Expanded MegaRule Compliance

Jordan Groody, Bass Engineering

Andy Morris, CartoPac Enterprise

Becky Gibbs Murray, PCS
Agenda

• MegaRule Overview and Introduction of Field Services
  • Jordan Groody, Bass Engineering

• Gathering Line Mapping Using CartoPac Enterprise
  • Andy Morris, American Innovations

• Leveraging PCS to Manage MegaRule Compliance
  • Becky Gibbs Murray, American Innovations
Transmission vs. Gathering

• Generally pipe switches to transmission at the “last” point of comingling, with a maximum distance of 50 miles between collection points.

• Typically there IS a facility at the transition point
### Gas Gathering Mega-Rule – Impact Analysis

#### Summary – PRE-GGMR Req’ts

<table>
<thead>
<tr>
<th>Gas Transmission</th>
<th>Type A</th>
<th>Type B</th>
<th>Unregulated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Area</strong></td>
<td>Class 1, 2, 3, 4</td>
<td>Class 2, 3, 4</td>
<td>Class 3, 4, &amp; certain Class 2</td>
</tr>
<tr>
<td><strong>Material / Stress / MAOP</strong></td>
<td>Any</td>
<td>Metallic, ≥ 20% SMYS, Non-metallic, &gt; 125 psig MAOP</td>
<td>Metallic, &lt; 20% SMYS, Non-metallic, ≤ 125 psig MAOP</td>
</tr>
<tr>
<td><strong>Outside Diameter, inches</strong></td>
<td>Any</td>
<td>Any</td>
<td>Any</td>
</tr>
<tr>
<td><strong>191</strong> Annual &amp; Incident Reporting, OPID</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>191</strong> Safety Related Condition Reporting</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>192</strong> Design, Constr, Inspection &amp; Testing</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>192</strong> Damage Prevention</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>192</strong> Emergency Plans</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>192</strong> Corrosion Control</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>192</strong> Line Markers</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>192</strong> Public Awareness</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>192</strong> Leakage Survey and Repair</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>192</strong> Plastic Pipe and Components</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>192</strong> MAOP establishment</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>192</strong> All other applicable Gas Transmission</td>
<td>X</td>
<td>X</td>
<td>X, with some exceptions</td>
</tr>
</tbody>
</table>

**Onshore gas gathering**

No 191, nor 192 req’ts
### Gas Gathering Mega-Rule – Impact Analysis

#### Summary – POST-GGMR Req’ts

<table>
<thead>
<tr>
<th>Gas Transmission</th>
<th>Type A</th>
<th>Type B</th>
<th>Type C</th>
<th>Type R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>Class 1, 2, 3, 4</td>
<td>Class 2, 3, 4</td>
<td>Class 3, 4, &amp; certain Class 2</td>
<td>Class 1 &amp; certain Class 2</td>
</tr>
<tr>
<td>Material / Stress / MAOP</td>
<td>Any</td>
<td>Metallic, ≥ 20% SMYS, Non-metallic, &gt; 125 psig MAOP</td>
<td>Metallic, &lt; 20% SMYS, Non-metallic, ≤ 125 psig MAOP</td>
<td>Metal, ≥ 20% SMYS, Metallic, unknown SMYS, Non-metallic, &gt; 125 psig MAOP</td>
</tr>
<tr>
<td>Outside Diameter, inches</td>
<td>Any</td>
<td>Any</td>
<td>Any</td>
<td>≥ 8.625 - 12.75</td>
</tr>
</tbody>
</table>

| 191 | Annual & Incident Reporting, OPID | X | X | X | X | X |
| 191 | Safety Related Condition Reporting | X | X | X | X | X |
| 192 | Design, Constr, Inspection & Testing** | X | X | X | X | X |
| 192 | Damage Prevention | X | X | X | X | X |
| 192 | Emergency Plans | X | X | X | X | X |
| 192 | Corrosion Control | X | X | X | X | X |
| 192 | Line Markers | X | X | X | X | X |
| 192 | Public Awareness | X | X | X | X | X |
| 192 | Leakage Survey and Repair | X | X | X | X | X |
| 192 | Plastic Pipe and Components | X | X | X | X | X |
| 192 | MAOP establishment | X | X | X | X | X |
| 192 | All other applicable Gas Transmission | X | X, with some exceptions | |

* Additional if 1+ BIHOs or Other Impacted Sites in PIR (Method #1) or in Class Location Unit (Method #2)

** As per Subpart I, except 192.493 (conducting ILI)
Industry Impact

- New Class C Designation for Class 1 Pipelines
  - 8.625% diameter and up
  - Metallic Operating >20% SMYS or unknown SMYS
  - Non Metallic > 125 psig
  - Approximately 400,000 additional miles now require reporting
  - Approximately 90,000 miles need HCA/MCA/Gas Class Evaluation

- New MCA (Moderate Consequence Area) designation creates more integrity management requirements.
Data Needs

Jurisdictional Status / Class

- Where are ALL gathering lines?
- What size are all my lines?
- Where are my PRVs?
- What pressure are PRVs set at?  
  - (Establish MAOP)
- What occupied structures are near my pipeline?
- Where do I cross significant roads/Highways?
Data Needs

Class C Operation

• Existing CP systems; rectifiers, mag beds, test points, isolation
• Pipeline markers, marker condition
• Foreign pipeline crossings, bonds
• HVAC parallelism, existing mitigation systems
• Road casings
• Valve types and locations
• Exposures
• Appurtenances, atmospheric corrosion, transition Coatings
• Internal corrosion coupon types, coupon location, ER probes
• And More!
The Challenge

- Internal Data
- Review Accuracy
- Output to Contract Personnel
- Output to Company Field Personnel

Technology Limitations

- Weird Formatting
- Duplicate Data
- Duplicate Data
- Incomplete Records
Gathering Line Mapping

CartoPac Enterprise
Gathering Line Mapping Solution

Key parts of Workflow:

- **Mobile Hardware**
- **High Accuracy GPS**
  - Options from sub meter to centimeter spatial accuracy
- **Data Integrations with on premise applications**
  - GIS, PCS, Other

Asset Management Meets Digital Transformation
Packaging Data by Work Order #
Gathering Line Mapping
Related Assets
Mapping Non-Pipeline Assets
Seamless Upload to GIS
Key Features

- Standardized workflows and logic so that all data is collected to meet business and regulatory requirements
- Leveraged Best Practices
- Once data is uploaded back to GIS – available for use by other system
- Complete solution
CartoPac Integrations

CartoPac natively connects to data through Esri database and REST providers and direct ADO.Net database connections.

FME and SSIS jobs can be run on a schedule or through the CartoPac API’s.
Managing MegaRule Compliance with PCS

✓ Inspection after Extreme Weather
✓ Internal Corrosion
✓ Gathering Line CP Management
Inspections after Extreme Weather Events

Required Inspections after extreme weather events
- Tropical Storms/Hurricanes
- Floods
- Landslides
- Earthquakes
PCS Internal Corrosion Module

Manage and Analyze Internal Corrosion Programs
- Chemical Treatment
- Coupons
- Probes
- Gas/Liquid/Solids Samples
- Pigging
- Inhibitor Injection

Check out Steve Hamblin’s presentation later today on the PCS Internal Corrosion Manager!
Gathering Line CP Management

Import Data from CartoPac Enterprise, GIS, or other 3rd Party Systems to start managing CP for Type C Gathering Lines
QUESTIONS & ANSWERS

Answers to your tough questions.

Speaker Name

Email/Contact Info