that a toxics review has been completed
Modeling							
Request Modeling							
294.0	The solution must allow an AQD user to indicate modeling is required for a PTI application.	Y					The nVIRO solution includes fully user-configurable workflow management. Standard workflows may be defined for typical business processes such as processing a new PTI application, processing a renewal to an ROP permit, and so on. Each workflow may include many tasks, each with target timeframes and notification preferences. In addition to standard workflows, additional non-standard workflows may also be added to specific applications as needed, for example, when

							toxic pollutant review and required or when modeling is required.
294.1	The solution must allow an AQD user to request modeling that is not associated with a PTI application, (i.e., permit is associated with a facility, not a specific permit).	Y					Modeling may be requested by a facility as part of the submission of a permit application, or may be initiated by program staff through an application that is independent of a permit.
294.2	The solution must allow an AQD user to set a requested due date for modeling.	Y					Users can indicate a required due date for any workflow task .
294.3	The solution must allow an AQD user to indicate a priority level for modeling request.	Y					Modeling may be requested by a facility as part of the submission of a permit application, or may be initiated by program staff through service request that is independent of a permit. Detailed information about the modeling request, whether requested by the facility or by program staff will be managed using a program component form, and this will include the priority level assigned to the request.
Supervisor Notification							
295.0	The solution must provide notification to a Supervisor when modeling has been requested.	Y					Notifications to specified users can be configured for any workflow step, in this case to indicate that modeling has been requested
Modeling Assignment							

296.0	The solution must allow a Supervisor to assign a modeling request to a modeler.	Y					Workflow tasks can be automatically assigned to specialist staff, and assignments can be changed by supervisory staff as needed.
Notification and Review of Modeling Request							
297.0	The solution must provide notification to a modeler when a modeling request has been assigned.	Y					Notifications to specified users can be configured for any workflow step, in this case to indicate that modeling has been requested
297.1	The solution must allow an authorized AQD user to enter/select information regarding the modeling including, at a minimum: (a) Criteria Pollutant (b) Chemical Name (c) Meteorological Station Abbreviation (d) USEPA Model Used (e) Dates (Received, Completed, Due) (f) Modeler Name (g) Modeling Status	Y					Detailed information about the modeling request, whether requested by the facility or by program staff will be managed using a program component form, and this will include the priority level assigned to the request.
297.2	The solution must allow an AQD user to edit information regarding the modeling request.	Y					Program staff will be able to update any information related to the modeling request using the associated program component form.
297.3	The solution must allow an AQD user to add, edit or delete comments to the modeling record.	Y					Program staff will be able to update any information related to the modeling request using the associated program component form.
297.4	The solution must maintain the status of a modeling request.	Y					Program staff will be able to update any information related to the modeling request including the status of the request.
297.4.1	Statuses must include: (a) Unassigned (b) Work in Progress (c) Waiting for Information (d) On Hold	Y					The available status values for the modeling request are configurable on the associated program component form.

	(e) Complete						
297.5	The solution must allow an AQD user to update a modeling record that is in a status of 'Complete'.	Y					Program staff will be able to update any information related to the modeling request using the associated program component form at any point, including after the request has been completed.
Modeling Complete							
298.0	The solution must allow an AQD user to indicate modeling is ready for Supervisor review.	Y					Workflow tasks can be automatically assigned to any program staff including supervisory staff as needed.
298.1	The solution must allow a facility user to view final modeling documents/reports after Supervisor review.	Y					Program staff will be able to update any information related to the modeling request using the associated program component form at any point, including after supervisory review.
Supervisor Review							
299.0	The solution must allow a Supervisor to review the final modeling documents/reports.	Y					Program and supervisory staff will be able to review any information related to the modeling request, including any attached documentation.
300.0	The solution must allow a Supervisor to indicate modeling is complete.	Y					Workflow tasks can be marked complete with associated dates.
Notifications of Modeling Complete							
301.1	The solution must provide notifications to AQD recipients when Supervisor review is complete.	Y					Notifications to specified users can be configured for any workflow step, in this case to indicate that modeling has been requested
Public Notice/Public Comment Process							
Requirement for Public Notice Period							
302.0	The solution must allow an AQD user to indicate that a public comment period is required for items/activities including, at a minimum, the following items: (a) Permit to Install (PTI) (b) Consent Order (c) Renewable Operating Permit (ROP) (d) Toxics	Y					This is achieved by adding a required task of "Issue public notice" on Workflow Templates assigned to submissions that require public noticing. In addition, based on the type of permit being issued a warning can be configured to display when issuing a permit that a public notice may be required if it is not already present.

	(e) Enforcement Summary (f) Public Comment Administrative Consent Order (g) Ad hoc items (i.e., AQD rules, State Implementation Plans)						
303.0	The solution must pre-populate the start date and end date of a public comment period based on the item type (i.e., permit or consent order).		Y				Public notice start date is user-set, and likely varies based on context and timing. End date can be automatically set based on start date, but currently requires configuration for specific permit type or other dependent factors based on business rules. This configuration incurs no risk to the solution.
303.1	The solution must allow a System Administrator to set the default comment period based on item type.		Y				See previous answer
303.2	The solution must allow an AQD user to update the start and end date of a public comment period.	Y					System allows editing public notice period before it begins. After public notice period begins, only users with special rights can edit the public notice end date.
304.0	The solution must allow an AQD user to create public notice documents required for the public comment period.	Y					Document Templates will be created to meet the public notice requirements which can be generated by the agency processor.
305.0	The solution must allow for the facility location associated with the comment period to be displayed on a map on the AQD website or public access portal.	Y					Items on public notice are searchable in the nSITE Explorer mapping tool which is available to the public
306.0	The solution must allow an AQD user to post a public notice and associated documents to the AQD website or public access portal for public comment (e.g., Public Notice, permit application, etc.)	Y					This is a current capability of nVIRO.
306.1	The solution must maintain a history of any versions of any documents that have been posted to the AQD website or public access portal.	Y					This is a current capability of nVIRO.
Public Hearing							
307.0	The solution must allow an AQD user to indicate that a public hearing is required	Y					This is achieved by adding a required task of "Issue public notice" on Workflow Templates assigned to submissions that

	for items/activities including, at a minimum, the following items: (a) Permit to Install (PTI) (b) Consent Order (c) Renewable Operating Permit (ROP) (d) Toxics Data						require public noticing. In addition, based on the type of permit being issued a warning can be configured to display when issuing a permit that a public notice may be required if it is not already present.
307.1	The solution must allow an AQD user to enter or edit the date of the public hearing.	Y					This is a current capability of nVIRO.
307.2	The solution must maintain information about public hearings, including at a minimum: (a) Location (b) Hearing Type (c) Location Contact Information (d) Dates (e) Publication(s) Advertised In (one or more)	Y					This is supported through the addition of Public Notice Comments that are visible to the public on the public notice record
307.3	The solution must allow an AQD user to enter and edit public hearing information.	Y					This is a current capability of nVIRO.
Search							
308.0	The solution must provide the ability for a non-authenticated public user to search for public notices by various criteria such as facility, location, EPA class, date, etc.	Y					This is a current capability of nVIRO.
308.1	The solution must provide the ability for an AQD user to search for public notices by various criteria such as facility, location, EPA class, date, etc.	Y					This is a current capability of nVIRO.
Public Comment Input							
309.0	The solution must provide an online form for a non-authenticated public user to input comments associated with a	Y					This is a current capability of nVIRO.

	specific item (permit, consent order) during the public comment period.						
309.1	The solution must allow a non-authenticated public user to enter information including name, phone number, email, street address and comment.	Y					This is a current capability of nVIRO.
309.2	The solution must limit the input of public comments to a specific item (permit or consent order) and only to the period of time that the public comment period is 'open' for that item.	Y					This is a current capability of nVIRO.
309.3	The solution must complete data validations to confirm required fields are completed prior to allowing submission of the comment.	Y					This is a current capability of nVIRO.
View Public Comments							
310.0	The solution must allow a non-authenticated public user to view comments submitted by other public users.	Y					This is a current capability of nVIRO.
310.1	The solution must allow a non-authenticated public user to indicate that they wish to submit the same comment that was previously submitted by another public user.	Y					A user can access a public report/record of other public notice comments (should AQD wish to expose those comments), and a user can thus reference other submitted comments.

310.2	The solution must prevent a non-authenticated public user from viewing personally identifiable information contained in a public comment.	Y					The system does not allow non-authenticated users to view public comments. nVIRO provides the ability for authenticated users to download and review comments to ensure the comment content do not contain personally identifiable information. They could then update those comments and distribute them to interested parties (e.g., via email). The 'system' cannot accurately determine which data in a comment might be PI data (this would require advanced AI, and still be fallible).
Public Comment Input by AQD Staff							
311.0	The solution must allow an AQD user to enter a public comment received outside the system (i.e., mail, email, phone).	Y					This is a current capability of nVIRO.
311.1	The solution must allow an AQD user to attach a voicemail message to a public comment record that was created by an AQD user.	Y					Digital files, include voice recordings, can be attached to public notice comment records
311.2	The solution must allow an AQD user to attach an email message to a public comment record that was created by an AQD user.	Y					Digital files, include email messages, can be attached to public notice comment records
311.3	The solution must allow an AQD user to attach a scanned document to a public comment record that was created by an AQD user.	Y					This is a current capability of nVIRO.
This is a current capability of nVIRO.							
312.0	The solution must allow AQD users to view all public comments.	Y					This is a current capability of nVIRO.
312.1	The solution must allow AQD users to view files attached to public comments.	Y					This is a current capability of nVIRO.
AQD Response to Public Comments							

313.0	The solution must allow an AQD user to create a 'Response to Comments' document based on a template.	Y					This is a current capability of nVIRO.
Reports							
314.0	The solution must allow an AQD user to generate a list of items (permits, consent orders) that require a public comment period.	Y					This is a current capability of nVIRO.
315.0	The solution must allow an AQD user to generate a report of public comments received by item.	Y					This is a current capability of nVIRO.
315.1	Report to include: (a) Item (permit, consent order) (b) Name (c) Address (d) Phone Number (e) Email (f) Comment	Y					This is a current capability of nVIRO.
315.2	The solution must allow an AQD user to export a list of public comments received.	Y					This is a current capability of nVIRO.
315.3	The solution must allow an AQD user to generate a summary of comments received.	Y					This is a current capability of nVIRO.
Requirement for EPA Comment Period							
316.0	The solution must allow an AQD user to indicate that an EPA comment period is required for any of the following items: (a) Permit to Install (PTI) (b) Consent Order (c) Renewable Operating Permit (ROP)	Y					This would be supported by creating a required "EPA Comment Period" task on a Workflow Template that is added to items of this type.
316.1	The solution must allow an AQD user to enter and edit the start date of an EPA comment period.	Y					This is a current capability of nVIRO.
316.2	The solution must allow an AQD user to enter and edit the end date of an EPA comment period.	Y					This is a current capability of nVIRO.

Online Comment Entered by EPA							
317.0	The solution must allow an authenticated EPA user to input comments associated with a specific item (permit, consent order) during the EPA comment period.	Y					This would be supported by adding an "EPA Public Notice Comment schedule to the draft permit or compliance action. The EPA user would log in and fill out/submit the form with their comments
317.1	The solution must identify a comment as being submitted by an EPA user.	Y					The EPA comment submission would be submitted by the authenticated EPA user which would be recorded and listed on the submission
318.0	The solution must allow an AQD user to respond to each comment submitted by the EPA.	Y					The submission review process allows AQD staff to reply individually to each comment provided by EPA, and is visible to EPA once the AQD review is complete
Comment History							
319.0	The solution must maintain comments received during the public comment period for a period of time consistent with the records retention schedule.		Y				Currently the public comments are retained indefinitely, however the planned implementation of records retention schedule will address this requirement This configuration incurs no risk to the solution.
319.1	The solution must maintain EPA comments received during the EPA comment period for an indefinite period of time.	Y					Submission data is currently retained indefinitely.
Interested Parties							
Maintain Interested Parties and Interests							
320.0	The solution must provide an interested parties list (i.e., 'subscription' service) for a non-authenticated public user to sign up for notifications.	Y					This is a current capability of nVIRO. Non authenticated users may sign up for notifications through email subscription.
320.1	The solution must allow a non-authenticated user to indicate the topics and geographic areas they have an interest in from values maintained in a reference table.	Y					Subscriptions are available based on program area, geographic location, and key activities including Applications Received, Public Notices, Permits Issued/Denied.
320.2	The solution must allow an AQD user to add an individual to the 'interested parties' list.	Y					An AQD user could add the user subscription provided they have the individual's email. However, the individual would need to respond to a verification email to edit subscription preferences.

Notifications to Interested Parties							
321.0	The solution must allow an AQD user to send notifications to all interested parties based on a selected topic and location.	Y					This happens automatically for all subscribed users.
321.1	The solution must support links to a website or online comment form within the notification.	Y					This is supported through the Public Notice functionality, to which users may include in their subscription preferences.
Annual Emissions Reporting Initiation							
Identify Facilities							
322.0	The solution must maintain the emissions reporting status for each facility i.e., required to report, not required to report or unsure.	Y					Operating status, category, and/or Reporting Requirements of each facility may be used for this purpose.
323.0	The solution must generate a list of facilities required to report.	Y					Operating status, category, and/or Reporting Requirements of each facility may be used as criteria for report generation.
324.0	The solution must allow selecting facilities to report based on search criteria, filters, and sorting.	Y					Operating status, category, and/or Reporting Requirements of each facility may be used as criteria for report generation.
Determination of Reporting Items							
325.0	The solution must allow a System Administrator to determine which pollutants facilities will be required to report in a given year.	Y					There are multiple ways to accomplish this within SLEIS, completed through system configuration; default from prior year's report, default pollutants in general, or default from permit specified pollutants.
Notifications of Upcoming Reporting Period							
326.0	The solution must provide notifications to system identified facilities which are required to report for an upcoming emissions reporting period.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification component for compliance schedules. This configuration incurs no risk to the solution.

326.1	The solution must provide a template for notifications.		Y				All email notifications in the system utilize customizable templates for message subject and body, as would any new notifications added to the system. This configuration incurs no risk to the solution.
326.2	The solution must allow for notifications to be sent in bulk or one at a time.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification component for compliance schedules. This configuration incurs no risk to the solution.
326.3	The solution must provide additional notifications to facilities that have not acknowledged receipt of initial notification of upcoming reporting period.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification component for compliance schedules. This configuration incurs no risk to the solution.
Emissions Reporting Entry							
Online Input by Facility							
327.0	The solution must provide an online form for a facility user to report emissions.	Y					This is a current capability of the emissions inventory reporting system.
327.1	The solution must display on the online form only the pollutants that have been selected by a System Administrator for the given emissions reporting year.	Y					This is a current capability of the emissions inventory reporting system.
327.2	The solution must provide for a facility to report emissions for both stationary sources and portable sources.	Y					Stationary source reporting is a current capability of the emissions inventory system. Portable sources are not currently supported by the system.
327.3	The solution must allow a facility to designate the year being reported against (to support late reporting).	Y					This is a current capability of the emissions inventory reporting system. The facility would complete and submit the emissions inventory report for the desired period/year provided the agency has set up the reporting period/year for the facility.

327.4	The solution must pre-populate the form with certain data from the previous reporting period (i.e., emission unit, contact section, etc.).	Y					This is a current capability of the emissions inventory reporting system. Pre-population of form data can be from either prior reporting period and/or "master" facility inventory reflecting current permit(s).
327.5	The solution must pre-populate the form with data from existing permits.		Y				Equipment inventory information for a facility will initially be pre-populated using the equivalent information from the prior emissions reporting year. Additional information will be extracted from the equipment information that is available from the latest construction and operating permits held by the facility. This configuration incurs no risk to the solution.
327.6	The solution must allow a facility user to enter emissions data by pollutant for each stack, emission unit or reporting group.		Y				The emissions inventory reporting system enables emission unit process level reporting of emissions. Emission Unit Processes are associated with stacks and emission units, and depending on how emission units are defined, reporting groups will also be part of the association. This configuration incurs no risk to the solution.
327.7	The solution must allow a facility user to enter activity detail for each stack, emission unit or reporting group.		Y				The emissions inventory reporting system enables emission unit process level reporting of emissions. Emission Unit Processes are associated with stacks and emission units, and depending on how emission units are defined, reporting groups will also be part of the association. This configuration incurs no risk to the solution.

328.0	The solution must allow a facility user to add, edit or remove stack, emission unit or reporting group during the emissions reporting process.		Y				The emissions inventory reporting system enables adding/editing/deleting stacks, emission units, control devices, emission unit processes. This configuration incurs no risk to the solution.
328.1	The solution must allow a facility user to associate a stack with an emission unit.	Y					This is a current capability of the emissions inventory reporting system.
328.2	The solution must allow a facility user to associate a control device with an emission unit.	Y					This is a current capability of the emissions inventory reporting system.
Online Input by AQD Staff							
329.0	The solution must allow an AQD user to enter emissions data on behalf of a facility, by pollutant, for each stack, emission unit or reporting group for emissions reporting data submitted manually.		Y				The emissions inventory reporting system enables emission unit process level reporting of emissions. Emission Unit Processes are associated with stacks and emission units. This configuration incurs no risk to the solution.
329.1	The solution must allow an AQD user to enter activity data on behalf of a facility, for each stack, emission unit or reporting group for emissions reporting data submitted manually.		Y				The emissions inventory reporting system enables emission unit process level reporting of activity details. Emission Unit Processes are associated with stacks and emission units. This configuration incurs no risk to the solution.
329.2	The solution must allow an AQD user to add, edit or remove a new stack, emission unit or reporting group for emissions reporting data submitted manually.		Y				The emissions inventory reporting system enables adding/editing/deleting stacks, emission units, control devices, emission unit processes. This configuration incurs no risk to the solution.
Emissions Reporting Work in Progress							
330.0	The solution must allow a facility user to save an in process emissions report and return at a later time.	Y					This is a current capability of the emissions inventory reporting system.
331.0	The solution must allow a facility user to grant access to an AQD user to review an emissions report prior to submission.	Y					In the current emissions inventory reporting system, an agency user grants access to an agency account to the facility's report. The facility user can then add or remove the ability view/edit the report to the agency user.
Delete Work in Progress Emissions Report							

332.0	The solution must allow a facility user to delete an emissions report prior to submission.		Y				This is a current capability of the emissions inventory reporting system.
Emissions Reporting Submission							
Emissions Calculations Maintenance							
333.0	The solution must provide a calculator to calculate emissions based on user inputs and emissions factors maintained in the system.	Y					This is a current capability of the emissions inventory reporting system.
333.1	The solution must allow a System Administrator to update emissions factors used in the calculator.	Y					This is a current capability of the emissions inventory reporting system.
333.2	The solution must allow a System Administrator to update the formulas used in the calculator.	Y					This is a current capability of the emissions inventory reporting system.
Calculating Emissions							
334.0	The solution must allow a facility user to select an action to calculate emissions based on emissions reporting information entered.	Y					This is a current capability of the emissions inventory reporting system.
334.1	The solution must calculate emissions for a facility based on emissions reporting inputs, formulas in the emissions calculator and emissions factors maintained in the system.	Y					This is a current capability of the emissions inventory reporting system.
334.2	The solution must allow a facility user to select the emissions calculations as presented by the system.	Y					This is a current capability of the emissions inventory reporting system.
334.3	The solution must allow a facility user to input an emission that was calculated outside the system.	Y					This is a current capability of the emissions inventory reporting system.
334.4	The solution must require a facility user to select the basis on which their emissions calculation was based.	Y					This is a current capability of the emissions inventory reporting system.
Submit Emissions Report							
335.0	The solution must complete data validations to confirm required fields are completed prior to allowing submission of an emissions report.	Y					This is a current capability of the emissions inventory reporting system.

336.0	The solution must require a certified facility user to indicate that an emissions report is certified prior to submission.	Y					A report is flagged by a facility user as "ready for submission" by a submitter. A submitter then completes an electronic signature process to certify and submit the report.
336.1	The solution must limit certification and submission of an emissions report to a single certified facility user.	Y					This is a current capability of the emissions inventory reporting system.
337.0	The solution must assign a score to each emissions report based on threshold, prior year reporting, and various other criteria.		Y				A report will be developed to "score" an emissions inventory report. This configuration incurs no risk to the solution.
Workflow Initiation							
338.0	The solution must initiate a workflow when an emissions report has been submitted.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification and workflow components for compliance schedules. This configuration incurs no risk to the solution.
Notifications of Unsubmitted Emissions Reports							
339.0	The solution must provide notifications to facilities that have not submitted emissions reports a configurable number of days prior to submission deadline.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification and workflow components for compliance schedules. This configuration incurs no risk to the solution.
339.1	The solution must provide notifications to facilities that have an incomplete and unsubmitted emissions report after the submission deadline.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification and workflow components for compliance schedules. This configuration incurs no risk to the solution.
339.2	The solution must provide notifications to facilities that have not submitted emissions reports after the submission deadline.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification and workflow components for compliance schedules. This configuration incurs no risk to the solution.
Monitoring for Submission of Emissions Reporting							
340.0	The solution must monitor for receipt of submitted emissions reports by due date.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification and workflow components for compliance schedules. This configuration incurs no risk to the solution.

340.1	The solution must provide notification to AQD staff for emissions reports not submitted by the due date.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification and workflow components for compliance schedules. This configuration incurs no risk to the solution.
Emissions Report Review							
341.0	The solution must allow a received emissions report to be assigned for review.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification and workflow components for compliance schedules. This configuration incurs no risk to the solution.
341.1	The solution must allow a Supervisor to re-assign an emissions report to another Inspector for review.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification and workflow components for compliance schedules. This configuration incurs no risk to the solution.
341.2	The solution must allow an Inspector to review emissions report submitted by a facility.	Y					This is a current capability of the emissions inventory reporting system.
342.0	The solution must allow an Inspector to indicate that an emissions report requires an audit.		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification and workflow components for compliance schedules. This configuration incurs no risk to the solution.
342.1	The solution must allow a user to update a submitted emissions report based on the status of the emissions report (i.e., changes required due to audit).	Y					The SLEIS component allows the user to submit updated versions of emissions reports.
342.2	The solution must clearly identify reports which have been updated after being submitted.	Y					Different versions of submitted emissions reports are clearly identified
Status							
343.0	The solution must maintain a status for emissions reports.	Y					This is a current capability of the emissions inventory reporting system.
343.1	Statuses to include, at a minimum: (a) Draft (b) Submitted (c) Reviewing	Y					The current emissions inventory system includes the listed statuses with the Fee Generation status being indicated through invoice generation.

	(d) Review Complete (e) Fee Generation						
343.2	The solution must update the status of an emissions report based on an action taken by a user or through a workflow process.	Y					This is a current capability of the emissions inventory reporting system.
Versioning							
344.0	The solution must maintain the 'original' version of the emissions report and associated documents as submitted by the applicant.	Y					This is a current capability of the emissions inventory reporting system.
344.1	The solution must maintain a 'current' version of the emissions report and associated documents including any modifications and comments.	Y					This is a current capability of the emissions inventory reporting system.
Notification of Modification							
345.0	The solution must provide notification to AQD recipients when an emissions report in a given status has been modified (i.e., emissions report is modified after fee is calculated).		Y				Workflow management and notifications will be provided through integration with the standard nVIRO notification and workflow components for compliance schedules. This configuration incurs no risk to the solution.
345.1	The solution must log all changes made to emissions reporting data.	Y					The emissions inventory reporting system logs changes at the individual record level.
Air Quality Fees							
Air Quality Fee Calculation Maintenance							
346.0	The solution must provide a calculator to calculate air quality fees based on calculated emissions and a fee formula.		Y				Reported emission and throughput values will be managed in the SLEIS component. Fee types and amounts will also be managed. The invoicing component in nVIRO will use the reported emissions data to calculate fees that are due, for example, by parameter, based on the specified formulas. This configuration incurs no risk to the solution.
346.1	The solution must allow a System Administrator to update the factors,	Y					Fee types and calculation algorithms can be managed by users with administration privileges.

	variables and algorithms used in fee formula.						
Air Quality Fee Calculations							
347.0	The solution must allow an AQD user to select one or more facilities for fee calculations based on status of emissions report.	Y					The nVIRO invoicing component allows users with appropriate privileges to select groups of facilities for invoice generation based on various selection criteria.
347.1	The solution must limit the calculation of fees to emissions reports in a specific status.	Y					The nVIRO invoicing component allows users with appropriate privileges to select groups of facilities for invoice generation based on various selection criteria.
347.2	The solution must allow an AQD user to select an action to calculate air quality fees.	Y					The nVIRO invoicing component allows users with appropriate privileges to select groups of facilities for invoice generation based on various selection criteria. Once a set of facilities has been identified, the user may request the generation of invoices.
347.3	The solution must calculate fees for a facility based on emissions calculations and the formulas in the fee calculator.	Y					The nVIRO invoicing component allows users with appropriate privileges to select groups of facilities for invoice generation based on various selection criteria.
347.4	The solution must allow an AQD user to review calculated fees (referred to as billable emissions estimates).	Y					Once an invoice pre-list is generated, the agency user will review the calculated amounts for accuracy.
347.5	The solution must allow billable emissions estimates to be recalculated when an emissions report is updated.	Y					The agency user is able to request that invoice amounts be recalculated at any time, for example when an emissions report is received.
347.6	The solution must allow billable emissions estimates to be recalculated when the fee negotiation process is complete.	Y					The agency user is able to request that invoice amounts be recalculated at any time, for example when an emissions report is received.
Notification of Billable Emissions Estimates							
348.0	The solution must send notifications to facilities of billable emissions estimates.		Y				A new notification type will be added to nVIRO to initiate notifications once emissions fee invoices have been generated, or after a certain period of time as specified by the user. This configuration incurs no risk to the solution.

348.1	The solution must send additional notifications to facilities when acknowledgement of billable emissions estimates has not been received after a configurable number of days.		Y				A new notification type will be added to nVIRO to initiate notifications once emissions fee invoices have been generated, or after a certain period of time as specified by the user. This configuration incurs no risk to the solution.
Billable Emissions Estimate Acceptance							
349.0	The solution must allow a facility user to indicate the billable emissions estimate is accepted.		Y				A new mechanism will be developed to allow facility users to submit information that will allow them to indicate acceptance of an emissions fee invoice or that a fee negotiation will be requested. This configuration incurs no risk to the solution.
Billable Emissions Estimate Negotiation Process							
350.0	The solution must allow a facility user to indicate the billable emissions estimate will be negotiated.		Y				A new mechanism will be developed to allow facility users to submit information that will allow them to indicate acceptance of an emissions fee invoice or that a fee negotiation will be requested. This configuration incurs no risk to the solution.
350.1	The solution must allow a facility user to enter justification for billable emissions estimate negotiation.		Y				A new mechanism will be developed to allow facility users to submit information that will allow them to indicate acceptance of an emissions fee invoice or that a fee negotiation will be requested. This configuration incurs no risk to the solution.
350.2	The solution must allow an AQD user to edit emissions reporting data based on negotiation with a facility.	Y					Facility or program users are able to update the reported emissions and throughput values.
350.3	The solution must allow an AQD user to recalculate billable emissions estimate when emissions reporting data has been modified.	Y					The agency user is able to request that invoice amounts be recalculated at any time, for example when an emissions report is received.
350.4	The solution must allow an AQD user to enter notes and comments regarding the billable emissions estimate negotiation process.	Y					nVIRO supports documentation of various types of events, including records of negotiation, meetings, etc., for all entity types including emission reports, permits, inspections, etc.
Notification of Billable Emissions Estimate Negotiation							

351.0	The solution must send notification to AQD recipients when billable emissions estimate negotiation has been requested.		Y				A new mechanism will be developed to allow facility users to submit information that will allow them to indicate acceptance of an emissions fee invoice or that a fee negotiation will be requested. This configuration incurs no risk to the solution.
Category F Fees							
Category F Fees Schedule Maintenance							
352.0	The solution must maintain a fee schedule for Category F fees (i.e., fee amount and due date).	Y					Handled either as a Permit/Annual fee or Permit/Schedule (with a Fee)
352.1	The solution must allow a System Administrator to update the fee schedule.	Y					This is a current capability of nVIRO.
Category F Fee Calculations							
Category F Fees Calculations							
353.0	The solution must allow an AQD user to indicate a facility is eligible for Category F fees.	Y					This is a current capability of nVIRO.
353.1	The solution must generate a list of facilities eligible for Category F fees.	Y					This is a current capability of nVIRO.
353.2	The solution must allow an AQD user to indicate a facility is no longer eligible for Category F fees.	Y					This is a current capability of nVIRO.
354.0	The solution must allow an AQD user to initiate a process to calculate Category F fees for selected list of facilities, based on fee schedule (i.e., flat fee amount due on a specific date).	Y					This is a current capability of nVIRO.
Dry Cleaning License Fees							
Dry Cleaning Fee Calculation Maintenance							
356.0	The solution must maintain dates associated with the dry cleaning licensing process.	Y					This is a current capability of nVIRO.
356.1	The solution must include a calculator to calculate annual dry cleaning license fees.	Y					This is a current capability of nVIRO.

356.2	The solution must support a fee calculation based on a base fee plus a rate per pound (capacity of the dry cleaning equipment determines the poundage).	Y					This is a current capability of nVIRO.
356.3	The solution must allow a System Administrator to update calculations, base fees, and rates.	Y					This is a current capability of nVIRO.
Dry Cleaning Fee Calculations							
357.0	The solution must identify a dry cleaning facility as requiring an annual license.	Y					This is a current capability of nVIRO.
357.1	The solution must generate a list of dry cleaning facilities that require an annual license.	Y					This is a current capability of nVIRO.
358	The solution must allow an AQD user to select a single dry cleaning facility for license fee calculation.	Y					This is a current capability of nVIRO.
358.1	The solution must allow for an AQD user to select multiple dry cleaning facilities for license fee calculation.	Y					This is a current capability of nVIRO.
Fee Challenge							
Fee Challenge							
359.0	The solution must allow a facility user to indicate a fee for any of the following will be challenged: (a) Category A-E Fee (b) Category F Fee (c) Dry Cleaning Fee		Y				Assuming this involves enable some sort of 'negotiation' process based on the generated PreInvoice List. Once determined can become the actual invoice. This configuration incurs no risk to the solution.
359.1	The solution must allow a facility user to enter justification for fee challenge.		Y				This configuration incurs no risk to the solution.
359.2	The solution must allow an AQD user to recalculate fees when fee challenge has been resolved.		Y				This configuration incurs no risk to the solution.
359.3	The solution must allow an AQD user to cancel a fee when fee challenge has been resolved.		Y				This configuration incurs no risk to the solution.

359.4	The solution must allow an AQD user to enter notes and comments regarding the fee challenge process.		Y				This configuration incurs no risk to the solution.
359.5	The solution must send a transaction to MiCaRS to 'update' an invoice associated with an updated fee invoice.			Y			nVIRO supports adjustments reconciliation with MiCaRS, but the adjustments are triggered in MiCaRS and sent to nVIRO. nVIRO creates an extract with 'candidate/finalized' invoice data in a file and transmits it to MiCaRS. The nVIRO / MiCaRS interface does not currently have the ability to transmit a revised invoice. This may be added assuming MiCaRS can support it, if so, this configuration incurs no risk to the solution.
Invoicing							
Invoice Generation							
360.0	The solution must support invoice generation for various fee types including, at a minimum: (a) Emissions reporting (Category A-E fees) (b) Portable source emissions (c) Dry cleaning license fees (d) Category F fees (e) Enforcement penalties (f) Late payment fees/interest penalty (g) Stipulated penalty fee	Y					Multiple fee types can be assigned to permits and registrations, for example, dry cleaner licenses. Invoices can be generated individually or in bulk, based on a selection of criteria
361.0	The solution must support invoice due date calculation based on invoice type.		Y				This configuration incurs no risk to the solution.
361.1	The solution must allow a System Administrator to set invoice due date by invoice type.		Y				This configuration incurs no risk to the solution.
Invoice Creation							
362.0	The solution must support invoice creation: (a) On demand	Y					Multiple fee types can be assigned to permits and registrations, for example, dry cleaner licenses.. Invoices can be

	(b) In bulk						generated individually or in bulk, based on a selection of criteria
362.1	The solution must allow a user to indicate if a facility will receive invoices electronically or printed copies.		Y				nVIRO always produces electronic invoices and printable copies. Current functionality provides the agency with the ability to access and print the invoice documents for mailing. Account delivery preference is not supported but could be added. This configuration incurs no risk to the solution.
362.2	The solution must allow a user to print a single invoice.	Y					
362.3	The solution must allow a user to electronically send invoices: (a) Single invoice (b) In bulk	Y					Invoices are delivered in the application.
362.4	The solution must allow a user to create an output file for bulk invoice generation which can be shared with the State of Michigan Rapid Print for printing.	Y					This is a current capability of nVIRO.
Notifications							
363.0	The solution must send notification to a facility user when an invoice has been generated.	Y					This is a current capability of nVIRO.
Letters							
364.0	The solution must generate letters for specific invoice types based on a template.	Y					Invoices are customizable based on document templates. Letters may be generated based on a document template. A custom letter may be created to correspond to a particular invoice type, or the document template could insert alternate text based on evaluation of the invoice type.
Integration with MiCaRS							
365.0	The solution must send invoice data to MiCaRS to establish receivables for each invoice generated.	Y					This is a current capability of nVIRO.
365.1	The solution must reflect invoice payment data from MiCaRS.	Y					This is a current capability of nVIRO.

365.2	The solution must allow an AQD user to view payments associated with invoices.	Y					This is a current capability of nVIRO.
365.3	The solution must allow an AQD user to view invoice status.	Y					This is a current capability of nVIRO.
365.4	The solution must allow an AQD user to create an invoice correction or adjustment.			Y			nVIRO creates an extract with 'candidate/finalized' invoice data in a file and transmits it to MiCaRS. The nVIRO / MiCaRS interface does not currently have the ability to transmit a revised invoice. This may be added assuming MiCaRS can support it. This customization incurs no risk to the solution.
365.5	The solution must send invoice correction to MiCaRS for processing.			Y			nVIRO creates an extract with 'candidate/finalized' invoice data in a file and transmits it to MiCaRS. The nVIRO / MiCaRS interface does not currently have the ability to transmit a revised invoice. This may be added assuming MiCaRS can support it. This customization incurs no risk to the solution.
Voiding Invoices							
366.0	The solution must allow an AQD user to void an unpaid invoice.	Y					Invoices may be adjusted to zero, with an adjustment type of Void or Write-Off.
366.1	The solution must send transaction to MiCaRS to void an invoice.			Y			Sending adjustment transactions to MiCaRS is not a current capability. This may be added assuming MiCaRS can support it. This customization incurs no risk to the solution.
Payment Tracking							
367.0	The solution must allow a facility user to view invoice status, invoice balance and invoice payments for their facility.	Y					
Compliance							
Compliance Schedules							

368.0	The solution must allow a System Administrator to configure schedules for certain compliance activities.	Y					Compliance schedules may be defined for Permits and Compliance / Enforcement Actions. Compliance schedules will appear on the facility user dashboard and the facility user can initiate a submission when due or "as needed" based on schedule configuration.
368.1	Compliance activities with a defined schedule may include at a minimum:	Y					Compliance include Monitoring and Reporting. Frequency may be specified as "as needed", monthly, quarterly, annually, specific calendar dates, and based on other date calculation variations.
	(a) Monitoring (i.e., monthly operating reports, etc.)						
	(b) Reporting (i.e., monthly, quarterly, annually)						
368.2	The solution must allow compliance schedules to be associated with:	Y					This is supported. However, regulated entity compliance schedules are created in the context of permits/licenses or compliance actions.
	(a) Regulated entity						
	(b) Issued license						
	(c) Enforcement actions						
Workflow Initiation							
369.0	The solution must allow a workflow administrator to associate compliance schedules with workflows.	Y					This is supported. However workflows are assigned to compliance schedules.
Compliance Criteria							
370.0	The solution must identify compliance adherence for defined regulated activities and monitoring based on administratively configured criteria (e.g., receipt of monitoring reports by due date, etc.)	Y					This is fully supported, with the ability to automatically create violations if corresponding submissions are not received by the specified due date.
Compliance Activities							
Create Compliance Activity							

371.0	The solution must allow an AQD user to create a new compliance activity.	Y					In nVIRO, compliance activities are defined as Compliance Action records. Compliance actions may be informal, such as a warning/deficiency notice, or formal, such as a consent order. Authorized users may create compliance actions directly, or from an evaluation (inspection) that has identified violations that need to be addressed and linked to the compliance action.
371.1	The solution must allow the user to select the compliance activity type based on values maintained by the System Administrator in a reference table.	Y					Compliance action types are fully maintainable by administrators.
371.2	The solution must maintain information for each compliance activity including at a minimum: (a) Activity Type (b) Activity Contact (c) Activity Date (d) Staff (e) Facility Contact/Title (f) Compliance Status (g) Comment/Notes	Y					This is a current capability of nVIRO.
371.3	The solution must display specific fields based on compliance activity type selected.	Y					This is a current capability of nVIRO. Custom user defined fields ("program components") may be added based on program and activity type.
Facility Submitted Compliance/Certification Reports							
Certified User Submission							
372.0	The solution must allow a System Administrator to determine if a specific report type requires certification by a facility user for submission.	Y					Compliance reports are configured as online submission forms using the nVIRO nFORM component. As part of the standard online form configuration will be indication that a given form/report requires certification by a facility user.
Create Compliance Report Submission							

373.0	The solution must allow a facility user to add a certification or compliance report.	Y					Compliance reports may be specified as required or as needed for a given permit, together with target due dates and repeatability if appropriate. Available compliance schedules will appear on the facility user dashboard and the facility user can initiate a submission when or as needed. For example, Title V Annual Compliance Certifications will be submitted each year by the facility.
373.1	The solution must allow an AQD user to add a certification or compliance report on behalf of a facility.	Y					Program staff may enter/record any compliance schedule on behalf of a facility, for example, when a report is submitted by email or hard copy to the agency.
373.2	The solution must allow the user to select the certification or compliance report type based on values maintained by the System Administrator in a reference table.	Y					Compliance reports are configured as online submission forms using the nVIRO nFORM component.
373.3	The solution must maintain, at a minimum, information for each certification or compliance report being submitted including: (a) Report Type (b) Date Received (c) Staff Assigned (d) Reporting Period Start Date (if applicable) (e) Reporting Period End Date (if applicable) (f) Date Reviewed/Processed (g) Number of Deviations (for ROP related) (h) Compliance Status (i) Section (for ROP related) (j) Regulation (k) Comments/Notes	Y					Detailed metadata about compliance report submissions will be maintained directly for the report, or using a program component form attached to the compliance report submission. This will include all of the information listed as well as any additional information that may be desired. For example, for Title V Annual Compliance Certifications, the appropriate air program codes must be recorded to support data submissions to the EPA ICIS-Air system.

374.0	The solution has the ability to maintain due dates for certain reports.	Y					Compliance reports may be specified as required or as needed for a given permit, together with target due dates and repeatability if appropriate. this is fully configurable by report type and by permit.
374.1	The solution must allow a System Administrator to edit due dates for specific type of reports.	Y					Compliance reports may be specified as required or as needed for a given permit, together with target due dates and repeatability if appropriate.
374.2	The solution must allow an AQD user to override due dates on specific types of reports.	Y					Compliance reports may be specified as required or as needed for a given permit, together with target due dates and repeatability if appropriate.
374.3	The solution must track if required report has been received for current reporting period.	Y					nVIRO will track the receipt and processing of required and as needed compliance report submissions
374.4	The solution has the ability to identify whether a report is late based on the received date compared to a due date.	Y					nVIRO will track the receipt and processing of required and as needed compliance report submissions. If a report is late, this is clearly highlighted to both the internal and external user on the user interface.
Notification of Reporting Requirement							
375.0	The solution must support the ability to send notifications to facilities for scheduled reporting a configurable number of days prior to due date of report.	Y					nVIRO will automatically send notifications to specified internal and external users a configurable number of days before a due date is reached.
375.1	The solution must allow a System Administrator to set a schedule for notification for each report type (i.e., some reports are submitted quarterly, some semi-annually, etc.).	Y					nVIRO allows the program user to specify the due date and notification rules for each schedule type.
Report Submission							

376.0	The solution must complete data validations to confirm required fields are completed prior to allowing submission of a report.	Y					Compliance reports are configured as online submission forms using the nVIRO nFORM component. As part of the standard online form design functionality, validation rules can be defined by the designer for each form control. This will include specifying data types, mandatory fields, and any conditionally required fields or sections, among an extensive variety of other business rule types that may be included by the online form designer...
376.1	The solution must require that specific reports must only be submitted by a Certified Facility User (i.e., does not apply to all reports being submitted).	Y					Compliance reports are configured as online submission forms using the nVIRO nFORM component. As part of the standard online form configuration will be indication that a given form/report requires certification by an appropriately certified facility user.
376.2	The solution must allow a facility user to submit one or more reports at a time.	Y					An external user can submit multiple reports at one time.
Workflow							
377.0	The solution must initiate a workflow when a report has been submitted.	Y					When compliance reports are designed, they may be associated with a workflow that will then automatically be associated with a report when it is submitted.
Notifications							
378.0	The solution must provide notifications to identified AQD recipients based on report type and facility location when a report has been submitted.	Y					When compliance reports are designed, notifications can be configured to automatically be sent when a report is due, late, or submitted to both internal and external users.
378.1	The solution must provide notifications to facility users when a report has been submitted on their behalf.	Y					When compliance reports are designed, notifications can be configured to automatically be sent when a report is due, late, or submitted to both internal and external users.
378.2	The solution must provide notifications to facility users when required report(s) have not been received by due date.	Y					When compliance reports are designed, notifications can be configured to automatically be sent when a report is due, late, or submitted to both internal and external users.

Review of Submitted Reports							
Initial Review							
379.0	The solution must assign a submitted report to an AQD user for review.	Y					Submitted compliance reports can automatically be assigned to a specified program user.
379.1	The solution must allow a Supervisor to re-assign a submitted report to another AQD user for review.	Y					A workflow can be assigned to any compliance report submission, and the submission can be re-assigned as needed.
Status							
380.0	The solution must maintain statuses for all submitted reports.	Y					Final review statuses for compliance reports are fully configurable.
380.1	Statuses must include: (a) Approved/Not Approved (b) Reviewed/Not Reviewed (c) In Review	Y					Final review statuses for compliance reports are fully configurable.
Report Modifications							
381.0	The solution must allow an AQD user to indicate a report requires modification by a facility user.	Y					Program users are able to review any submitted compliance report for completeness and accuracy and may interact with the facility user throughout this process, including to request updates if necessary
381.1	The solution must allow a facility user to submit a revision or modifications to a previously submitted report.	Y					Facility users may submit revisions to previously submitted reports. Under CROMERR rules, each new submission is stored separately.
Notifications							
382.0	The solution must notify a facility user when a report requires modifications.	Y					The facility user will automatically be notified when a program user requests a modification
382.1	The solution must notify an AQD user when a modified report has been submitted.	Y					When compliance reports are designed, notifications can be configured to automatically be sent when a report is due, late, or submitted to both internal and external users.
Versioning							

383.0	The solution must maintain the 'original' version of the report and all attached files as submitted by the facility.	Y					Under CROMERR rules, each submitted version of a compliance report must be retained, including any attachments and processing information
383.1	The solution must maintain a 'current' version of the report and all attached files including any modifications and comments.	Y					Under CROMERR rules, each submitted version of a compliance report must be retained, including any attachments and processing information
Technical Review							
384.0	The solution must allow an AQD user to create an Activity Report based on a template.	Y					Activity Report documents can be generated by program users from configured document templates.
384.1	The solution must allow a Supervisor to approve an Activity Report where required.	Y					Supervisors may approve a generated Activity Report by marking it as Final
385.0	The solution must allow an AQD user to indicate that an Activity Report is ready for review by a facility user.	Y					When finalized, generated Activity Report documents will be available to thr facility users through their dashboard interface.
386.0	The solution must allow an AQD user to indicate an inspection or other compliance activity is required as a result of a submitted report.	Y					Inspection and other types of compliance management events can be associated with any submitted compliance report. These events are associated to the original compliance report submission and any revisions..
386.1	The solution must associate the submitted report with the compliance activity.	Y					Inspection and other types of compliance management events can be associated with any submitted compliance report. These events are associated to the original compliance report submission and any revisions..
Notification of Completed Activity Report							
387.0	The solution must provide notifications to a facility user that an Activity Report is complete.		Y				This configuration incurs no risk to the solution.
387.1	The solution must provide notifications to identified AQD recipients that an Activity Report is complete.		Y				This configuration incurs no risk to the solution.
Facility Submitted Emissions Related Plans, Tests or Reports							
Create Stack Test or CEMS Test							

388.0	The solution must allow a facility user to add a stack test plan and report or CEMS test plan and report.	Y					Compliance reports, including stack tests and RATA tests, may be specified as required or as needed for a given permit, together with target due dates and repeatability if appropriate. Available compliance schedules will appear on the facility user dashboard and the facility user can initiate a submission when or as needed.
388.1	The solution must allow an AQD user to add a stack test plan and report or CEMS test plan and report on behalf of a facility if the information is submitted outside the system.	Y					Program staff may enter/record stack test or RATA test reports on behalf of a facility, for example, when a report is submitted by email or hard copy to the agency.
388.2	The solution must maintain, at a minimum, information for each stack or CEMS test including: (a) Test Type (b) Projected Test Date (c) Test Firm (d) Date Received (e) Status (f) Review Assigned (g) Reviewer (h) Date Review Completed (i) Comments/Notes (j) Test Observation Details (k) Test Report Details	Y					Detailed metadata about stack and RATA test report submissions will be maintained directly for the report, or using a program component form attached to the report submission. This will include all of the information listed as well as any additional information that may be desired. This information should also include the required MDR elements that will be needed to support automated submission of stack test compliance monitoring activities to ICIS-Air.
388.3	The solution must allow a facility to associate emission units, pollutants, test methods, regulations, and statuses to a particular test.	Y					Detailed information about the stack or RATA test, including the associated release points, units, control devices, pollutant test results, and applicable regulations will all be tracked using a program component form attached to the report submission.

388.4	The solution must allow/maintain/capture emission test values and corresponding units for tested pollutants on an emission unit or flexible group basis as determined during the test.	Y					Detailed information about the stack or RATA test, including the associated release points, units, control devices, pollutant test results, and applicable regulations will all be tracked using a program component form attached to the report submission.
388.5	The solution must allow AQD users to access emission test values from other areas of the system (i.e., view values when reviewing a permit application).	Y					All information on the compliance schedule component form will be available for the associated permit when reviewing a renewal or modification.
388.6	The solution must associate the permit number with a particular test.	Y					All compliance schedules are associated with the permit under which they are required.
388.7	The solution must allow the facility to associate a testing firm with a test report record.	Y					Detailed information about the stack or RATA test, including the testing company will all be as one or more contacts associated with the report submission.
Input Monitor Installation Plan							
389.0	The solution must allow a facility user to add a monitor installation plan.	Y					Compliance reports, including monitor installation plans, may be specified as required or as needed for a given permit, together with target due dates and repeatability if appropriate. Available compliance schedules will appear on the facility user dashboard and the facility user can initiate a submission when or as needed.
389.1	The solution must allow an AQD user to add a monitor installation plan on behalf of a facility when the information is submitted outside the system.	Y					Program staff may enter/record monitor installation plans on behalf of a facility, for example, when a report is submitted by email or hard copy to the agency.
389.2	The solution must maintain, at a minimum, information for monitor installation plan including: (a) Date Received (b) Status (c) Review Assigned (d) Reviewer (e) Date Complete Review	Y					Detailed metadata about monitor installation plan submissions will be maintained directly for the report, or using a program component form attached to the report submission. This will include all of the information listed as well as any additional information that may be desired.

	(f) Comments/Notes						
389.3	The solution must allow facilities to associate emission units, pollutants, and other data elements to a specific monitor.	Y					Detailed information about the monitor installation plan, including the associated emission units, pollutants and other information will all be tracked using a program component form attached to the report submission.
390.0	The solution must allow monitors to be added, edited, replaced, or removed.	Y					Detailed information about the monitor installation plan, including the associated emission units, pollutants and other information will all be tracked using a program component form attached to the report submission.
Input Continuous Emissions Monitor Report							
391.0	The solution must allow a facility user to add a continuous emissions monitor report.	Y					Compliance reports, including continuous emissions monitoring reports, may be specified as required or as needed for a given permit, together with target due dates and repeatability if appropriate. Available compliance schedules will appear on the facility user dashboard and the facility user can initiate a submission when or as needed.
391.1	The solution must allow an AQD user to add a continuous emissions monitor report on behalf of a facility when the information is submitted outside the system.	Y					Program staff may enter/record continuous emissions monitoring reports on behalf of a facility, for example, when a report is submitted by email or hard copy to the agency.
391.2	The solution must maintain, at a minimum, information for a continuous emissions monitor report including: (a) Quality Assurance data (b) RATA data (c) Range data	Y					Detailed metadata about continuous emissions monitoring reports will be maintained directly for the report, or using a program component form attached to the report submission. This will include all of the information listed as well as any additional information that may be desired.
Input Excess Emissions Report							

392.0	The solution must allow a facility user to add an excess emissions report.	Y					Compliance reports, including excess emissions reports, may be specified as required or as needed for a given permit, together with target due dates and repeatability if appropriate. Available compliance schedules will appear on the facility user dashboard and the facility user can initiate a submission when or as needed.
392.1	The solution must allow an AQD user to add an excess emissions report on behalf of a facility when the information is submitted outside the system.	Y					Program staff may enter/record excess emissions reports on behalf of a facility, for example, when a report is submitted by email or hard copy to the agency.
392.2	The solution must maintain, at a minimum, information for an excess emissions report including: (a) Excess Emissions Details (b) Excess Emissions Duration (c) CEM Downtime Duration (d) Quality Assurance data (e) RATA data (f) Range data	Y					Detailed metadata about excess emissions reports will be maintained directly for the report, or using a program component form attached to the report submission. This will include all of the information listed as well as any additional information that may be desired. "
Pre-Populate Form Data							
393.0	The solution must have the ability to pre-populate data for emissions related tests, plans or reports based on past report submissions and data maintained in the system.	Y					The nVIRO nFORM online form designed component allows fields to be inherited and pre-populated on a report using the data reported on a previous submission
393.1	The solution must allow a facility user to access information on emission units and monitoring devices for their facility when submitting tests, plans or reports.	Y					The nVIRO nFORM online form designed component allows fields to be inherited and pre-populated on a report using the data reported on a previous submission, including equipment inventory information.
393.2	The solution must allow a facility user to associate a specific test, plan or report with specific equipment (i.e., associate a	Y					The nVIRO nFORM online form designed component allows fields to be inherited and pre-populated on a report using the data

	stack test plan with a specific emission unit).						reported on a previous submission, including equipment inventory information.
Work in Progress Report Submission							
394.0	The solution must maintain a work in progress test, plan, or report submission (i.e., able to save and come back to complete and submit in a later session).	Y					All online form submissions, applications, requests, or compliance reports, may be saved at any time and completed at any time in a later session.
394.1	The solution must allow a facility user to delete an in-progress test, plan, or report submission.	Y					Any online form that has not yet been submitted may be deleted by the facility user.
Submit Emissions Related Test, Plan or Report							
395.0	The solution must complete data validations to confirm the accuracy of fields prior to allowing a user to submit an emissions related test, plan, or report.	Y					Compliance reports are configured as online submission forms using the nVIRO nFORM component. As part of the standard online form design functionality, validation rules can be defined by the designer for each form control. This will include specifying data types, mandatory fields, and any conditionally required fields or sections, among an extensive variety of other business rule types that may be included by the online form designer...
395.1	The solution must allow a facility user to submit an emissions related test, plan or report online.	Y					All compliance reports, including emissions related reports, will be configured for online submission.
Notification of Submitted Emissions Related Test, Plan or Report							
396.0	The solution must provide notifications to identified AQD recipients based on item type and facility location when a test, plan or report has been submitted.	Y					When compliance reports are designed, notifications can be configured to automatically be sent when a report is due, late, or submitted to both internal and external users.
Asbestos Notification							
Asbestos Notification Input by Facility							

397.0	The solution must allow a facility user to enter data in an online asbestos notification form.	Y					Achieved through publishing an asbestos notification form using the integrated form designer. Full support of asbestos program has been achieved using nVIRO in another agency already with great success.
397.1	The solution must, at a minimum, support asbestos notification project types including:	Y					Achieved through publishing an asbestos notification form using the integrated form designer.
	(a) Emergency Renovation						
	(b) Intentional Burn						
	(c) Ordered Demolition						
	(d) Planned Renovation						
	(e) Scheduled Demolition						
	(f) MIOSHA Demo/Reno/Encapsulation						
	(g) MIOSHA Emergency Renovation/Encapsulation						
397.2	The solution must limit an asbestos notification to a single project type.	Y					Achieved through publishing an asbestos notification form using the integrated form designer. Project Type can be specified as a single-option radio button or drop down control
397.3	The solution must maintain, at a minimum, asbestos notification information including:	Y					These functions are fully supported in nVIRO as demonstrated through successful implementation in an agency asbestos program
	(a) Project Type						
	(b) Schedule/Project Dates/Work Schedule						
	(c) Facility/Contractor Information						
	(d) Asbestos Estimate						
	(e) Site/Location Information						
	(f) Contractor Information						
	(g) Inspection Information						
	(h) Disposal Information						
	(i) Transport Information						
	(j) Project Description						

	(k) Ordered Demolition Information (l) Comments (m) Fees						
397.4	The solution must support an interview type experience when filling out an asbestos notification (i.e., based on user responses, fields, drop down values and logic will vary).	Y					This is fully supported in nVIRO using the dynamic form designer's display of conditional controls based on user's previous answers.
397.5	The solution must pre-populate fields based on existing facility or contractor information, and notification type.	Y					This is fully supported using available form pre-population and data inheritance functions in nVIRO
Asbestos Notification Input by AQD Staff							
398.0	The solution must allow an AQD user to add or edit an asbestos notification on behalf of a facility.	Y					This is fully supported. Agency staff can enter and submit forms and reports on behalf of the external user.
Work in Progress							
399.0	The solution must allow a user to save a work in process asbestos notification and return at a future time.	Y					nVIRO supports saving a draft form and returning to complete it at a later time. Draft forms are saved on the user's dashboard for easy access later on.
399.1	The solution must provide validations on data fields when asbestos notification is saved.	Y					nVIRO's dynamic forms engine validates user input in real time as data is entered
399.2	The solution must allow a user to edit or delete/cancel a work in process asbestos notification.	Y					nVIRO allows the user to delete draft submissions that are no longer needed.
399.3	The solution must allow a user to 'copy' an existing asbestos notification to create a new notification.		Y				This will be configured as part of the project and incurs no risk to the solution.
Submit Asbestos Notification							
400.0	The solution must allow a 'certified user' to submit an asbestos notification.	Y					nVIRO supports workflow for certifying users (identity proofing, authorizing certifier rights for specific facilities and businesses) which controls their ability to submit certain forms.
400.1	The solution must allow an asbestos facility or contractor to delegate authority to submit a notification to another user.	Y					nVIRO supports muti-signature routing through robust controls for inviting users to view/sign submissions with certain specified roles

400.2	The solution must allow an asbestos facility or contractor to remove delegation authority from another user.	Y					nVIRO allows external site/project administrators to manage right for their staff and contractors.
401.0	The solution must assign a unique number to each asbestos notification submitted.	Y					All submissions created through nVIRO receive a unique identifier used for tracking throughout the system
402.0	The solution must allow a user to view and print a completed asbestos notification form in a .pdf format for each form or revision submitted.	Y					nVIRO creates a PDF copy of record for all submitted forms, including revisions
Asbestos Notification Revisions							
403.0	The solution must allow a user to revise a submitted asbestos notification.	Y					nVIRO allows forms to be revised until such point as they have been fully processed by the agency
403.1	The solution must limit what data on a submitted asbestos notification can be revised.	Y					This is accomplished through the review process by which the agency processor would reject a revision if the information supplied was invalid. Instructions controls and conditional forms logic can help mitigate submission of invalid data revisions.
403.2	The solution must allow a ‘certified’ user to submit a revised notification.	Y					nVIRO supports workflow for certifying users (identity proofing, authorizing certifier rights for specific facilities and businesses) which controls their ability to submit certain forms.
Asbestos Notification Versioning							
404.0	The solution must allow one or more revisions to an asbestos notification.	Y					This is a current capability of nVIRO.
404.1	The solution must maintain versioning on asbestos notifications.	Y					This is a current capability of nVIRO.
404.2	The solution must assign a unique version number to each notification revision.	Y					This is a current capability of nVIRO.
Asbestos Inspection Targeting							
405.0	The solution must maintain data elements or factors that are weighted table for asbestos targeting.	Y					Forms can contain calculated controls, which can be used to create numeric scores based on formulas for weighting results in decision making and prioritization.

405.1	The solution must allow a System Administrator to edit an asbestos targeting factor.	Y					Since forms and reports are configurable within the system, the factors and weighting formulas can be adjusted as needs change
406.0	The solution must generate an inspection targeting report that includes calculated target points for each asbestos notification, based on asbestos targeting factors.	Y					The nVIRO reporting module allows for reporting on submission data, including calculated weighting results within those submissions. Reports can be fed directly into the inspection planning module for precise targeting based on agency goals.
Asbestos Notification Search							
407.0	The solution must allow an AQD user or a facility user to search for an asbestos notification.	Y					All submissions received in nVIRO are searchable based on various criteria
407.1	Search criteria must, at a minimum, include: (a) Status (b) Notification ID (c) Facility Name and Location (d) Owner Name (e) Start Date (f) Contractor Name (g) Project Type (h) Submission Date (i) District	Y					The native submission search capability allows for searching natively on all the fields listed.
Search Results							
408.0	The solution must support data sorting and filtering of data result sets.	Y					This is a current capability of nVIRO.
408.1	The solution must support export of data result set from asbestos search to an Excel file.	Y					This is a current capability of nVIRO.
408.2	The solution must allow a user to define the location and file name of the exported data file (i.e., a dialogue box).	Y					This is a current capability of nVIRO.
Data Export							

409.0	The solution must provide a method and schedule to export asbestos notification data in a format which can be shared by other State Agencies.	Y					This is a current capability of nVIRO.
Public Access to Asbestos Notifications							
410.0	The solution must allow for posting asbestos notifications and supporting documents to the AQD web site or public access portal.	Y					This is supported though the nSITE Explorer utility that is included with the nVIRO solution
410.1	The solution must allow a non-authenticated public user to access asbestos notification information from the AQD website or a public access portal.	Y					This is supported though the nSITE Explorer utility that is included with the nVIRO solution
Air Toxics Database							
Air Toxics							
411.0	The solution must maintain, at a minimum, data for chemicals used in toxics reviews including: (a) CAS Number (b) Chemical Name (c) Status (d) AQD ITSL (e) AQD Averaging Time (f) AQD ITSL Basis (g) AQD Second ITSL (h) AQD Second ITSL Average Time (i) AQD Second ITSL Basis (j) SRSI (k) AQD Human Inhalation Carcinogenicity Slope Factor (l) Carcinogenicity Avg Time (m) AQD IRSL (n) AQD SRSL (o) Dates		Y				The nVIRO system includes a core pollutant management component. This component will be extended to include the additional detailed toxics information required by AQD, including the specified data elements and historical information. This configuration incurs no risk to the solution.

	(p) Notes/Comments						
411.1	The solution must allow an authorized AQD user to add, edit or delete a chemical.	Y					The nVIRO system includes a core pollutant management component which provides the ability for users with administrative permissions to add, update, and delete pollutants.
412.0	The solution must allow any AQD user to search for or filter on a chemical based on various criteria.	Y					The nVIRO system includes a core pollutant management component which provides the ability to search for required pollutants based on a variety of criteria.
412.1	The solution must allow any AQD user to view data for a selected chemical.	Y					Air pollutant information is visible to all system users.
413.0	The solution must allow any AQD user to print chemical data.	Y					Air pollutant information can be extracted through the nVISAGE reporting component for printing and/or export to CSV or XLSX formats.
414.0	The solution must maintain a history of chemicals and their related data by date (i.e., for a given date range, what was the ISRL for a given chemical).		Y				The nVIRO system includes a core pollutant management component. This component will be extended to include the additional detailed toxics information required by AQD, including the specified data elements and historical information. This configuration incurs no risk to the solution.
415.0	The solution must allow an authorized AQD user to export the data to a .txt or .xlsx file.	Y					Air pollutant information can be extracted through the nVISAGE reporting component for printing and/or export to CSV or XLSX formats.
416.0	The solution must allow an AQD user the ability to easily navigate to an external web site for additional information on a given chemical.		Y				The toxics data management customizations will include the ability to link to EPA and other external sources for information on a particular toxic pollutant.

							This configuration incurs no risk to the solution.
External Access to Toxics Data							
417.0	The solution must allow non-authenticated users to search for, filter on, view and sort chemical information.		Y				The toxics data management customizations will include an external portal to provide access to pollutant information for the public and other external users. This configuration incurs no risk to the solution.
417.1	The solution must allow non-authenticated users to export chemical information to a .txt or .xlsx file.		Y				The toxics data management customizations will include an external portal to provide access to pollutant information for the public and other external users. This configuration incurs no risk to the solution.
417.2	The solution must allow non-authenticated users to download files attached to a chemical record.		Y				The toxics data management customizations will include an external portal to provide access to pollutant information for the public and other external users. This configuration incurs no risk to the solution.
Public Comment Period							
418.0	The solution must allow an authorized AQD user to indicate a chemical requires a public comment period.	Y					nVIRO will allow the program user to indicate that an application is subject to a public notice and comment period. When a given chemical is determined to be subject to a public comment period, an application will be created for the given facility (if one has not already been created by the facility users) and a public notice event will be created for the application. The program users may associate any relevant supplemental information to the public notice. This will cause the application to be available for non-authenticated, public user review and comment.
Toxics Review Outside of Permit Process							

419.0	The solution must allow an authorized AQD user to create a record for a toxics review that is not associated with a specific permit.	Y					nVIRO will allow the program user to indicate that an application is subject to a public notice and comment period. When a given chemical is determined to be subject to a public comment period, an application will be created for the given facility (if one has not already been created by the facility users) and a public notice event will be created for the application. The program users may associate any relevant supplemental information to the public notice. This will cause the application to be available for non-authenticated, public user review and comment.
419.1	The solution must allow an authorized AQD user to enter facility, chemical, and comment information for a toxics review not associated with a permit.	Y					nVIRO will allow the program user to indicate that an application is subject to a public notice and comment period. When a given chemical is determined to be subject to a public comment period, an application will be created for the given facility (if one has not already been created by the facility users) and a public notice event will be created for the application. The program users may associate any relevant supplemental information to the public notice. This will cause the application to be available for non-authenticated, public user review and comment.
Compliance and Enforcement Reporting							
Reporting to EPA							
420.0	The solution must support the process to report compliance and enforcement data to the EPA.	Y					nVIRO includes built in support for the ICIS-Air Exchange Network data flow. The system includes the standard OpenNode2 staging tables and database procedures that will populate these staging tables with air facility compliance data from the core system. The ICIS-Air data flow will be configured on the EGLE OpenNode2 instance to use the staging tables in the nVIRO system.

420.1	The solution must allow an authorized AQD user to prepare files for EPA compliance and enforcement reporting.	Y					nVIRO includes built in support for the ICIS-Air Exchange Network data flow. The system includes the standard OpenNode2 staging tables and database procedures that will populate these staging tables with air facility compliance data from the core system. The ICIS-Air data flow will be configured on the EGLE OpenNode2 instance to use the staging tables in the nVIRO system.
420.2	The solution must provide a process to extract data from multiple tables and populate a staging table which is compatible with the OpenNode2 program.	Y					nVIRO includes built in support for the ICIS-Air Exchange Network data flow. The system includes the standard OpenNode2 staging tables and database procedures that will populate these staging tables with air facility compliance data from the core system. The ICIS-Air data flow will be configured on the EGLE OpenNode2 instance to use the staging tables in the nVIRO system.
420.3	The solution must submit only the changes that have been made to the data since the previous submission to the EPA.	Y					nVIRO includes built in support for the ICIS-Air Exchange Network data flow. The system includes the standard OpenNode2 staging tables and database procedures that will populate these staging tables with air facility compliance data from the core system. The ICIS-Air data flow will be configured on the EGLE OpenNode2 instance to use the staging tables in the nVIRO system.
EPA Annual Emissions Reporting							
Reporting to EPA							
421.0	The solution must support the process to report annual emissions data to the EPA.	Y					This is a current capability of the emissions inventory reporting system.
421.1	The solution must allow an AQD user to select the year that emissions are being reported for.	Y					This is a current capability of the emissions inventory reporting system.

421.2	The solution must allow a System Administrator to select which fields are included in the extract process for a given year.	Y					The current emissions inventory reporting system allows a system administrator to select facilities/emissions data to include by year, facility, reporting category and a variety of other criteria. The fields included in extraction process are driven by the requirements of the CERS XML schema and the Node plugin which is updated by EPA/ECOS.
421.3	The solution must provide a user initiated process to extract data from multiple tables into a format which can be imported into the EPA's Bridge Tool.	Y					This is a current capability of the emissions inventory reporting system. The resulting XML can be imported into the EPA's Bridge Tool, but is not required by the system. The system has a built-in Node Client that can submit data directly to EPA EIS and bypass the need for EPA Bridge Tool.
421.4	The solution must allow the process to extract data for import to the Bridge tool to be run on demand and repeatedly.	Y					This is a current capability of the emissions inventory reporting system.
421.5	The solution must provide the data as reported to the EPA in a format that can be posted to the EGLE website.	Y					The current emissions inventory reporting system can provide the XML file(s) generated during the EPA EIS submission process.
OPTIONAL							
Dashboard							
Graphical User Interface							
422.0	The solution may display certain dashboard items in a graphical format.		Y				This configuration incurs no risk to the solution.
Notifications							
423.0	The solution may allow notifications to facilities to be sent via text.					Y	The nVIRO services engine can support SMS test messages however this has not been implemented in the user interface, as no clients have identified it as a need to date (as an alternative to the current support for any combination of email, letter generation and in system alerts). However, this can be added as a Future Enhancement should AQD request it.

Workflow Metrics							
424.0	The solution may allow a System Administrator to view workflow metrics.	Y					A Workflow and tasks tracking metrics are currently available
424.1	Workflow metrics may include: (a) Workflow durations (b) Activity metrics (e.g., duration of time to complete an activity, number of resources assigned, measurement against timers, reassignment, etc.)	Y					This is a current capability of nVIRO.
Import of Reporting Data							
425.0	The solution may allow for facilities to submit reporting data in a specified format that can be imported into the system.		Y				There are a couple of means in which to address this requirement. Online forms module of nVIRO, known as nFORM, has the capability to receive attachments (reports) as well as import and integrate data reported on the electronic form. If a higher volume, with more complex QA rules solution is required then nVIRO has a data importing module that has been engineered to be highly configurable. It is currently in use by the state of Wyoming for the import and quality assurance of Solid Waste Facility groundwater monitoring results. It includes, capabilities to configure data formats, destination tables/fields, and data validation rules without modifying the underlying import engine for each new data source. This functionality would need to be configured to address the EGLE's specific data sources and needs. This configuration incurs no risk to the solution.
Enterprise Optional Requirements							

426.0	The solution must be scalable to support similar functional processes across other divisions and program areas in EGLE.	Y					nVIRO was engineered for and has proven to be an enterprise environmental data management system. It supports the all aspects of the regulatory lifecycle including permitting, compliance reporting, and compliance management and enforcement lifecycles. nVIRO is currently being used by several different states in an enterprise fashion to support cross-program environmental management for regulated entities. The states of South Carolina, North Dakota, Kansas, Wyoming, and Alabama all are leveraging nVIRO for multi- program data management. Programs addressed by nVIRO in these different states include Air Quality, Asbestos Licensing and Demolition, NPDES, Hazardous and Solid Wastes, Underground Storage Tanks, Environmental Remediation and Corrective Action, Dam Safety, Infectious Wastes, Private Wells... to name but a few. It is worth noting that EGLE currently employs nVIRO in the form of MiWaters. Implementing nVIRO for the AQD would be a leap forward in EGLE realizing this objective as two major program areas would be addressed by nVIRO.
426.1	This includes functional processes such as permitting, inspecting, report submittal, and compliance.	Y					See 426 above
427.0	The system must be able to support maintaining master data for facilities / sites / locations across all EGLE programs.	Y					See 426 above
427.1	Maintenance could include matching and merging records into a master; editing of records; maintenance of historical records.	Y					See 426 above

428.0	The system must present workload analysis or reporting for EGLE team members (e.g., number of sites per employee, number of inspections per employee, and average inspection time.)	Y					This is a current capability of nVIRO.
428.1	The system must be able to report on permitting data, such as how many were received, how many were issued/withdrawn/rejected, and average time to issue.	Y					See 428 above
429.0	The system must provide for sharing activity information on a facility / site / location across divisions and programs.	Y					nVIRO data is presented in a site centric fashion. Staff can see, for example, all inspections / violations for a site across all program areas, same for permits, as well as compliance and enforcement actions, to name a few. Conversely these views can be filtered down to be specific to the program area the EGLE staff person is interested in.
429.1	Conversely, if deemed sensitive, the system must protect certain elements of information from being shared.	Y					Sensitive information, such as pending enforcement data can be restricted to named personnel, preventing any unauthorized staff from viewing the activity.

SCHEDULE B – PRICING

This Pricing Schedule contains:

1. Total Contract Cost Detail
2. WRD Cloud Migration Milestones, Deliverables and Payments
3. AQD Implementation Milestones, Deliverables and Payments
4. Labor Rates for Optional Future Enhancements
5. Optional Storage Capacity Rates

Invoice Timing & Details

Contractor may invoice:

- Quarterly for Table 2 and Table 3 Implementation deliverables and milestones accepted by the State during the prior quarter, plus any additional Enhancement items deliverables and milestones agreed to during the contract term. Some highly aggregated deliverables included in these tables may be further decomposed into sub-deliverables by mutual agreement during the project.
- Monthly for hosting once the environments are set up by Contractor and made available for testing by the State.
- Monthly for software licensing once the environments are set up by Contractor and accepted by the State. Charges will be prorated for WRD until AQD begins to use the production system by discounting the annual license charge in Table 1 by $117,000 [i.e., the quoted annual AQD license charge].
- Monthly for maintenance and support after the system is in production. Charges will be prorated for WRD until AQD is added to instead be a charge of $139,821 per annum for Year 1. [Note: This is the difference between the annual charge in Table 1, and the annual charge included for AQD in Windsor's price proposal, it is disproportionate as many support needs are expected to be shared]

Because this Contract in part replaces, supersedes, and effectively terminates contract number 071B3200093 beginning 9/1/2021, Contractor will provide a $31,800 credit to the State for amounts already paid thereunder for software licensing related to periods after 8/31/2021. Contractor will apply this credit against the initial monthly invoices and will provide monthly statements indicating the credit amount applied until fully applied.

Table 1: Total Contract Cost Detail

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTAL
	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	
MiWaters Cloud Implementation	145,170										**145,170**
AQD Implementation	1,297,780	1,013,693									**2,311,473**
Hosting	247,780	248,239	248,704	249,172	249,646	250,602	251,578	252,573	253,588	254,623	**2,506,505**
nVIRO & SLEIS License	179,018	183,508	188,024	192,564	197,130	201,723	206,342	210,989	215,914	220,867	**1,996,079**
Maintenance & Support	230,037	213,386	214,279	215,191	216,121	217,070	218,038	219,024	220,031	221,058	**2,184,235**
TOTAL	**2,099,785**	**1,658,826**	**651,007**	**656,927**	**662,897**	**669,395**	**675,958**	**682,586**	**689,533**	**696,548**	**9,143,462**
Estimated Optional Future Enhancements											2,500,000
Estimated Record Retention Enhancements											500,000
CONTRACT TOTAL											**12,143,462**

NOTES:

1. WRD and Air Annual Subscription License to nVIRO Application Suite (nCORE, nFORM, nSPECT, nSITE and nVISAGE) and SLEIS.
2. Evaluation of Maintenance, Support and SLA. Annually, Windsor and the State will meet to evaluate requests. The following data will be provided by Windsor: number of requests, type/nature of requests, resolution time, and other metrics defining responsiveness. If needed, adjustments to handling maintenance and support requests, through either adding or reducing support resources, will be determined and agreed upon for the upcoming year and documented through a Contract Change Notice. Similar data will be provided on SLA – High and Critical Errors, along with any credits applied during the year for performance outside requirements. Documentation outlining any agreed upon changes to handling the SLA process and credits will also be documented through a Contract Change Notice.
3. The Division enhancement will be scoped and priced during the project.

Table 2: WRD Cloud Migration Milestones, Deliverables and Payments

Milestone/Phase	Tasks (Activity)	Deliverables	Cost ($)
MiWaters Cloud Project Initiation	Project Management Plan and Project Kickoff	Project Management Plan Project Schedule (Baselined) Project Kickoff Meeting	13,960
MiWaters Cloud UAT Environment	MiWaters UAT/Training Environment	UAT Environment Configured - Database, Document Repository, Base Integrations	24,595
MiWaters Cloud UAT Environment	MiLogin Integration	Integration Requirements/High Level Design	3,650
MiWaters Cloud UAT Environment	MiLogin Integration	Integration Developed / Tested in UAT environment	21,350
MiWaters Cloud UAT Environment	SOM UAT Environment Verification	UAT Environment Verification Support UAT Environment Issue Resolution	6,920
MiWaters Cloud Production Environment	MiWaters Production Environment	Prod Environment Configured - Database, Document Repository, Base Integrations	17,755
MiWaters Cloud Production Environment	Operations and Support Prep	Disaster Recovery Plan	5,210
MiWaters Cloud Production Environment	Operations and Support Prep	Security Plan	1,105
MiWaters Cloud Production Environment	Operations and Support Prep	Backups Configured and Implemented	1,265
MiWaters Cloud Production Environment	Operations and Support Prep	Disaster Recovery Test Execution Disaster Recovery Test Results	5,050
MiWaters Cloud Production Environment	Operations and Support Prep	Support software installed and configured	3,630
MiWaters Cloud Production Environment	Operations and Support Prep	Monitoring and Reporting Procedures	6,080
MiWaters Cloud Production Environment	SOM UAT Environment Verification	Prod Environment Verification Support Prod Environment Issue Resolution	9,865
Production Transition	Transition and Deployment Planning	Production Transition Plan	7,960
Production Transition	Transition and Deployment Planning	Production MiWaters Live in Cloud Environment	16,775
		TOTAL	**145,170**

Table 3: AQD Implementation Milestones, Deliverables and Payments

Milestone/Phase	Tasks (Activity)	Deliverables	Cost ($)
Analysis and Planning - Project Initiation	Project Management Plan and Project Kickoff	Project Management Plan Project Schedule (Baselined) Project Kickoff Meeting	28,020
Analysis and Planning - Project Initiation	Project Environment	Jira Issue Tracking Configured	3,362
Analysis and Planning - High-Level Analysis and Requirements	Base Application Deployment / Configuration	Base Application Environment Configured (Windsor Environment) Base Application Software Deployed and Configured	15,411
Analysis and Planning - High-Level Analysis and Requirements	High-Level Process Analysis	Business Process Requirements with Configuration Items (as Configuration Stories)	103,115
Analysis and Planning - High-Level Analysis and Requirements	System Integration Analysis	Integration Functional Design and Requirements (as Integration Stories)	30,822

Analysis and Planning - High-Level Analysis and Requirements	Environment Requirements	Environment Configuration Requirements Document and Stories Environment Implementation Schedule	11,208
Analysis and Planning - High-Level Analysis and Requirements	Legacy System Analysis	Data Migration Plan Data Migration Stories	37,827
Analysis and Planning - High-Level Analysis and Requirements	Product Backlog	Product Backlog: Stories defined within JIRA Tracking System and available to EGLE: - Business Processes and Related System Configuration Stories - Data Migration Stories - System Integration Stories - Report Development Stories - Requirement Review / Jira Tracking	25,218
Analysis and Planning - High-Level Analysis and Requirements	Implementation Plan	Refined Project Schedule and Implementation Plan	25,218
Asbestos Program Configuration and Implementation - Configuration	Configuration Process Definition	Process Configuration Definition Process Configuration Stories in Jira	20,687
Asbestos Program Configuration and Implementation - Configuration	Process Configuration	Process Configuration Stories Implemented	105,200
Asbestos Program Configuration and Implementation - Configuration	Report Configuration	Report Stories Implemented	7,752
Asbestos Program Configuration and Implementation - Data Migration	Core Data Migration Development	Core Entity Data Migrated (Migration Script Execution)	34,121
Asbestos Program Configuration and Implementation - Data Migration	Program Component Migration Development	Program Components Configured Program Component Migration (Migration Script Execution)	3,829
Asbestos Program Configuration and Implementation - Data Migration	Mock Conversion Cycles / User Testing	Mock Data Conversions (with issue resolution) to UAT Environment	12,248
Asbestos Program Configuration and Implementation - Testing / Testing Support	Test Planning and Preparation	Test Management Plan (Master Test Plan) Test Schedules (incorporated into overall project schedule	2,777
Asbestos Program Configuration and Implementation - Testing / Testing Support	Test Development	Test Scenarios / Test Scripts (e.g., for process/configuration, integration testing)	6,754
Asbestos Program Configuration and Implementation - User Testing	User Configuration / Process Testing	Processes Stories Tested / Issues Resolved	9,836
Asbestos Program Configuration and Implementation - User Testing	Final User Data Verification / Testing	Data Conversion Stories Tested / Issues Resolved	1,461
Asbestos Program Configuration and	Acceptance	Acceptance Application Deployment System Accepted	8,582

Implementation - Implementation		Issue Resolution Production Environment Acceptance	
Asbestos Program Configuration and Implementation - Implementation	Production Release Plan	Production Release Plan	1,481
Asbestos Program Configuration and Implementation - Implementation	Production Release	Production Release Plan Production Release	4,313
Asbestos Program Configuration and Implementation - Implementation	Initial Production Support	Initial Production Support	4,323
Air Program Configuration and Implementation - Configuration	Configuration Process Definition	Process Configuration Definition Process Configuration Stories in Jira	73,345
Air Program Configuration and Implementation - Configuration	Process Configuration	Process Configuration Stories Implemented	372,983
Air Program Configuration and Implementation - Configuration	Report Configuration	Report Stories Implemented	27,483
Air Program Configuration and Implementation - Data Migration	Core Data Migration Development	Core Entity Data Migrated (Migration Script Execution)	120,974
Air Program Configuration and Implementation - Data Migration	Program Component Migration Development	Program Components Configured Program Component Migration (Migration Script Execution)	13,577
Air Program Configuration and Implementation - Data Migration	Mock Conversion Cycles	Mock Data Conversions (with issue resolution) to UAT Environment	43,426
Air Program Training and Documentation		Training Management Plan Key Program User Training / Materials End User Training Sessions / Materials Administrative Training Sessions / Materials Form Configuration Training Sessions / Materials Advanced Form Configuration Training Sessions / Materials Document Template Configuration Training Sessions / Materials Inspection Configuration Training Sessions / Materials Form Configuration Support	64,304
Air Program Configuration and Implementation - Testing / Testing Support	Test Planning and Preparation	Test Management Plan (Master Test Plan) Test Schedules (incorporated into overall project schedule	9,846
Air Program Configuration and Implementation - Testing / Testing Support	Test Development	Test Scenarios / Test Scripts (e.g., for process/configuration, integration testing)	23,943
Air Program Configuration and Implementation - User Testing	Configuration / Process Testing	Processes Stories Tested / Issues Resolved	34,874
Air Program Configuration and Implementation - User Testing	Data Verification	Data Conversion Stories Tested / Issues Resolved	5,179

Air Program Configuration and Implementation - Implementation	Acceptance	Acceptance Application Deployment System Accepted Issue Resolution Production Environment Acceptance	30,427
Air Program Configuration and Implementation - Implementation	Production Release Plan	Production Release Plan	1,566
Air Program Configuration and Implementation - Implementation	Production Release	Production Release Plan Production Release	4,561
Air Program Configuration and Implementation - Implementation	Initial Production Support	Initial Production Support	4,572
Product Enhancements and Integrations - Development and Implementation	Core Product Integrations (Dev and Test)	Centralized Electronic Payment Authorization System (CEPAS) - Integration Developed and Delivered to UAT Michigan Cashiering and Receivable System (MiCaRS) - Integration Developed and Delivered to UAT Content Manager 9 (CM9) - Integration Developed and Delivered to UAT	160,839
Product Enhancements and Integrations - Development and Implementation	Core Product Enhancements (Dev and Test)	TBD Product Extensions (identified in Analysis and Planning)	656,586
Product Enhancements and Integrations - Testing	Core Product Enhancement and Integration Testing	Core Product Integrations Tested and Issues Resolved Core Product Extensions Tested and Issues Resolved	90,825
Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Disaster Recovery Plan	Disaster Recovery Plan	
Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Security Plan	Security Plan	
Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Configure and Implement Backup Strategy	Backups Configured and Implemented	
Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Disaster Recovery Testing	Disaster Recovery Test Execution Disaster Recovery Test Results	
Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Support Software	Support software installed and configured	

Environments, Data Management, and Operations Planning - Operations and Support Planning and Implementation	Monitoring Procedures and Reporting	Monitoring and Reporting Procedures	
Environments, Data Management, and Operations Planning - Environments	User Test and Training Environments	UAT Environment Established and Available to Users Training Environment Established and Available to Users	24,139
Environments, Data Management, and Operations Planning - Environments	Production Environment	Production Environment Established Including: Production Environment available for SOM access and testing Issue Resolution Production Environment Acceptance	23,340
Environments, Data Management, and Operations Planning - Environments	EGLE / SOM Production Environment Acceptance Testing	Issue Resolution Production Environment Acceptance	18,882
Warranty Period	90 Day Warranty Period Support Services	Warranty Period Complete (Free of charge per RFP section 26)	-
Project Closure	Close-out and Retrospective	Project Closeout / Retrospective	2,237
		TOTAL	**2,311,473**

Table 4: Labor Rates for Optional Future Enhancements

The labor rates in the table below will apply to optional future services purchased during the life of the contract. Rates shown below are the 2021 standard rates. The annual standard increase is 2% per calendar year.

Staffing Category	Offsite Hourly Rate ($)	Onsite Hourly Rate ($)
Project Manager	223	265
Service Manager (Account Manager)	223	265
Technical Lead/Solution Architect	223	265
Business Analyst Lead	203	245
Business Analyst	155	197
Training Lead	176	218
Trainer	155	197
Scrum Master	223	265
QA Test Lead	176	218
Data Architect	176	218
Lead Developer	176	218
Developer	155	197
Security Officer	203	245
Network Engineer	155	197
Technical Writer	155	197

Table 5: Optional Storage Capacity Rates

The rates in the table below will apply to optional additional storage purchased during the life of the contract.

Storage Capacity Tier	Cost ($)
Database – from 8 to 16 Core; 1TB to 2TB	4,250/month
File storage (SSD) from 8TB to 16TB	800/month

Table 6: Optional Future Software Licensing Rates

The State may opt to purchase additional software at the following rates, which escalate at 2% per annum during the life of the contract.

SoftwareTier	Cost
Agency (Enterprise) License annual charge, discounted 6.9% below MSRP.	$236,838

SCHEDULE C - INSURANCE SCHEDULE

Required Coverage.

1.1 **Insurance Requirements.** Contractor, at its sole expense, must maintain the insurance coverage identified below. All required insurance must: (i) protect the State from claims that arise out of, are alleged to arise out of, or otherwise result from Contractor's or subcontractor's performance; (ii) be primary and non-contributing to any comparable liability insurance (including self-insurance) carried by the State; and (iii) be provided by a company with an A.M. Best rating of "A-" or better, and a financial size of VII or better.

Required Limits	Additional Requirements
Commercial General Liability Insurance	
Minimum Limits: $1,000,000 Each Occurrence $1,000,000 Personal & Advertising Injury $2,000,000 Products/Completed Operations $2,000,000 General Aggregate	Policy must be endorsed to add “the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents” as additional insureds using forms SS0008 04 05, SS4171, and SS4170
Automobile Liability Insurance	
Minimum Limits: $1,000,000 Per Accident	Policy must: (1) be endorsed to add “the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents” as additional insureds; and (2) include Hired and Non-Owned Automobile coverage.
Workers' Compensation Insurance	
Minimum Limits: Coverage according to applicable laws governing work activities	Waiver of subrogation, except where waiver is prohibited by law.
Employers Liability Insurance	
Minimum Limits: $500,000 Each Accident $500,000 Each Employee by Disease $500,000 Aggregate Disease	
Privacy and Security Liability (Cyber Liability) Insurance	
Minimum Limits: $1,000,000 Each Occurrence $1,000,000 Annual Aggregate	Policy must cover information security and privacy liability, privacy notification costs, regulatory defense and penalties, and website media content liability.

If any required policies provide claims-made coverage, the Contractor must: (i) provide coverage with a retroactive date before the Effective Date of the Contract or the beginning of Contract Activities; (ii) maintain coverage and provide evidence of coverage for at least three (3) years after completion of the Contract Activities; and (iii) if coverage is cancelled or not renewed, and not replaced with another claims-made policy form with a retroactive date prior to the Effective Date of this Contract, Contractor must purchase extended reporting coverage for a minimum of three (3) years after completion of work.

Contractor must: (i) provide insurance certificates to the Contract Administrator, containing the agreement or delivery order number, at Contract formation and within twenty (20) calendar days of the expiration date of the applicable policies; (ii) require that subcontractors maintain the required insurances contained in this Section; (iii) notify the Contract Administrator within five (5) Business Days if any policy is cancelled; and (iv) waive all rights against the State for damages covered by insurance. Failure to maintain the required insurance does not limit this waiver.

This Section is not intended to and is not to be construed in any manner as waiving, restricting or limiting the liability of either party for any obligations under this Contract (including any provisions hereof requiring Contractor to indemnify, defend and hold harmless the State).

SCHEDULE D - SERVICE LEVEL AGREEMENT
For Contractor-Hosted Systems

The parties agree as follows:

1. **Definitions.** For purposes of this Schedule, the following terms have the meanings set forth below. All initial capitalized terms in this Schedule that are not defined in this **Schedule** shall have the respective meanings given to them in the Contract Terms and Conditions.

"**Actual Uptime**" means the total minutes in the Service Period that the Hosted Services are Available.

"**Availability**" has the meaning set forth in **Section 2.1**.

"**Availability Requirement**" has the meaning set forth in **Section 2.1**.

"**Available**" has the meaning set forth in **Section 2.1**.

"**Contact List**" means a current list of Contractor contacts and telephone numbers set forth in the attached **Schedule D – Attachment 1** to this Schedule to enable the State to escalate its Support Requests, including: (a) the first person to contact; and (b) the persons in successively more qualified or experienced positions to provide the support sought.

"**Corrective Action Plan**" has the meaning set forth in **Section 3.9**.

"**Critical Service Error**" has the meaning set forth in **Section 3.5**.

"**Exceptions**" has the meaning set forth in **Section 2.2**.

"High Service Error" has the meaning set forth in **Section 3.5.**

"**Low Service Error**" has the meaning set forth in **Section 3.5**.

"**Medium Service Error**" has the meaning set forth in **Section 3.5**.

"**Non-SLA Support Request**" has the meaning set forth in **Section 3.5**.

"**Resolve**" has the meaning set forth in **Section 3.6**.

"**RPO**" or "**Recovery Point Objective**" means the maximum amount of potential data loss in the event of a disaster.

"RTO" or **"Recovery Time Objective**" means the maximum period of time to fully restore the Hosted Services in the case of a disaster.

"**Scheduled Downtime**" has the meaning set forth in **Section 2.3**.

"**Scheduled Uptime**" means the total minutes in the Service Period.

"**Service Availability Credits**" has the meaning set forth in **Section 2.6**.

"**Service Error**" means any failure of any Hosted Service to be Available or otherwise perform in accordance with this Schedule. Service Errors exclude:

- Issues resulting from unplanned alterations to, or outages of third-party systems, such as State systems and Federal EPA systems.

- Known or pre-existing software limitations that operate consistent with software design, except for any enhancements to be implemented pursuant to the statement of work or other requirements identified in this contract or any future enhancement change requests.

"**Service Level Credits**" has the meaning set forth in **Section 3.6**.

"**Service Level Failure**" means a failure to perform the Software Support Services fully in compliance with the Support Service Level Requirements.

"**Service Period**" has the meaning set forth in **Section 2.1**.

"**SLA Support Request**" has the meaning set forth in **Section 3.5**.

"**Software Support Services**" has the meaning set forth in **Section 3**.

"**State Systems**" means the information technology infrastructure, including the computers, software, databases, electronic systems (including database management systems) and networks, of the State or any of its designees.

"**Support Hours**" means 7:00am – 6:00pm Eastern Time, Monday – Friday, on State Business Days.

"**Support Request**" has the meaning set forth in **Section 3.5**.

"**Support Service Level Requirements**" has the meaning set forth in **Section 3.4**.

2. Service Availability and Service Availability Credits.

2.1 Availability Requirement. Contractor will make the Hosted Services Available, as measured over the course of each calendar month during the Term and any additional periods during which Contractor does or is required to perform any Hosted Services (each such calendar month, a "**Service Period**"), at least 99.98% of the time, excluding only the time the Hosted Services are not Available solely as a result of one or more Exceptions (the "**Availability Requirement**"). "**Available**" means the Hosted Services are available and operable for access and use by the State and its Authorized Users over the Internet in material conformity with the Contract. "**Availability**" has a correlative meaning. The Hosted Services are not considered Available in the event of a material performance degradation or inoperability of the Hosted Services. The Availability Requirement will be calculated for the Service Period as follows: (Actual Uptime – Total Minutes in Service Period Hosted Services are not Available Due to an Exception) ÷ (Scheduled Uptime – Total Minutes in Service Period Hosted Services are not Available Due to an Exception) x 100 = Availability.

2.2 Exceptions. No period of Hosted Services degradation or inoperability will be included in calculating Availability to the extent that such downtime or degradation is due to any of the following ("**Exceptions**"):

(a) Failures of the State's or its Authorized Users' internet connectivity;

(b) Scheduled Downtime as set forth in **Section 2.3**.

2.3 Scheduled Downtime. Contractor must notify the State at least twenty-four (24) hours in advance of all scheduled outages of the Hosted Services or Software in whole or in part ("**Scheduled Downtime**"). All such scheduled outages will: (a) last no longer than five (5) hours; (b) be scheduled between the hours of 12:00 a.m. and 5:00 a.m., Eastern Time; and (c) occur no more frequently than four (4) times per month ; provided that Contractor may request the State to approve extensions of Scheduled Downtime above five (5) hours, and increased frequency above four (4) times per month and such approval by the State may not be unreasonably withheld or delayed.

2.4 Software Response Time. Software response time, defined as the interval from the time the end user sends a transaction to the time a visual confirmation of transaction completion is received, should be less than

two (2) seconds for 98% of all transactions. Current application response times will be maintained or improved with the migration to the vendor hosted environment and with the inclusion of additional program areas. The State plans to execute performance tests of the current application for WRD in the current environment and re-execute those with each substantial change to environment or applications. The baseline performance test will be utilized to determine unacceptable response times used to evaluate SLA related Software Availability Requirement.

2.5 Service Availability Reports. Within thirty (30) days after the end of each Service Period, Contractor will provide to the State a report describing the Availability and other performance of the Hosted Services and Software during that calendar month as compared to the Availability Requirement. The report must be in electronic or such other form as the State may approve in writing and shall include, at a minimum: (a) the actual performance of the Hosted Services relative to the Availability Requirement; and (b) if Hosted Service performance has failed in any respect to meet or exceed the Availability Requirement during the reporting period, a description in sufficient detail to inform the State of the cause of such failure and the corrective actions the Contractor has taken and will take to ensure that the Availability Requirement are fully met.

2.6 Remedies for Service Availability Failures.

(a) If the actual Availability of the Hosted Services is less than the Availability Requirement for any Service Period, such failure will constitute a Service Error for which Contractor will issue to the State the following credits on the fees payable for Hosted Services provided during the Service Period ("**Service Availability Credits**"):

Availability	**Credit of Fees**
≥99.98%	None
<99.98% but ≥99.0%	15%
<99.0% but ≥95.0%	50%
<95.0%	100%

(c) Any Service Availability Credits due under this **Section** will be applied in accordance with payment terms of the Contract.

(d) If the actual Availability of the Hosted Services and Software is less than the Availability Requirement in any two (2) of four (4) consecutive Service Periods, then, in addition to all other remedies available to the State, the State may terminate the Contract on written notice to Contractor with no liability, obligation or penalty to the State by reason of such termination.

3. Support and Maintenance Services. Contractor will provide IT Environment Service and Software maintenance and support services (collectively, "**Software Support Services**") in accordance with the provisions of this **Section**. The Software Support Services are included in the Services, and Contractor may not assess any additional fees, costs or charges for such Software Support Services.

3.1 Support Service Responsibilities. Contractor will:

(e) correct all Service Errors in accordance with the Support Service Level Requirements, including by providing defect repair, programming corrections and remedial programming;

(f) provide unlimited telephone support during Support Hours,

(g) provide unlimited online support 24 hours a day, seven days a week;

(h) provide online access to technical support bulletins and other user support information and forums, to the full extent Contractor makes such resources available to its other customers; and

(i) respond to and Resolve Support Requests as specified in this **Section.**

3.2 Service Monitoring and Management. Contractor will continuously monitor and manage the Hosted Services and Software to optimize Availability that meets or exceeds the Availability Requirement. Such monitoring and management includes:

(a) proactively monitoring on a twenty-four (24) hour by seven (7) day basis all Hosted Service functions, servers, firewall and other components of Hosted Service security;

(b) if such monitoring identifies, or Contractor otherwise becomes aware of, any circumstance that is reasonably likely to threaten the Availability of the Hosted Service, taking all necessary and reasonable remedial measures to promptly eliminate such threat and ensure full Availability; and

(c) if Contractor receives knowledge that the Hosted Service or any Hosted Service function or component is not Available (including by written notice from the State pursuant to the procedures set forth herein):

(i) confirming (or disconfirming) the outage by a direct check of the associated facility or facilities;

(ii) If Contractor's facility check in accordance with clause (i) above confirms a Hosted Service outage in whole or in part: (A) notifying the State in writing pursuant to the procedures set forth herein that an outage has occurred, providing such details as may be available, including a Contractor trouble ticket number, if appropriate, and time of outage; and (B) working all problems causing and caused by the outage until they are Resolved as Critical Service Errors in accordance with the Support Request Classification set forth in **Section 3.5**, or, if determined to be an internet provider problem, open a trouble ticket with the internet provider; and

(iii) Notifying the State that the Contractor has fully corrected the outage and any related problems, along with any pertinent findings or action taken to close the trouble ticket.

3.3 Service Maintenance. Contractor will continuously maintain the Hosted Services and Software to optimize Availability that meets or exceeds the Availability Requirement. Such maintenance services include providing to the State and its Authorized Users:

(a) all updates, bug fixes, enhancements, Maintenance Releases, New Versions and other improvements to the Hosted Services and Software, including the Software, that Contractor provides at no additional charge to its other similarly situated customers; provided that Contractor shall consult with the State and is required to receive State approval prior to modifying or upgrading Hosted Services and Software, including Maintenance Releases and New Versions of Software; and

(b) all such services and repairs as are required to maintain the Hosted Services and Software or are ancillary, necessary or otherwise related to the State's or its Authorized Users' access to or use of the Hosted Services and Software, so that the Hosted Services and Software operate properly in accordance with the Contract and this Schedule.

3.4 Support Service Level Requirements. Contractor will correct all Service Errors and respond to and Resolve all Support Requests in accordance with the required times and other terms and conditions set forth in this **Section** ("**Support Service Level Requirements**"), and the Contract.

3.5 Support Requests. The State will classify its requests for Service Error corrections in accordance with the descriptions set forth in the chart below (each a "**Support Request**"). The State will notify Contractor of Support Requests by email, telephone or such other means as the parties may hereafter agree to in writing. The State shall include in each Support Request a description of the reported Error, the time the State first observed the Error and whether it is an **SLA Support Request**. The State may designate a support request as a **Non-SLA Support Request**, which will signify that neither the response and resolution metrics nor the Service Level Credits will apply to that support request.

Support Request Classification	Description: Any Service Error Comprising or Causing any of the Following Events or Effects
Critical Service Error	● Issue affecting entire system or single critical production function; ● System down or operating in materially degraded state; ● Data integrity at risk; ● Declared a Critical Support Request by the State; or ● Widespread access interruptions.
High Service Error	● Primary component failure that materially impairs its performance; or ● Data entry or access is materially impaired on a limited basis.
Medium Service Error	● IT Environment Services and Software is operating with minor issues that can be addressed with an acceptable (as determined by the State) temporary work around.
Low Service Error	● Request for assistance, information, or services that are routine in nature.

3.6 Response and Resolution Time Service Levels. Response and Resolution times will be measured from the time Contractor receives a Support Request until the respective times Contractor has (i) responded to, in the case of response time and (ii) Resolved such Support Request, in the case of Resolution time. "**Resolve**" (including "**Resolved**", "**Resolution**" and correlative capitalized terms) means that, as to any Service Error, Contractor has provided the State the corresponding Service Error correction and the State has confirmed such correction and its acceptance thereof. However, the time the State takes to confirm acceptable resolution does not apply to the service credits below. Contractor will respond to and Resolve all Service Errors within the following times based on the severity of the Service Error:

Support Request Classification	Service Level Metric (Required Response Time)	Service Level Metric (Required Resolution Time)	Service Level Credits (For Failure to Respond to any Support Request Within the Corresponding Response Time)	Service Level Credits (For Failure to Resolve any Support Request Within the Corresponding Required Resolution Time)
Critical Service Error	One (1) hour	Four (4) hours	Five percent (5%) of the Software License Fees for the month in which the initial Service Level Failure begins and five percent (5%) of such monthly Fees for each additional hour or portion thereof that the corresponding Service Error is not responded to within the required response time.	Five percent (5%) of the Software License Fees for the month in which the initial Service Level Failure begins and five percent (5%) of such monthly Fees for each additional hour or portion thereof that the corresponding Service Error remains un-Resolved, up to a maximum of two month's fees.
High Service Error	One (1) hour	Two (2) days	Three percent (3%) of the Software License Fees for the month in which the initial Service Level Failure begins and three percent (3%) of such monthly Fees for each additional hour or portion thereof that the corresponding Service Error is not responded to within the required response time.	Three percent (3%) of the Software License Fees for the month in which the initial Service Level Failure begins and three percent (3%) of such monthly Fees for each additional day or portion thereof that the corresponding Service Error remains un-Resolved, up to a maximum of two month's fees.
Medium Service Error	Three (3) days	Two (2) weeks or during the subsequent	N/A	N/A

		release of the licensed software		
Low Service Error	Three (3) days	Two (2) weeks or during the subsequent release of the licensed software	N/A	N/A

3.7 Escalation. With respect to any Critical Service Error Support Request, until such Support Request is Resolved, Contractor will escalate that Support Request within sixty (60) minutes of the receipt of such Support Request by the appropriate Contractor support personnel, including, as applicable, the Contractor Project Manager and Contractor's management or engineering personnel, as appropriate.

3.8 Support Service Level Credits. Failure to achieve any of the Support Service Level Requirements for Critical and High Service Errors, except where an acceptable workaround or extended resolution schedule has been agreed upon by the State, will constitute a Service Level Failure for which Contractor will issue to the State the corresponding service credits set forth in **Section 3.6** ("**Service Level Credits**") in accordance with payment terms set forth in the Contract. Third party software zero-day vulnerabilities (where the Contractor cannot resolve an error until the responsible third party releases a patch) are excluded from service credits.

3.9 Action Plan. If two or more Critical Service Errors occur in any thirty (30) day period during (a) the Term or (b) any additional periods during which Contractor does or is required to perform any Hosted Services, Contractor will promptly investigate the root causes of these Service Errors and provide to the State within five (5) Business Days of its receipt of notice of the second such Support Request an analysis of such root causes and a proposed written corrective action plan for the State's review, comment and approval, which, subject to and upon the State's written approval, shall be a part of, and by this reference is incorporated in, the Contract as the parties' corrective action plan (the "**Corrective Action Plan**"). The Corrective Action Plan must include, at a minimum: (a) Contractor's commitment to the State to devote the appropriate time, skilled personnel, systems support and equipment and other resources necessary to Resolve and prevent any further occurrences of the Service Errors giving rise to such Support Requests; (b) a strategy for developing any programming, software updates, fixes, patches, etc. necessary to remedy, and prevent any further occurrences of, such Service Errors; and (c) time frames for implementing the Corrective Action Plan. There will be no additional charge for Contractor's preparation or implementation of the Corrective Action Plan in the time frames and manner set forth therein.

4. Data Storage, Backup, Restoration and Disaster Recovery. Contractor must maintain or cause to be maintained backup redundancy and disaster avoidance and recovery procedures designed to safeguard State Data and the State's other Confidential Information, Contractor's Processing capability and the availability of the IT Environment Services and Software, in each case throughout the Term and at all times in connection with its actual or required performance of the Services hereunder. All backed up State Data shall be located in the continental United States. The force majeure provisions of this Contract do not limit Contractor's obligations under this section**.**

4.1 Data Storage. Contractor will provide sufficient storage capacity to meet the needs of the State at the rates listed in the Pricing Schedule.

4.2 Data Backup. Contractor will conduct, or cause to be conducted, daily back-ups of State Data and perform, or cause to be performed, other periodic offline back-ups of State Data on at least a weekly basis and store and retain such back-ups as specified in **Schedule A**. Contractor must, within five (5) Business Days of the State's request, provide the State, without charge and without any conditions or contingencies whatsoever (including but not limited to the payment of any fees due to Contractor), an extract of State Data in the format specified by the State**.**

4.3 Data Restoration. If the data restoration is required due to the actions or inactions of the Contractor or its subcontractors, Contractor will promptly notify the State and complete actions required to restore service to normal production operation. If requested, Contractor will restore data from a backup upon written notice from

the State. Contractor will restore the data within one (1) Business Day of the State's request. Contractor will provide data restorations at its sole cost and expense.

4.4 Disaster Recovery. Throughout the Term and at all times in connection with its actual or required performance of the Services, Contractor will maintain and operate a backup and disaster recovery plan to achieve a Recovery Point Objective (RPO) of 24 hours, and a Recovery Time Objective (RTO) of 24 hours (the "**DR Plan**") and implement such DR Plan in the event of any unplanned interruption of the Hosted Services. Contractor's current DR Plan, revision history, and any reports or summaries relating to past testing of or pursuant to the DR Plan are attached as **Schedule F**. Contractor will actively test, review and update the DR Plan on at least an annual basis using industry best practices as guidance. Contractor will provide the State with copies of all such updates to the Plan within fifteen (15) days of its adoption by Contractor. All updates to the DR Plan are subject to the requirements of this **Section**; and provide the State with copies of all reports resulting from any testing of or pursuant to the DR Plan promptly after Contractor's receipt or preparation. If Contractor fails to reinstate all material Hosted Services and Software within the periods of time set forth in the DR Plan, the State may, in addition to any other remedies available under this Contract, in its sole discretion, immediately terminate this Contract as a non-curable default.

SCHEDULE D - Attachment 1 – Contact List

Windsor's contacts in order of seniority on this project can be reached at 503-675-7833 (extensions and email addresses below):

a. Lead Business Analyst: John Bosco, john_bosco@windsorsolutions.com, ext. 256
b. Project Manager: John Kostakos, john_kostakos@windsorsolutions.com, ext. 230
c. Contract Administrator: Steve Rosenberger, steve_rosenberger@windsorsolutions.com, ext. 204

SCHEDULE E – DATA SECURITY REQUIREMENTS

1. Definitions. For purposes of this Schedule, the following terms have the meanings set forth below. All initial capitalized terms in this Schedule that are not defined in this **Schedule** shall have the respective meanings given to them in the Contract.

"**Contractor Security Officer**" has the meaning set forth in **Section 2** of this Schedule.

"**FedRAMP**" means the Federal Risk and Authorization Management Program, which is a federally approved risk management program that provides a standardized approach for assessing and monitoring the security of cloud products and services.

"**FISMA**" means The Federal Information Security Modernization Act of 2014 (Pub.L. No. 113-283 (Dec. 18, 2014.).

"Hosting Provider" means any Permitted Subcontractor that is providing any or all of the Hosted Services under this Contract.

"**NIST**" means the National Institute of Standards and Technology.

"**PCI**" means the Payment Card Industry.

"**PSP**" or **"PSPs"** means the State's IT Policies, Standards and Procedures.

"**SSAE**" means Statement on Standards for Attestation Engagements.

"**Security Accreditation Process**" has the meaning set forth in **Section 6** of this Schedule.

2. Security Officer. Contractor will appoint a Contractor employee to respond to the State's inquiries regarding the security of the Hosted Services who has sufficient knowledge of the security of the Hosted Services and the authority to act on behalf of Contractor in matters pertaining thereto ("**Contractor Security Officer**").

3. Contractor Responsibilities. Contractor is responsible for establishing and maintaining a data privacy and information security program, including physical, technical, administrative, and organizational safeguards, that is designed to:

(a) ensure the security and confidentiality of the State Data;

(b) protect against any anticipated threats or hazards to the security or integrity of the State Data;

(c) protect against unauthorized disclosure, access to, or use of the State Data;

(d) ensure the proper disposal of any State Data in Contractor's or its subcontractor's possession; and

(e) ensure that all Contractor Representatives comply with the foregoing.

The State has established Information Technology (IT) PSPs to protect IT resources under the authority outlined in the overarching State 1305.00 Enterprise IT Policy. In no case will the safeguards of Contractor's data privacy and information security program be less stringent than the safeguards used by the State, and Contractor must at all times comply with all applicable public and non-public State IT policies and standards, of which the publicly available ones are at https://www.michigan.gov/dtmb/0,5552,7-358-82547_56579_56755---,00.html.

This responsibility also extends to all service providers and subcontractors with access to State Data or an ability to impact the contracted solution. Contractor responsibilities are determined from the PSPs based on the services being provided to the State, the type of IT solution, and the applicable laws and regulations.

4. Acceptable Use Policy. To the extent that Contractor has access to the State's IT environment, Contractor must comply with the State's Acceptable Use Policy, see https://www.michigan.gov/documents/dtmb/1340.00.01_Acceptable_Use_of_Information_Technology_Standard_458958_7.pdf. All Contractor Personnel will be required, in writing, to agree to the State's Acceptable Use Policy before accessing State systems. The State reserves the right to terminate Contractor's and/or subcontractor(s) or any Contractor Personnel's access to State systems if the State determines a violation has occurred.

5. Protection of State's Information. Throughout the Term and at all times in connection with its actual or required performance of the Services, Contractor will:

5.1 If Hosted Services are provided by a Hosting Provider, ensure each Hosting Provider maintains FedRAMP authorization for all Hosted Services environments throughout the Term, and in the event a Hosting Provider is unable to maintain FedRAMP authorization, the State, at its sole discretion, may either a) require the Contractor to move the Software and State Data to an alternative Hosting Provider selected and approved by the State at Contractor's sole cost and expense without any increase in Fees, or b) immediately terminate this Contract for cause pursuant to **Section 15.1** of the Contract;

5.2 for Hosted Services provided by the Contractor, maintain either a FedRAMP authorization or an annual SSAE 18 SOC 2 Type II audit based on State required NIST Special Publication 800-53 MOD Controls using identified controls and minimum values as established in applicable State PSPs.

5.3 ensure that the Software and State Data is securely hosted, supported, administered, accessed, and backed up in a data center(s) that resides in the continental United States, and minimally meets Uptime Institute Tier 3 standards (www.uptimeinstitute.com), or its equivalent;

5.4 maintain and enforce an information security program including safety and physical and technical security policies and procedures with respect to its Processing of the State Data that complies with the requirements of the State's data security policies as set forth in this Contract, and must, at a minimum, remain compliant with FISMA and NIST Special Publication 800-53 MOD Controls using identified controls and minimum values as established in applicable State PSPs;

5.5 provide technical and organizational safeguards against accidental, unlawful or unauthorized access to or use, destruction, loss, alteration, disclosure, encryption, transfer, commingling or processing of such information that ensure a level of security appropriate to the risks presented by the processing of State Data and the nature of such State Data, consistent with best industry practice and applicable standards (including, but not limited to, compliance with FISMA, NIST, CMS, IRS, FBI, SSA, HIPAA, FERPA and PCI requirements as applicable);

5.6 take all reasonable measures to:

(a) secure and defend all locations, equipment, systems and other materials and facilities employed in connection with the Services against "malicious actors" and others who may seek, without authorization, to destroy, disrupt, damage, encrypt, modify, copy, access or otherwise use Hosted Services or the information found therein; and

(b) prevent (i) the State and its Authorized Users from having access to the data of other customers or such other customer's users of the Services; (ii) State Data from being commingled with or contaminated by the data of other customers or their users of the Services; and (iii) unauthorized access to any of the State Data;

5.7 ensure that State Data is encrypted in transit and at rest using FIPS validated AES encryption modules and a key size of 128 bits or higher;

5.8 ensure the Hosted Services support Identity Federation/Single Sign-on (SSO) capabilities using Security Assertion Markup Language (SAML), Open Authentication (OAuth) or comparable State approved mechanisms;

5.9 ensure the Hosted Services implements NIST compliant multi-factor authentication for privileged/administrative and other identified access.

6. Security Accreditation Process. Throughout the Term, Contractor will assist the State, at no additional cost, with its **Security Accreditation Process**, which includes the development, completion and on-going maintenance of a system security plan (SSP) using the State's automated governance, risk and compliance (GRC) platform, which requires Contractor to submit evidence, upon request from the State, in order to validate Contractor's security controls within two weeks of the State's request. On an annual basis, or as otherwise required by the State such as for significant changes, re-assessment of the system's controls will be required to receive and maintain authority to operate (ATO). All identified risks from the SSP will be remediated through a Plan of Action and Milestones (POAM) process with remediation time frames based on the risk level of the identified risk. For all findings associated with the Contractor's solution, at no additional cost, Contractor will be required to create or assist with the creation of State approved POAMs and perform related remediation activities. The State will make any decisions on acceptable risk, Contractor may request risk acceptance, supported by compensating controls, however only the State may formally accept risk. Failure to comply with this section will be deemed a material breach of the Contract.

7. Unauthorized Access. Contractor may not access, and shall not permit any access to, State systems, in whole or in part, whether through the Hosted Services or otherwise, without the State's express prior written authorization. Such authorization may be revoked by the State in writing at any time in its sole discretion. Any access to State systems must be solely in accordance with the Contract and this Schedule, and in no case exceed the scope of the State's authorization pursuant to this Section. All State-authorized connectivity or attempted connectivity to State systems shall be only through the State's security gateways and firewalls and in compliance with the State's security policies set forth in the Contract as the same may be supplemented or amended by the State and provided to Contractor from time to time.

8. Security Audits.

8.1 During the Term, Contractor will maintain complete and accurate records of its data protection practices, IT security controls, and the security logs relating to State Data, including but not limited to any backup, disaster recovery or other policies, practices or procedures relating to the State Data and any other information relevant to its compliance with this Contract.

8.2 Without limiting any other audit rights of the State, the State has the right to review Contractor's data privacy and information security program prior to the commencement of Services and from time to time during the term of this Contract. The State, at its own expense, is entitled to perform, or to have performed, an on-site audit of Contractor's data privacy and information security program. If the State chooses to perform an on-site audit, Contractor will, make all such records, appropriate personnel and relevant materials available during normal business hours for inspection and audit by the State or an independent data security expert that is reasonably acceptable to Contractor, provided that the State: (i) gives Contractor at least five (5) Business Days prior notice of any such audit; (ii) undertakes such audit no more than once per calendar year, except for good cause shown; and (iii) conducts or causes to be conducted such audit in a manner designed to minimize disruption of Contractor's normal business operations and that complies with the terms and conditions of all data confidentiality, ownership, privacy, security and restricted use provisions of the Contract. The State may, but is not obligated to, perform such security audits, which shall, at the State's option and request, include penetration and security tests, of any and all Hosted Services and their housing facilities and operating environments.

8.3 During the Term, Contractor will, when requested by the State, provide a copy of Contractor's or Hosting Provider's FedRAMP System Security Plan(s) or SOC 2 Type 2 report(s) to the State within two weeks of the State's request. The System Security Plan and SSAE audit reports will be recognized as Contractor's Confidential Information.

8.4 With respect to State Data, Contractor must implement any required safeguards as identified by the State or by any audit of Contractor's data privacy and information security program.

8.5 The State reserves the right, at its sole election, to immediately terminate this Contract or a Statement of Work without limitation and without liability if the State determines that Contractor fails or has failed to meet its obligations under this **Section 8.**

9. Application Scanning. During the Term, Contractor must, at its sole cost and expense, scan all Contractor provided applications, and must analyze, remediate and validate all vulnerabilities identified by the scans as required by the State Secure Web Application and other applicable PSPs.

Contractor's application scanning and remediation must include each of the following types of scans and activities:

9.1 Dynamic Application Security Testing (DAST) – Scanning interactive application for vulnerabilities, analysis, remediation, and validation (may include Interactive Application Security Testing (IAST).

(a) Contractor must either a) grant the State the right to dynamically scan a deployed version of the Software; or b) in lieu of the State performing the scan, Contractor must dynamically scan a deployed version of the Software using a State approved application scanning tool, and provide the State a vulnerabilities assessment after Contractor has completed such scan. These scans and assessments i) must be completed and provided to the State quarterly (dates to be provided by the State) and for each major release; and ii) scans should be completed in a non-production environment with verifiable matching source code and supporting infrastructure configurations.

9.2 Static Application Security Testing (SAST) - Scanning Source Code for vulnerabilities, analysis, remediation, and validation.

(a) For Contractor provided applications, Contractor, at its sole expense, must provide resources to complete the scanning and the analysis, remediation and validation of vulnerabilities identified by application Source Code scans. These scans must be completed for all Source Code initially, for all updated Source Code, and for all Source Code for each major release.

9.3 Software Composition Analysis (SCA) – Third Party and/or Open Source Scanning for vulnerabilities, analysis, remediation, and validation.

(a) For Software that includes third party and open source software, all included third party and open source software must be documented and the source supplier must be monitored by the Contractor for notification of identified vulnerabilities and remediation. SCA scans may be included as part of SAST and DAST scanning or employ the use of an SCA tool to meet the scanning requirements. These scans must be completed for all third party and open source software initially, for all updated third party and open source software, and for all third party and open source software in each major release.

9.4 In addition, application scanning and remediation may include the following types of scans and activities if required by regulatory or industry requirements, data classification or otherwise identified by the State.

(a) If provided as part of the solution, all native mobile application software must meet these scanning requirements including any interaction with an application programing interface (API).

(b) Penetration Testing – Simulated attack on the application and infrastructure to identify security weaknesses.

10. Infrastructure Scanning.

10.1 For Hosted Services, Contractor must ensure the infrastructure and applications are scanned using an approved scanning tool (Qualys, Tenable, or other PCI Approved Vulnerability Scanning Tool) at least monthly and provide the scan's assessments to the State in a format that is specified by the State and used to track the remediation. Contractor will ensure the remediation of issues identified in the scan according to the remediation time requirements documented in the State's PSPs.

11. Nonexclusive Remedy for Security Breach.

11.1 Any failure of the Services to meet the requirements of this Schedule with respect to the security of any State Data or other Confidential Information of the State, including any related backup, disaster recovery or other policies, practices or procedures, is a material breach of the Contract for which the State, at its option, may terminate the Contract immediately upon written notice to Contractor without any notice or cure period, and Contractor must promptly reimburse to the State any Fees prepaid by the State prorated to the date of such termination.

SCHEDULE E, Attachment 1 – PCI Compliance & CEPAS

1) PCI Compliance.

1.1 Contractors that process, transmit store or affect the security of credit/debit cardholder data, must adhere to the PCI Data Security Standard. The Contractor is responsible for the security of cardholder data in its possession. The data may only be used to assist the State or for other uses specifically authorized by law.

1.2 The Contractor must notify the State's Contract Administrator (within 48 hours of discovery) of any breaches in security where cardholder data has been compromised. In that event, the Contractor must provide full cooperation to the card associations (e.g. Visa, MasterCard, and Discover) and state acquirer representative(s), or a PCI approved third party, to conduct a thorough security review. The Contractor must provide, at the request of the State, the results of such third party security review. The review must validate compliance with the PCI Data Security Standard for protecting cardholder data. At the State's sole discretion, the State may perform its own security review, either by itself or through a PCI approved third party.

1.3 The Contractor is responsible for all costs incurred as the result of the breach. Costs may include, but are not limited to, fines/fees for non-compliance, card reissuance, credit monitoring, and any costs associated with a card association, PCI approved third party, or State initiated security review.

1.4 Without limiting Contractor's obligations of indemnification as further described in this Contract, Contractor must indemnify, defend, and hold harmless the State for any and all claims, including reasonable attorneys' fees, costs, and incidental expenses, which may be suffered by, accrued against, charged to, or recoverable from the State in connection with the breach.

1.5 The Contractor must dispose of cardholder data when it is no longer needed in compliance with PCI DSS policy. The Contractor must continue to treat cardholder data as confidential upon contract termination.

1.6 The Contractor must provide the State's Contract Administrator with an annual Attestation of Compliance (AOC) or a Report on Compliance (ROC) showing the contractor is in compliance with the PCI Data Security Standard. The Contractor must notify the State's Contract Administrator of all failures to comply with the PCI Data Security Standard.

2) CEPAS Electronic Receipt Processing Standard.

All electronic commerce applications that allow for electronic receipt of credit or debit card and electronic check transactions must be processed via the State's Centralized Electronic Payment Authorization System (CEPAS). To minimize the risk to the State, full credit/debit card numbers, sensitive authentication data, and full bank account information must never be stored on state-owned IT resources.

SCHEDULE F – DISASTER RECOVERY PLAN

[Redacted for Security Purposes]

SCHEDULE G – TRANSITION IN AND OUT

Transition-In Plan
Proper planning is vital to the efficient and effective transfer of responsibilities from one or several contractors to another. Contractor assumes that DTMB and outgoing contractors for these legacy systems have begun or will begin their transition-out process as required by DTMB contracts. Contractor will review the appropriate turnover and knowledge transfer documentation from legacy contractors to begin the transition process.

In the case of the MARIS effort, a number of legacy systems will be replaced by a single integrated solution. Contractor's migration and conversion process is outlined in detail in the **Statement of Work** and will result in a smooth and proven transition-in process once the contract is in place and the project team has been formalized.

Additionally, Contractor will work with the AQD to plan the cutover of legacy production systems. Every Transition-in plan is unique to each nVIRO client. However, the final plan will need to account for factors such as:

- communication of cutover to the user community that may use legacy applications for reporting to the state;
- training of user community for use of the new system for online reporting and online permitting;
- transition of user external user credentials, and if applicable CROMERR credentials;
- communication to SOM staff (business / technical) of the transition and timing;
- coordination with SOM staff for cutover activities including decommissioning legacy systems; and
- backing up/archiving legacy data and ensuring this data is available for reference to AQD staff if necessary or to Contractor team members to address post-production data conversion issues.

A Transition-in plan is not required for the WRD project since Windsor is already the project Contractor.

Transition-Out Plan
Standard nVIRO Transition Plan
Contractor understands that the State may choose to employ the services of a different support organization at the end of the Operations and Maintenance period, and/or the State may choose to bring support of the solution 'in-house' so that the State staff may support it on an ongoing basis. To this end, Contractor will prepare materials that will allow the transition of operations and maintenance responsibilities to occur in as seamless a manner as possible. Contractor will prepare planning materials that will outline the approach to be used for the turnover process, the resources, skills, and knowledge that must be provided by any supporting organizations, and the knowledge transfer tasks that must take place in order to effect the transition. Once a decision is made to transition operations and maintenance responsibilities, Contractor will work closely with the State and the chosen supporting agency to execute the turnover process.

1. Develop Turnover Plan
12 months prior to the end of the agreed contract between Contractor and the State for ongoing operations and maintenance support of the solution, Contractor will prepare a Turnover Plan. This plan will detail the schedule of steps to be performed when responsibility for operations and maintenance transitions from Contractor to another party. The Turnover Plan will be compiled and submitted to the State team for feedback and a web conference will be held to walk through the document. All comments and feedback will be reviewed and incorporated into the document as necessary. A revised version of the Turnover Plan will then be submitted to the State team for review and approval. If necessary, a further review and revision cycle will be performed on the Turnover Plan approximately 6 months prior to the transition taking place.

2. Develop Knowledge Transfer Strategy
Also 12 months prior to the end of Contractor's contract with the State, Contractor will prepare a Knowledge Transfer Strategy document, intended to detail the approach to be taken to conduct an effective and complete transition of operations and maintenance support to the new provider. Contractor expects that the Knowledge Transfer Strategy will be based on a combination of document walkthroughs, conference calls, and training sessions, focused on the systems documentation, training materials, and operational documentations that were developed during the project. The Knowledge Transfer Strategy will be compiled and submitted to the State team for feedback and a web conference will be held to walk through the document. All comments and feedback will be reviewed and incorporated into the document as necessary. A revised version of the Knowledge Transfer Strategy will then be submitted to the State team for review and approval.

3. Develop Statement of Operational Resources

As a partner resource to the Knowledge Transfer Strategy document, Contractor will develop a statement of operational resources for the organization that will be assuming operations and maintenance responsibilities. This document will identify all resources associated with the solution that could be of use to the supporting organization. Examples of these resources include:

- Systems Administration Documentation
- User Reference Documentation
- Issue Tracking Tool
- Help Desk Ticket Management Tool
- Gathered Support and Operations Data to-date (including logged issues and support tickets)
- All other relevant documentation

The Statement of Operational Resources will be compiled and submitted to the State team for feedback and a web conference will be held to walk through the document. All comments and feedback will be reviewed and incorporated into the document as necessary. A revised version of the Statement of Operational Resources will then be submitted to the State team for review and approval.

4. Conduct Knowledge Transfer
Approximately 6 months prior to the effective date for transition of operations and maintenance support responsibilities, Contractor will begin the process of executing the Knowledge Transfer Strategy for the solution. As mentioned previously, this will consist of a number of document walkthroughs, conference calls, and training sessions, each focusing on different aspects of the operations of the solution, from its operation from a user's perspective, to its ongoing technical administration by behind-the-scenes technical staff. Contractor will also walk the new support organization through the various tools that are in use to support the management of support requests and system defects.

5. Obtain Phase Sign-off
Upon completion of the phase tasks and deliverables, Contractor's Project Manager will work with the State DTMB and Program Managers to obtain sign-off. Contractor will require written sign-off that the deliverables are acceptable before proceeding to the next phase of the project.

Phase Deliverables:

- Turnover Plan
- Knowledge Transfer Strategy
- Statement of Operational Resources
- Knowledge Transfer Tasks
- Turnover Phase Sign-off

Phase Milestones:

- Milestone: Turnover Plan Complete
- Milestone: Knowledge Transfer Strategy Complete
- Milestone: Statement of Operational Resources Complete
- Milestone: Knowledge Transfer Complete:
- Milestone: Turnover Phase Complete