Simplifying Safety Equipment Inspection and Maintenance with AVEVA™ Mobile Operator

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Challenge

• The company faces the task of inspecting 1500 fire extinguishers regularly, with specific inspection frequencies based on different parameters (Hydro years, Annual, 5-year, 6-year, 12-year).

• Field inspectors are required to carry the knowledge of these parameters while conducting inspections, relying on information such as Serial Numbers, Date of Manufacturer, Extinguisher type (CO2, ABC, etc) and last known inspection dates.

Solution

• The implementation leverages the Dynamic Asset, Expression Editor & Asset Detail Manager (ADM) of AVEVA Mobile Operator to include Attached Asset Properties and Values, covering critical information like Hydro year, Serial Numbers & Date of Manufacturer.

Results

• Engineered an optimized safety inspection protocol, enhancing operational efficiency
  • Drives cost-effectiveness through precision, mitigating technician reliance on conjecture
  • Enhanced Regulatory Adherence through proactive audit readiness measures
  • Entire process is completed in 3-4 days through an external firm/vendor
Imagine the extra effort you need to perform a periodic inspection?

<table>
<thead>
<tr>
<th>UNIT</th>
<th>SINCLAIR#</th>
<th>LOCATION</th>
<th>SERIAL #</th>
<th>BRAND</th>
<th>TYPE</th>
<th>MODEL #</th>
<th>SIZE</th>
<th>POWDER</th>
<th>PURCHASE CLASS</th>
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<tbody>
<tr>
<td>Boilerhouse</td>
<td></td>
<td>FE South west of #5 generator</td>
<td>AC 431142</td>
<td>Amerex</td>
<td>Stored pressure</td>
<td>333, 334</td>
<td>100</td>
<td>CO2</td>
<td>2013 20BC</td>
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<td>FE South east corner of #5 generator</td>
<td>AC 431150</td>
<td>Amerex</td>
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<td>100</td>
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<td>AF-75401</td>
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<td>20</td>
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<td>FE North of fuel gas analyzer building</td>
<td>AJ-15113</td>
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<td>FE Second level west end</td>
<td>BJ-352026</td>
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<td>NW-153976</td>
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<td>CC-68037</td>
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<td>BP-77164</td>
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<td>FE North east of boiler control room</td>
<td>NW-153968</td>
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<td>Stored pressure</td>
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<td>20</td>
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<td>FE North side of fire shack</td>
<td>RT-621264</td>
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<td>Purple</td>
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<td>FE South west side of #5 generator</td>
<td>SN-542100</td>
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<td>FE West of tank 40 column 51</td>
<td>SN-542102</td>
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<td>Purple</td>
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<td>FE North west entrance to powerhouse</td>
<td>TF-129030</td>
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<td>Purple</td>
<td>2002 40BC</td>
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<td>Purple</td>
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<tr>
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<td>FE North entrance to boiler #12</td>
<td>BC-82131</td>
<td>Amerex</td>
<td>Stored pressure</td>
<td>580</td>
<td>20</td>
<td>Purple</td>
<td>2012 40BC</td>
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<tr>
<td>Boilerhouse</td>
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<td>FE South west double doors</td>
<td>Y-317407</td>
<td>Amerex</td>
<td>Stored pressure</td>
<td>397</td>
<td>11</td>
<td>Halotron</td>
<td>2012 1A 10BC</td>
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<td>FE South west end, north of boiler feed water pump</td>
<td>Y-317416</td>
<td>Amerex</td>
<td>Stored pressure</td>
<td>397</td>
<td>11</td>
<td>Halotron</td>
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<td>FE South East Of Control Room</td>
<td>Y-374809</td>
<td>Amerex</td>
<td>Stored pressure</td>
<td>397</td>
<td>11</td>
<td>Halotron</td>
<td>2013 1A 10BC</td>
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<tr>
<td>Boilerhouse</td>
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<td>FE Boilerhouse south of control room.</td>
<td>Y-41480</td>
<td>Amerex</td>
<td>Stored pressure</td>
<td>397</td>
<td>11</td>
<td>Halotron</td>
<td>2011 1A 10BC</td>
</tr>
</tbody>
</table>
Asset Detail Manager (ADM)

Where can I find ADM?

• Part of the core installation since IntelaTrac 2017 SP2 (5.1 SP2)
• Located in the last group of Management Center’s Navigation group panel
• Opened as a snap-in similar to other MC applications like Procedure Builder and AuditorPlus
Asset Detail Manager (ADM)

What is it? What is the benefit?

• The purpose of Mobile Operator Asset Detail Manager is to **Import** and **Export** Assets, Asset Types and its Attached Properties in Mobile Operator.
Asset Detail Manager (ADM)

What is it? What is the benefit?

- It is also used to Add, Edit, Update, delete and save Attached Properties and values of Assets into Mobile Operator.
- Can be applied to individual Assets or in bulk with the Import Manager
What is an Attached Asset Property?

- Additional elements or properties associated to a specific asset / piece of equipment
- For Fire Extinguishers:
  - Type
  - Hydro Year
  - Serial Number
  - Purchase Date (can also be year of manufacture)
- For Pump
  - Lubrication Type, Method and Frequency
  - Unit
  - EPA Leak Concentration limit (for LDAR)
Configuring the Fire Extinguisher Procedure

Mobile Operator 2020
Streamlining the frontend requires diligent backend efforts

**AMO Features Used**

- Procedure on Demand
- Dynamic Asset
- Expression Editor
- Conditional Based Decisions
- Asset Detail Manager (ADM)
Streamlining the frontend requires diligent backend efforts

**Procedures on Demand**

- As needed
- Not Scheduled
- Technicians will have a custom report showing which extinguishers to inspect.
Streamlining the frontend requires diligent backend efforts

Dynamic Asset Selection

- Single Task Group with Dynamic Asset attribute
Streamlining the frontend requires diligent backend efforts

Dynamic Asset Selection

- Operators make asset selections in real-time during Procedure execution, facilitating the development of reusable procedures for multiple assets and eliminating the need for redundant Task Groups and Tasks.
Streamlining the frontend requires diligent backend efforts

Expression Editor

- **Decisions** for each frequency inspection
- Engineered an expression for continuous monitoring to determine whether the current year aligns with the 6-year or 12-year inspection cycle, referencing the year of purchase
Streamlining the frontend requires diligent backend efforts

Expression Editor – 6 Year Frequency

Formula: 
\[
\text{(@YEAR(@NOW())) - @TNUMBER(@GetAssetProperty("Purchase")))} \mod 6 = 0 \text{ AND } \\
\text{(@YEAR(@NOW())) - @TNUMBER(@GetAssetProperty("Purchase")))} \mod 12 <> 0
\]
Streamlining the frontend requires diligent backend efforts

Expression Editor – 12 Year Frequency

Formula: \( (@\text{YEAR}(\text{NOW}())) - @\text{TONUMBER}(\text{GetAssetProperty}("\text{Purchase}"))) \% 12 = 0 \)
Custom Report for Quick Status Identification

Fire Extinguisher Inspection Report

<table>
<thead>
<tr>
<th>Fire Extinguisher</th>
<th>Hydno Year</th>
<th>Status</th>
<th>Last Inspection Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>00FEXT-TEST01-1957</td>
<td>2023</td>
<td>Completed</td>
<td>09/2023</td>
</tr>
<tr>
<td>00FEXT-TEST01-1933</td>
<td>2029</td>
<td>Due current month</td>
<td>10/2022</td>
</tr>
<tr>
<td>00FEXT-TEST01-2000</td>
<td>2012</td>
<td>Upcoming</td>
<td>12/2022</td>
</tr>
<tr>
<td>00FEXT-TEST01-2014</td>
<td>2026</td>
<td>Overdue (late)</td>
<td>09/2022</td>
</tr>
<tr>
<td>Boilerhouse</td>
<td>2018</td>
<td>Completed</td>
<td>1/2023</td>
</tr>
</tbody>
</table>
Empowering Operator’s Mobility and Simplicity

Asset Detail Manager + Expression Editor + Custom Reporting
Parco Refinery simplifies the inspection and enhances reliability of equipment

**Challenge**

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- Field inspectors are required to carry the knowledge of these parameters while conducting inspections, relying on information such as Serial Numbers, Date of Manufacturer, Extinguisher type (CO2, ABC, etc) and last known inspection dates.

**Solution**

- The implementation leverages the *Dynamic Asset, Expression Editor & Asset Detail Manager (ADM)* of Mobile Operator to include Attached Asset Properties and Values, covering critical information like Hydro year, Serial Numbers & Date of Manufacturer.

**Results**

- Engineered an optimized safety inspection protocol, enhancing operational efficiency
  - Drives cost-effectiveness through precision, mitigating technician reliance on conjecture
  - Enhanced Regulatory Adherence through proactive audit readiness measures
Questions?
Please wait for the microphone.
State your name and company.

Please remember to...
Navigate to this session in the mobile app to complete the survey.

Thank you!
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