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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

Concept/Idea

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.

Benefits/Justification

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)

Project Approach

High level statement of work

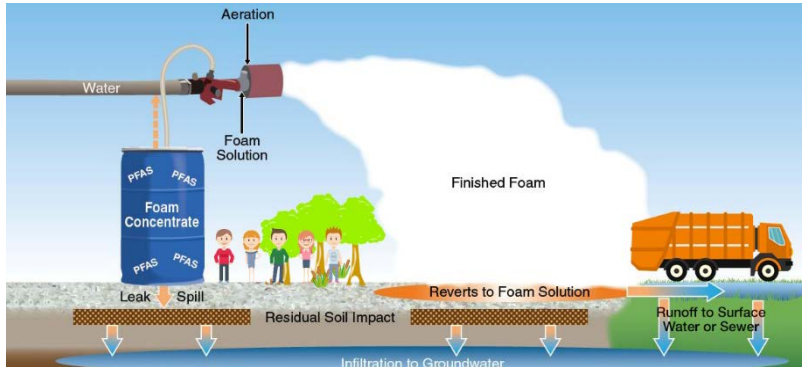
- NSRP Member Engagement
- Inventory and Risk Assessment of PFAS Containing Materials Used
- State and federal Regulatory Review
- Development of Risk Mitigation Strategies

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

Cost/Images/Relevant Information

- **Project Estimated Cost:** $150,000



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Project Purpose

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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

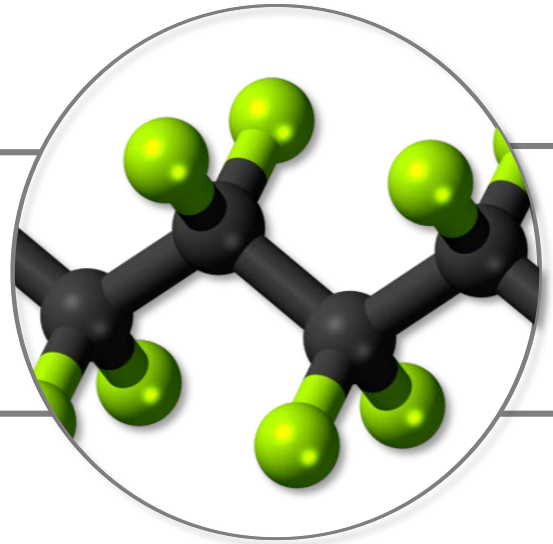
Evaluate contingency plans for post-emergency response containment & management

Need to change the underlying animations

Other Common Uses of PFAS

Industrial Processes
Chrome plating
Surface coatings

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



Hydraulic Fluids & Lubricants
Fluorinated lubricants
Hydraulic fluids

Other Products
Waxes, paints, polishes

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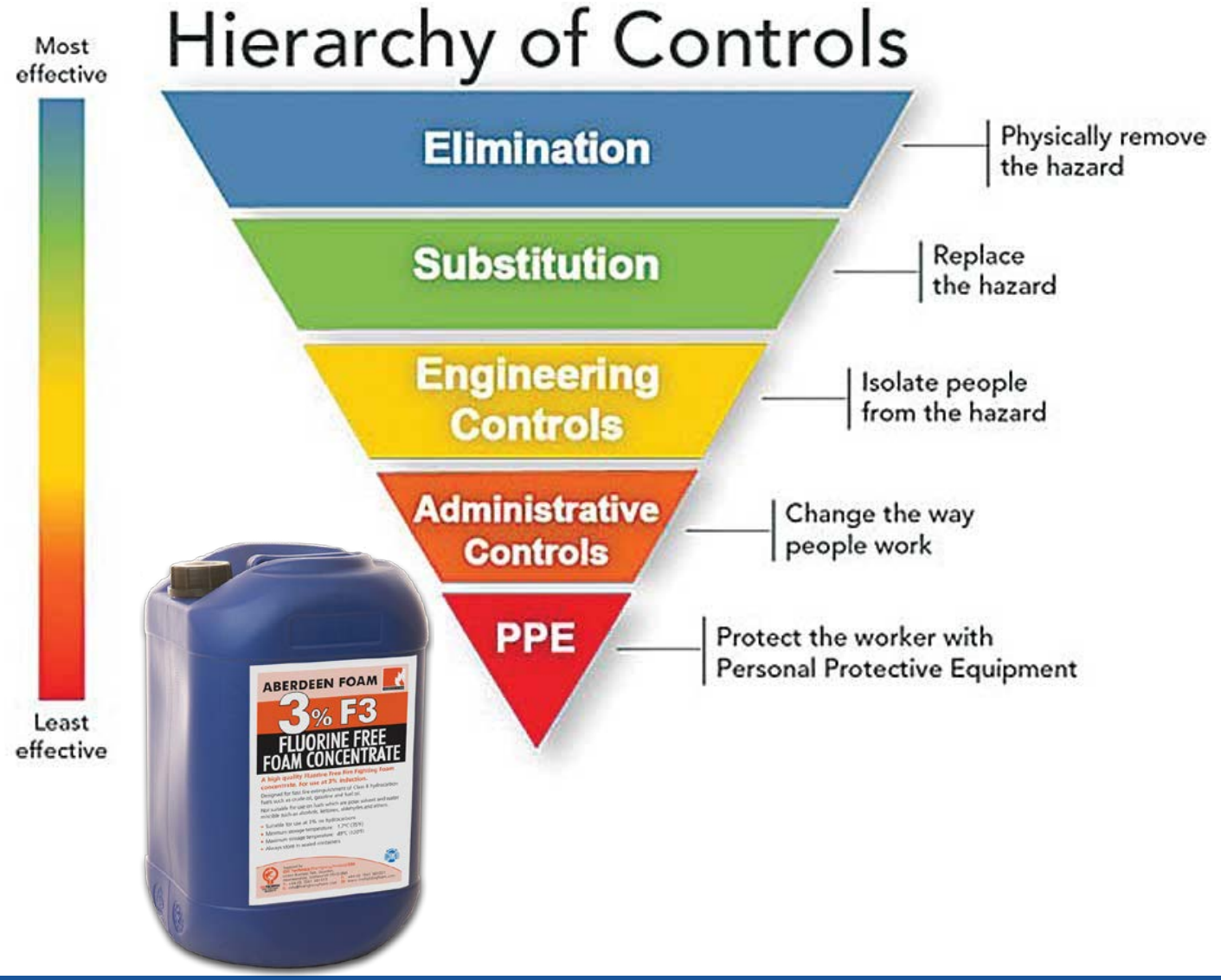
Step 2:
State and Federal Regulatory Review

Step 3: Risk Mitigation Strategies for PFAS Containing Materials



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Step 4: Waste Management Strategies

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Membership Engagement Throughout

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Thank you!!

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