



---

## **EPA Residual Risk Rule SP-7 Update**

**Mike Chee**  
August 21, 2007

# Background

---

- In December 1995 EPA developed and implemented Maximum Achievable Control Technology (MACT) Standard for the Shipbuilding and Repair Industry to comply with the Clean Air Act (CAA)
  - MACT Standard regulates solvent content of marine coatings
- CAA also directs EPA to assess the remaining “residual” risk within 8 years of implementation of MACT to protect public health or to prevent adverse environmental effects
- EPA began a “screening” assessment in Spring 2002
  - Screening assessment looks at all emissions and is very conservative and if all facilities are below the Low Risk Thresholds then no rule

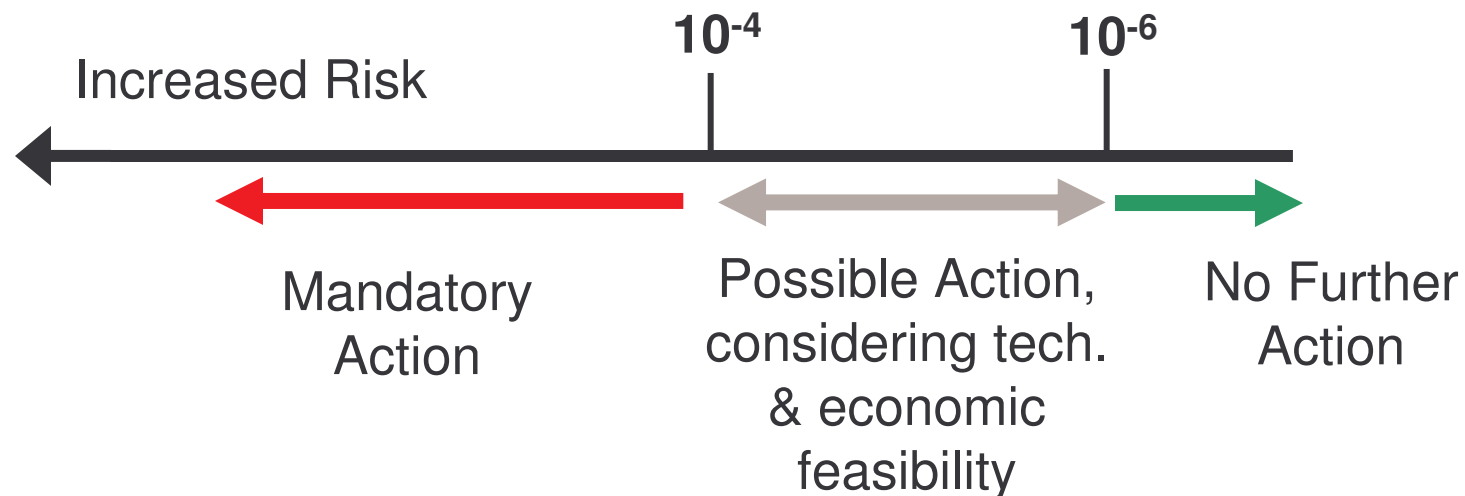
# How Risk is Determined

---

- Quantify Consumption of weld rod, blast grit, coatings, etc.
- Apply Emission Factors to determine calculated emissions
  - ↗ e.g. pound chromium emitted / pound rod consumed
- Enter Assumptions on release rates and locations into EPA's Human Exposure Model
- Add Source Characterization data
  - ↗ e.g., building locations and heights
- Factor in meteorological and census data
- Model predicts potential cancer and non-cancer impacts on community

# Low Risk Thresholds

- Cancer Risk: <1 in 1 million no action is required  
(>100 in 1 million requires mandatory action)



- Non-cancer Risk: Hazard Index <1.0 no action is required

# Screening Assessment Results

---

- EPA presented results to industry in December 2002
- Focused on Welding, Blasting, Painting and Solvents
- Primary risk drivers:
  - Hexavalent Chromium (stainless steel welding)
  - Manganese (trace in all welding)
  - Nickel (CuNi welding)
- 7 Yards screened above Cancer Threshold
- 5 Yards screened above Non-cancer Threshold
- EB, Cascade General and Norfolk Naval screened out
- Therefore EPA is moving forward with formal assessment based on more accurate site-specific data and more realistic modeling assumptions
- If formal assessment shows one facility exceeds Low Risk Thresholds then rule will be developed

# On-Going Efforts

---

- EPA site visit to NASSCO and others shipyards in 2003
- EPA sent out data surveys to 13 shipyards in 2003
- EPA developed Emission Factors (EF's) and presented to industry in December 2004
- In 2005 EPA was set to begin modeling and we developed a team with funding to represent industry
  - Team consisted of shipyard representatives, legal counsel and a risk assessment expert
  - Team focused on:
    - Reviewing EPA Emission Factors
    - Ensuring EPA was using best available site-specific data
    - Coordinating additional weld and blast data collection and submission
- To date 6 meetings and more that 20 calls with EPA

# On-Going Efforts ...

---

- Weld and Blast EM's are still being worked and negotiated with EPA and Industry team
- Concurrent Technologies Corporation Project funded through NSRP to:
  - Conduct literature review on EF calculations
  - Conduct parallel modeling and analysis of EPA model
  - Conduct Speciation of Chromium Study
  - Identify, demonstrate and quantify control technologies and efficiencies
  - Determine cost effectiveness of control technologies

# Current Events

---

- Advance Notice of Proposed Rule Making issued March 29, 2007
  - 60 day comment period asking for public comments on data and modeling assumptions EPA intends to use to analyze risk
- Comments focused on:
  - Corrections to site-specific data
  - EPA modeling assumptions
  - EPA blast and weld emission factors

# Next Steps

---

- EPA response to industry comments in March 08
- Proposed Rule to follow within 6 months
- Final Rule to follow within 1 year of Proposed Rule
- If risk exists, shipyards may be forced to alter certain operations based on modeling results:
  - ↗ Re-locate risk-driving operations
  - ↗ Capture and treatment emissions from risk-drivers
  - ↗ Research alternative technologies for risk-drivers