Assessing PFAS Risk for the Shipbuilding Industry

EHS Panel Meeting, November 12, 2020
Assessing PFAS Risk for the Shipbuilding Industry

Project Lead Organization: General Dynamics Electric Boat Corporation
Project Team members: Woodard & Curran, support commitment from Huntington Ingalls, BIW and NASSCO

<table>
<thead>
<tr>
<th>Concept/Idea</th>
<th>Benefits/Justification</th>
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| **Issue:** Per- and polyfluoroalkyl substances, emerging contaminants commonly referred to as PFAS, pose a poorly understood risk for the shipbuilding industry. Evaluation of those risks and their mitigation are a key, proactive consideration for incorporation into risk management strategies. | **Benefits of the project**
- Assist member shipyards to develop a proactive PFAS plan
- Develop strategies for the mitigation of harmful health and environmental effects from PFAS
- Ensure shipyards are prepared to maintain compliance with evolving State and Federal PFAS regulations
- Accurately report TRI data (with will include PFAS in 2021) |

**Proposed Solution(s):** Examine the potential risks by identifying and understanding possible PFAS-containing products used currently and historically in shipbuilding, and their potential environmental and human health impacts.

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<tr>
<th>Project Approach</th>
<th>Cost/Images/Relevant Information</th>
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| **High level statement of work**
- NSRP Member Engagement
- Inventory and Risk Assessment of PFAS Containing Materials Used
- State and federal Regulatory Review
- Development of Risk Mitigation Strategies | **Project Estimated Cost:** $150,000 |
| **Metric(s) of Success**
- Collect accurate information to fully understand the extent of risk
- Determine risk applicability and prioritization
- Understand regulatory environment and potential levels or enforcement
- Develop a framework to proactively mitigate risks identified |
Project Purpose

Issue: Per- and polyfluoroalkyl substances, emerging contaminants commonly referred to as PFAS, pose a poorly understood risk for the shipbuilding industry. Evaluation of those risks and their mitigation are a key, proactive consideration for incorporation into risk management strategies.

Proposed Solution(s): Examine the potential risks by identifying and understanding possible PFAS-containing products used currently and historically in shipbuilding, and their potential environmental and human health impacts.
Step 1: Identify the Potential PFAS Containing Processes and Products Historically Used at Shipyards
Firefighting Foams

- System testing
- Accidental discharge
- Emergency use
- SOPs for system testing waste management
- Engineering controls to mitigate accidental discharge
- Evaluate contingency plans for post-emergency response containment & management
Other Common Uses of PFAS

- **Industrial Processes**
  - Chrome plating
  - Surface coatings

- **Hydraulic Fluids & Lubricants**
  - Fluorinated lubricants
  - Hydraulic fluids

- **Fabrics, Gaskets, Films**
  - PTFE, PVDF, FEP, PFA, FPU
  - Nonstick coatings
  - Stain treatments & water repellants

- **Other Products**
  - Waxes, paints, polishes
Step 2: State and Federal Regulatory Review
Step 3: Risk Mitigation Strategies for PFAS Containing Materials
Step 4: Waste Management Strategies
Membership Engagement Throughout
Project Benefits

- Assist member shipyards to develop a proactive PFAS plan
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Thank you!!

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