Mega Rule Compliance: Using Technology to Meet New Regulations

Becky Gibbs Murray
Sr. Product Manager
Agenda

- Technology and Digital Transformation
- Mega Rule Implications for Compliance, by Part
- Using Technology to Meet Regulations, again, by Part
- Challenges for Ensuring Compliance, by Part
Becky Gibbs Murray
Sr. Product Manager, American Innovations

Becky has spent her entire career focused on building innovative, user-friendly tools that advance the oil and gas industry. For the last several years, she’s been focusing on her passion for environmental stewardship and safety in the energy industry. Becky joined American Innovations in October 2021 as Sr. Product Manager over Enterprise Compliance Software.

Becky holds a degree in Chemical and Petroleum Engineering from the Colorado School of Mines.
Digital Transformation

• What is it?
  – The use of digital technology and the data that comes from that technology to improve operational efficiency and streamline work.
  – Digital Transformation Enables:
    • Security
    • Accessibility
    • Integrations and Streamlined Workflows
    • Real-time (or near real-time) data from the field
Digital Transformation

• Technologies that impact the Digital Transformation of pipeline compliance
  – Sensor Technologies
  – Communications technologies
  – Mobile computing
  – Data Accessibility over the Internet
  – Data analytics & reporting
  – Domain Specific Technologies
Why is the Mega Rule so Important?
Mega Rule and Expanded Compliance Timeline

- **July 1, 2020**
  - Rule Effective
- **July 1, 2021**
  - Plan in place to verify MAOP and to identify MCAs
- **Aug 24, 2022**
  - Rule Published
- **May 24, 2023**
  - Rule Effective
- **July 3, 2028**
  - 50% MAOP verification complete
- **July 2, 2035**
  - 100% MAOP verification complete
- **May 16, 2022**
  - Rule Effective (Part 1)
- **Nov 16, 2022**
  - Identification of Type C Lines (Part 2)
- **Mar 15, 2023**
  - 2022 Annual Report Due (Part 3)
- **May 16, 2023**
  - Full compliance with Type C under 192.9
- **We are here**
Part 1 Summary

- MAOP reconfirmation and reporting (includes material properties verification as needed)
- ILI tool launcher/receiver safety
- Moderate Consequence Areas (MCAs)
  - Also Class 3 and Class 4 locations
Complying with Mega Rule Part 1

• MAOP reconfirmation: Traceable, Verifiable, and Complete
• Exceedance reporting
• ILI tool launch/removal safety
  – Technologies: Pressure sensors w/ Bluetooth integrated in field survey equipment
• MCAs:
  – Secure Cloud, RMUs and Mobile Computing
  – Communications Technologies
  – Risk Assessment Tools
Part 1: Data Integration and Dashboards

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Part 1 Challenges

- IT Infrastructure
- Integrations with 3rd Party Systems
- Transitioning to the Cloud
- Enabling visibility to others
- MAOP Reconfirmation- Finding all the various material properties and documenting appropriately
Part 2 Summary

- Risk Assessment Modifications
- Inspection 72 hours after extreme weather events
- AC & DC Interference surveys
- DCVG or ACVG after line backfill
- Leak Detection Requirements
- Internal corrosion modifications
- HCA and non-HCA Repair Criteria
- …… and more
Part 2: AC & DC Interference Surveys

- Interference & Influence surveys
  - GPS Synchronized current Integration
  - RMUs and Interrupters that allow you to coordinate these surveys
Part 2: Monitoring Daily AC Trends – Requires Automation

QUARTER-HOURLY MEASUREMENTS - DAILY TRANSMISSIONS

- AC Current Density
- Action
- Urgent Action

AC Current Density (A/m²)

31/1/2016 12:00 31/2/2016 12:00 31/3/2016 12:00 31/4/2016 12:00 31/5/2016 12:00 31/6/2016 12:00 31/7/2016 12:00 31/8/2016 12:00 31/9/2016 12:00 31/10/2016 12:00 31/11/2016 12:00 31/12/2016 12:00 31/1/2017 12:00 31/2/2017 12:00 31/3/2017 12:00 31/4/2017 12:00 31/5/2017 12:00 31/6/2017 12:00 31/7/2017 12:00 31/8/2017 12:00 31/9/2017 12:00 31/10/2017 12:00 31/11/2017 12:00 31/12/2017 12:00 31/1/2018 12:00 31/2/2018 12:00 31/3/2018 12:00 31/4/2018 12:00 31/5/2018 12:00 31/6/2018 12:00 31/7/2018 12:00 31/8/2018 12:00 31/9/2018 12:00 31/10/2018 12:00 31/11/2018 12:00 31/12/2018 12:00
Part 2: Mobile Field Data Collection & Survey Equipment

• Field Data PCs to facilitate faster survey data collection
  – ACVG/DCVG Surveys

• Survey Equipment
  – Data Canes
  – Purpose-built Digital Voltmeters
  – Sub-meter, sub-foot, centimeter GPS technology
Part 2: Leveraging RMU’s to Ensure Compliance

CP Rectifiers

Inspection 6x/year every 2 ½ months
RMUs best solution

Physically inspected 1x/year
Part 2: Leak Detection

- Thermal Imaging Cameras
- RTTM-based leak detection systems
- Drone Technology
- Methane Sensors
Part 2: Other Technologies

- Integrity/Risk Management Solutions
- Electronic tracking of Inspections after Extreme Weather
- Maintenance Solutions - Integration between systems to ensure compliance reporting needs are met
- Internal Corrosion Management
Part 2 Challenges

• Inspections 72 Hours after Extreme Weather
  – Logistical Challenges
  – Tough to track

• ACVG/DCVG After Backfill Event
Part 3 Summary

• Must report incidents and file annual reports
• Creates new Type C designation
  – Class 1 locations with 8.625 in diameter and up
  – Approximately 400,000 additional miles now require reporting
  – Approximately 90,000 miles need HCA/MCA/Gas Class Evaluation
• Data gathering to direct future regulations
Part 3: Reporting: Purpose-Built Solutions for CP

Survey Completion

39.3 %

993 of 2,527 Complete

Facilities By Type

Maintenance Status

Total: 51 Maintenance Events

Test Point Exceptions

Total: 11 Facilities

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Part 3 Challenges

• Operational and Logistical Challenges
  – Ensuring you have capacity on your team to meet new survey requirements
  – Ensuring you have the right technology in place to file annual reports for the significant increase in reporting mileage
Summary

• Part 1:
  – MAOP Reconfirmation
  – ILI Launcher/Removal Safety
  – MCA Risk Assessments

• Part 2:
  – Inspection after extreme weather
  – ECDA Assessments
  – Interference and Influence Surveys
  – Internal Corrosion
  – Extended Repair Criteria

• Part 3:
  – Gas Gathering Expansion
Thank you for Attending!

Q&A

American Innovations

Becky Gibbs Murray

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