DEQ	OFFICE OF WASTE MANAGEMENT AND RADIOLOGICAL PROTECTION POLICY AND PROCEDURE		DEPARTMENT OF ENVIRONMENTAL QUALITY
Original Effective Date: May 2, 1995 **Revised Date:** April 26, 1999 **Reformatted Date:** December 13, 2012	**Subject:** Specifications and Testing Criteria for Geomembranes **Division/Office and Program Names:** OWMRP-Solid Waste Section, Solid Waste Program		**Category:** ☐ Internal/Administrative ☐ External/Non-Interpretive ☒ External/Interpretive
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A Department of Environmental Quality (DEQ) Policy and Procedure cannot establish regulatory requirements for parties outside of the DEQ. This document provides direction to DEQ staff regarding the implementation of rules and laws administered by the DEQ. It is merely explanatory; does not affect the rights of, or procedures and practices available to, the public; and does not have the force and effect of law.

INTRODUCTION, PURPOSE, OR ISSUE:

The purpose of this policy and procedure is to provide guidance on acceptable specifications and seam testing standards for geomembranes used in the construction of solid waste landfills.

AUTHORITY:

Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

STAKEHOLDER INVOLVEMENT:

This policy was developed with input from the Michigan Waste Industries Association, Technical Standards Committee.

DEFINITIONS:

Rule 137 of the Part 115 administrative rules adopts by reference the flexible membrane liner requirements contained in the National Sanitation Foundation (NSF) document NSF 54-1991. This has been withdrawn, and was not replaced. The currently referenced industry standards for flexible membrane liner specifications are those published by the Geosynthetic Research Institute (GRI). The recognized standard for high-density polyethylene (HDPE) geomembrane is GRI Test method GM13: "Test Methods, Test Properties and Testing Frequency for High Density Polyethylene (HDPE) Smooth and Textured Geomembranes." The standard for seam testing is GRI Test Method GM-19: "Seam Strength and Related Properties of Thermal Polyolefin Geomembranes." These standards also reference ASTM D6392-08: "Standard Test Method for Determining the Integrity of Nonreinforced Geomembrane Seams Produced Using Thermo-Fusion Methods."

Rule 137 also adopts by reference the standards for Polyvinyl Chloride (PVC) geomembranes issued by the PVC geomembrane institute known as specification PGI 1197. This standard has been superseded by ASTM test method D7176-06: "Standard Specification for Non Reinforced

Polyvinyl Chloride (PVC) Geomembranes Used in Buried Applications" and ASTM D748-08: "Standard Specification for Non Reinforced PVC (Polyvinyl Chloride) Geomembrane Seams."

POLICY:

The flexible membrane liner specifications and test methods adopted by reference in Rule 137 and cited in Rule 915 of the Part 115 administrative rules have been superseded or replaced. Rule 915: Landfill Construction; flexible membrane liners allows for specifications other than those cited in the rules to be approved by the director (Rule 915(3)(c)). The following specifications will be considered as approved by the Director if included in a Construction Quality Assurance Plan approved by the DEQ: GRI Test Method GM13, GRI Test Method GM-19, ASTM D7176-06, ASTM 7408-08, and ASTM D 6392-08, and any published updates to these documents.

The Part 115 rules do not specifically address the use of Linear Low Density Polyethylene (LLDPE) in landfill liner systems, however LLDPE is an acceptable alternate liner material in certain applications. Therefore, GRI Test Method GM17: "Test Methods, Test Properties and Testing Frequency for Linear Low Density Polyethylene (LLDPE) Smooth and Textured Geomembranes" is also considered to be an approved standard for LLDPE materials.

REFERENCES:

The GRI Test Methods cited above may be obtained from the Geosynthetic Institute, 475 Kendron Avenue, Folsom, Pennsylvania, 19033-1208, or from their website at www.geosynthetic-institute.org/specs.htm. The ASTM standards may be purchased from the American Society for Testing and Materials, Sales Services, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania, 19428 or from the ASTM website at www.astm.org.

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