U-20464 Statewide Energy Assessment
Natural Gas Sector Questions

Updated: 03/18/2019 – Information requests rephrased into questions to provide clarity and addition of referenced graphs on page 8.

Due date has been extended to April 1 or within three weeks if possible.

Vital Natural Gas Information & Questions to Ask Utilities

I. Regulatory Oversight of Energy Planning and Infrastructure

a. Natural Gas System Planning

- **Provide number of end-users by customer class**
  - **Average volume usage by customer class**
- **Review of Annual Report (P-522) data similar or related data the Utilities maintain**

i. Storage

- **What are the long-term plans for each storage field for next ten years?**
  - **Development, abandonment, replacement of vertical wells with horizontals, etc.**
- **Provide an overview of system and outage planning**
- **Referencing Feb. 22, 2019 IPU Michigan Forum on Economic and Regulatory Policy**
  - **Provide daily system demand and reserve capacity of top storage reservoirs and combined all other supply for 2014 polar vortex Peak Day, Jan. 30-31, 2019, and average Jan. 2019 day (see example of data requested at end)**
  - **Provide hourly system demand and reserve capacity of top storage reservoirs and combined all other supply for 2014 polar vortex Peak Day and hourly from Jan. 30, 2019 Peak to Jan. 31, 2019 Peak (see example of data requested at end)**

ii. Compression

- **What are the long-term plans for each compressor station for next ten years?**
  - **Development, abandonment, installing/replacing gas conditioning equipment, etc.**
- **Provide an overview of system and outage planning**

iii. Transmission

- **What are the long-term plans for each transmission line for next ten years?**
  - **Installations, abandonment, interconnections with other operators, existing/new contracts to draw gas from each interconnection if necessary, etc.**

- **Provide an overview of system and outage planning**

iv. Distribution
- **What are the major distribution projects planned for next ten years that hasn't been approved by the Commission?**
- **What is the spread of deliverability pressures and plans for consolidation?**
- **Where there any potential customers refused due to lack of supply?**
- **Provide an overview of system and outage planning**
- **Case studies for outage and system expansion**

b. Infrastructure and operations and maintenance (O&M) expense prudence reviews through rate proceedings

c. Review of fuel arrangements to meet customer demand in Gas Cost Recovery proceedings

II. Risk Assessment

a. Infrastructure
i. Asset conditions and performance
- **Provide:**
  - **The use of a static or dynamic risk model**
    - **What plans are in place to change in the future?**
  - **Process/factors involved in facility risk-ranking**
  - **Standards followed for risk-ranking**
  - **Plans to change risk-ranking process**
  - **Projects for system enhancements that have been identified**
  - **Projects for system enhancement that have been completed**
  - **Risk ranking methodology**
    - **Risk model manuals**

ii. Interconnection limitations or constraints
- **Provide the extent of the inclusion of the following in risk assessment:**
  - **Interconnections**
  - **Supply constraints**
  - **Single source markets**

- **Number of potential outages and restoration times**
- **What mutual-aid agreements are in place and what are their statuses?**

iii. Visibility and controls (e.g., Supervisory and Control Data Acquisition (SCADA))
- **What are the long-term plans for enhancing SCADA to include more points of data or additional control points (flow control or valves)?**
- **Provide number of regulator stations which have active SCADA monitoring**
  - **Provide plans for increasing that number**
- **Provide the number of main line valves, out of total, that are equipped with controls**
  - **Provide plans to add more**

b. Investment trends and projections
i. Capital investments (Historical and Projected by type)
- **Provide overall investment, by year, and investment related to system reliability for the last five years**

ii. O&M
- **Provide overall spend, by year, and spend related to system reliability for the last five years**

iii. Clean energy requirements and drivers; emerging energy technologies
iv. Potential impacts of investments on reliability, operations, and energy supply and delivery risks

c. Adequacy of MPSC rules and best practices related to customer safety, reliability, and resiliency; customer notifications

III. Vulnerabilities

a. System limitations
- **Identify and provide:**
  - **Low points in system on a peak day, assuming zero failures**
    - **Peak day design factors**
  - **Existing system bottlenecks**
  - **Seasonal restrictions**
  - **Required outages for maintenance that impact deliverability**

- **List of worst case scenarios/consequences on peak summer and winter days**
  - **Including any additional scenarios Staff requests**
- **Hazardous analyses that have been completed**

b. Infrastructure failures
- **Identify and provide the most critical points to remain in service on a peak day**
  - **Failures for the last five years**
  - **Number of unintentional compressor station shutdowns**
  - **Number of over-pressure situations**
  - **Availability of units when required**
    - **Storage and compression**

c. Interconnections
- **Identify and provide the most critical interconnections for remaining in service on a peak day**

d. System redundancy
- **Identify and provide all markets that are served by a single pipeline or upstream source**

e. Single source supplies
- **Identify and provide all markets that are served by a single pipeline or upstream source**

IV. Contingency Planning Methodologies and Assumptions

a. Transmission
   i. Distribution interconnections
- **Identify and provide:**
  - **Any distribution companies attached to transmission system and where they are located**
  - **Plans in place should that interconnection become unavailable**
  - **Firm/interruptible service contracts for those companies**
  - **How vital these supply points are to end users**
  - **The accessibility by both companies for emergency activities**

- **Number of customer outages, >100 customers, in the last five years and the total number of customers impacted in each event**

ii. Intrastate interconnections
- **Identify and provide:**
  - **Any intrastate transmission companies attached to transmission system and where they are located**
  - **Plans in place should that interconnection become unavailable**
  - **Firm/interruptible service contracts for those companies**
  - **How vital these supply points are**
  - **The accessibility by both companies for emergency activities**
  - **Plans for additional connections**

iii. Interstate interconnections
- **Identify and provide:**
  - **Any interstate transmission companies attached to transmission system and where they are located**
  - **Plans in place should that interconnection become unavailable**
  - **Firm/interruptible service contracts for those companies**
  - **How vital these supply points are**
  - **The accessibility by both companies for emergency activities**
  - **Plans for additional connections**

iv. Peak design day
- **Provide peak design day; model being utilized**
- **Identify, on a peak day, the 1st, 2nd, and 3rd (by volume) source of gas supply. Identify based on major pipeline, supplier, storage facility, or city gate**
- **How is supply source reliability quantified?**
  - **When the last time was that the source of supply was utilized?**
  - **Studies that have been performed that determine where the Company purchases gas from, and what factors have led to that determination**

- **When was the design day was last experienced?**
- **Are there any anticipated changes to design day?**

v. Contingency considerations
- **Analyze system model**
- **What are the contingency plans if vital points are no longer in service (transmission, compression, and storage)?**
- **As referenced in your tariff, provide, by priority classification, all customers and their associated monthly contracted volumes, excluding residentials**

vi. Effectiveness of modeling
- **What have been the changes since 2013-14 polar vortex to "true-up" the model with actual measurements?**
  - **Highlight any such changes made to the peak-day/Colder-than-normal scenarios in the GCR plan as a result of 13/14 and more recent Polar Vortex experiences**
- **Is "point-to-point" verification of flow model during design day conditions being performed to verify that it is accurate?**

b. Distribution

i. Planning and modeling
- **Review of distribution model**

ii. Contingency considerations
- **Analyze system model**
- **What are the contingency plans if vital points are no longer in service (transmission, compression, and storage)?**

iii. Effectiveness of modeling
- **What changes in recent years have been made to "true-up" the model with actual measurements**
- **Is "point-to-point" verification of flow model during design day conditions being performed to verify that it is accurate?**

c. Load forecasting methodologies and risks

i. Evaluation of energy efficiency programs on consumption and peak demand
- **Evaluate, identify, and provide an overview of the need for gas demand response**

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V. Operational Practices of Energy Systems

a. Gas technical and safety standards
   i. Performance-based and prescriptive standards
   ii. Onsite facility and operational inspections
   iii. Accident investigation and compliance actions
   iv. Interstate inspections

b. Storage facility operations

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