M/V St. Clair Fire
Case Study

USCG MSU Toledo
Objectives:

- Overview covers the response only
  - Vessel specifics
  - Timeline
  - Weather
  - Challenges
  - Lessons learned

- No discussion of
  - Ongoing investigation
Vessel Specifics

- M/V ST CLAIR (U.S.)
- 770’ Bulk Carrier
- O/O: American Steamship Company
- Year Built: 1976
- Twin conveyor system below cargo holds to transport cargo to inclined conveyor belt to deck-mounted boom conveyor.
- Long-haul transport of iron ore pellets, coal, & limestone.
Response - Timeline

- Fire broke out on vessel at approximately **2015 (local) on 16Feb19**.
- Vessel moored at the CSX Torco Iron Ore Terminal.
- Vessel in caretaker status during winter layup – no personnel on board/no cargo with the exception of 69,000 gallons residual fuel oil onboard.
- Oregon OH Fire Department – first responders (assumed Incident Commander).
- Incident Command Post established on site.
- Eight other local fire departments assisted through mutual aid request.
- **0800 18Feb19** - Unified Command formally established (CG MSU Toledo, Oregon FD, Ohio EPA, RP American Steamship)
- Fire continued to burn for over 36 hours and smoldered for 8 days.
- **27Feb19** – Unified Command stood down
Initial Fire Response Challenges:

- **Firefighting**
  - General shipboard knowledge / layout / experience
  - Close proximity of vessels (cooling)
  - High winds/cold temperatures
  - Stability of vessel

- **Water Availability**
  - Hydrants on pier frozen / vessel in layup
  - Over 12’ of ice surrounding vessel and pier
  - Tank trucks to bring in water / flush jams

- **High burn temperature**
  - Dual rubber conveyor belts (tire fire)
  - 500 gallons of Aero-Foam XL 3% deployed
UC Challenges/Concerns:

- Vessel Stability (draft loss 4’ / list starboard)
- Close vessel proximity to other vessels during layup
- Caretaker status of ST CLAIR and surrounding vessels
- Weather
- Activation of Vessel Response Plan
  - OSRO (booming in ice, air boats)
  - Qualified Individual (QI)
- 69,000 gallons fuel oil onboard
- Flooding - #5 center ballast tank (rate of 1,000 gallons/min).
- Ongoing Dive Operations
- Security at the scene
UC Considerations / Challenges

- Direct overboard discharge 1.5 million gallons water (after-the-fact discharge permit – Ohio EPA) from #5 center ballast tank only

- NOAA Scientific Coordinator: Section 7 ESA Consultation and Resources at Risk requested and Best Management Practices for dewatering of AFFF contaminated water

- Oil Trajectory Modeling

- Staffing ICP / ICP locations

- Pollution Mitigation Strategies (cut through ice / airboats)
Weather

February 2019 Weather in Toledo — Graph
Pollution Response Challenges:

- Vessel Stability
  - Locate and Stop water ingress
    - Emergency pumping required
    - Ballast tank access (cut hole)
    - Permit required
  - 2 Sea Chest openings
    - Dives Ops poor conditions
- Engine Room flooded
  - Unknown Air Quality
  - Pollution in water
Pollution Response

- Oil Spill Liability Trust Fund (opened to augment ICS positions)

- OH EPA “After-the-fact” direct overboard discharge permit – 1.5 million gallons of water to preserve stability of vessel at 0300 on 19Feb19.

- Sampling of direct overboard discharge water from #5 center ballast tank

- Air Quality Monitoring
Starboard Conveyor Tunnel Deck Fracture - amidship
Pollution Response

- Contaminated Water Storage (183,000 Gallons)
  - 8 Frac-Tanks
    - Limited Space
      - Continued engine room pumping to identify ingress
      - 1 containment for a frac-tank was damaged

- Disposal
  - Categorization of Hazard
  - Freezing Temperatures
Safety Challenges

- Multiple agencies/companies working under different policies.

- Constant changes in weather

- Adequately assessing the air quality on board for damage control and investigations.

- Balancing damage control priorities with site preservation for investigation purposes.
Initial Lessons Learned

- Need for **regional firefighting and command platform**

- Maritime Administration’s (MARAD) recent closing of the Great Lakes Fire Training Center (FTC) in 2016 created a training void - standardized vessel firefighting training and familiarization necessary in the Great Lakes MTS

- Updating layup dead ship tow contingencies

- Expectations of Qualified Individual – Vessel Response Plan
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Questions?