Lock Operations Management Application (LOMA)

- **Purpose:**
  - Provide end users information needed for decision support

- **Goals:**
  - Increase lock operator situational awareness
  - Provide vessel operators better information
  - Provide better information to Corps management
  - Exchange information with external users

- The Automatic Identification System (AIS) is the central LOMA technology
LOMA AIS equipment deployment

- 135+ locations
- 9 Vessels
- AIS AtoN transceivers
- Interoperability with USCG
LOMA 2nd generation field equipment

- Updated site controller
  - Allows running applications at the transceiver
  - Store-and-forward data
  - Potential local user interface

- Cell Modem capability
  - For non-lock locations

- Deployment:
  - ~65 locations in FY18
  - Continuing in FY19
LOMA Capabilities

- Lock operator situational display
- AIS vessel information
- Zone Management
- Playback capability
LOMA - Zones
# Zone Report

<table>
<thead>
<tr>
<th>Zone Name</th>
<th>MMSI</th>
<th>Vessel Name</th>
<th>Cargo Type</th>
<th>Ship Type</th>
<th>Entry Time</th>
<th>Exit Time</th>
<th>Time in Zone</th>
<th>SOG</th>
<th>COG</th>
<th>Call Sign</th>
<th>Mile Mark</th>
<th>River</th>
<th>Nationality</th>
<th>Lat/Lon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vbg-UST</td>
<td>367434080</td>
<td>DON BOLING</td>
<td>N/A</td>
<td>Towing</td>
<td>1/11/2016</td>
<td>2:16:33 PM</td>
<td>0:10:19</td>
<td>11 kts 96.8</td>
<td>WDF2979</td>
<td>440</td>
<td>Mississippi River Mouth of Ohio River to Baton Rouge LA</td>
<td>United States of America</td>
<td>032°20'46&quot;N 090°58'21&quot;W</td>
<td></td>
</tr>
<tr>
<td>Vbg_DST</td>
<td>366862710</td>
<td>WALTER BLESSEY JR</td>
<td>N/A</td>
<td>Towing and length of the tow exceeds 200 m or breadth exceeds 25 m</td>
<td>1/11/2016</td>
<td>1:52:31 PM</td>
<td>0:06:51</td>
<td>12.3 kts 232.6</td>
<td>WDA9212</td>
<td>433</td>
<td>Mississippi River Mouth of Ohio River to Baton Rouge LA</td>
<td>United States of America</td>
<td>032°17'19&quot;N 090°58'09&quot;W</td>
<td></td>
</tr>
<tr>
<td>Vbg-UST</td>
<td>366862710</td>
<td>WALTER BLESSEY JR</td>
<td>N/A</td>
<td>Towing and length of the tow exceeds 200 m or breadth exceeds 25 m</td>
<td>1/11/2016</td>
<td>1:25:11 PM</td>
<td>0:09:20</td>
<td>12.6 kts 96</td>
<td>WDA9212</td>
<td>440</td>
<td>Mississippi River Mouth of Ohio River to Baton Rouge LA</td>
<td>United States of America</td>
<td>032°20'43&quot;N 090°58'21&quot;W</td>
<td></td>
</tr>
<tr>
<td>Vbg_DST</td>
<td>366996740</td>
<td>LYDIA BRENT</td>
<td>N/A</td>
<td>Fishing</td>
<td>1/11/2016</td>
<td>1:13:31 PM</td>
<td>N/A</td>
<td>3.8 kts 48.9</td>
<td>WDCZ716</td>
<td>433</td>
<td>Mississippi River Mouth of Ohio River to Baton Rouge LA</td>
<td>United States of America</td>
<td>032°17'29&quot;N 090°58'16&quot;W</td>
<td></td>
</tr>
<tr>
<td>Vbg_DST</td>
<td>367402880</td>
<td>BIG VALLEY 499</td>
<td>All ships of this type</td>
<td>Passenger ships</td>
<td>1/11/2016</td>
<td>12:35:31 PM</td>
<td>0:14:50</td>
<td>12.2 kts 35.7</td>
<td>WGZ7098</td>
<td>435</td>
<td>Mississippi River Mouth of Ohio River to Baton Rouge LA</td>
<td>United States of America</td>
<td>032°18'28&quot;N 090°58'54&quot;W</td>
<td></td>
</tr>
</tbody>
</table>

*Note: SOG = Speed Over Ground, COG = Course Over Ground*
Lock ETA
Additional LOMA capabilities

Playback query

Live target display filter

Vessels of interest selection and display
LOMA Playback Controls
LOMA Playback Query
LOMA Playback Query
LOMA Playback Query
Accident - Lock 18
LOMA4 software update

- HTML5 transition – Silverlight no longer supported
  - User interface improvements
  - External data integration – user selected weather, water levels, etc.
- Database modifications – improve performance
- User enhancements
  - Performance and reliability improvement - input from IMTS Working Group
- Looking for additional input on user enhancements
Potential LOMA User enhancements

- Incorporate AIS transmit functions
  - e.g., Safety zone, aids to navigation
- Enhanced vessel information
  - Identification of dangerous cargo vessels
  - Tow configuration
- “LOMA Lite” for low-bandwidth sites
- App for phone and tablet
- Local user interface
- LPMS interoperability
- Others…
For more information

Brian Tetreault
brian.j.tetreault@usace.army.mil

US Army Corps of Engineers®
Engineer Research and Development Center