



*Concurrent
Technologies
Corporation*

**Supporting NSRP Shipyards in the
Implementation of Recently-Generated
Emissions Factors at the Federal, State, and
Local Level**

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NSRP Environmental Technology Panel
Meeting
Biloxi, MS
March, 2011





Presentation Outline

- Project Objectives
- Project Information
- Summary of Recent Events:
 - Proposed Rule
 - NSRP ETP/U.S. EPA Meeting
 - NSRP ETP Comments
- Path Forward
- Questions





Project Objectives

1. Prepare industry for upcoming changes in Federal Emissions Factors Program
2. Submit data generated from past NSRP ETP Project “Developing Emissions Factors for Electrodes Commonly Used within the Shipbuilding Industry” to U.S. EPA and hold open discussions with U.S. EPA to influence how data will be utilized to support upcoming changes in Federal Emissions Factors Program
3. Determine current practices used by shipyards to report welding emissions to Federal, state, and local regulatory agencies, and identify requirements for updating/revising emissions factors
4. Support up to two shipyards in submitting data generated from past NSRP ETP Project to local and/or state regulators for use in reporting welding emissions



Project Information

- Description/Objective of project
 - Prepare the industry for upcoming changes in the Federal emissions factors program
 - Support the implementation of newly generated emissions factors at various regulatory levels
- Deliverables
 - Letter to accompany the emissions factors that will be submitted to the U.S. EPA – Submitted 4/30/10
 - Briefing that describes the U.S. EPA's Emissions Factors Program Improvements – Submitted 7/01/10
 - Emissions Factors Reporting Summary – Submitted 9/01/10
 - Letter summarizing the major points regarding welding emissions factors that the industry would like to discuss with the U.S. EPA – Submitted 9/24/10
 - Final Project Technical Report – Planned submittal date: August 10, 2011



Project Information

- How will project provide value to the Navy and Industry?
 - Regulatory Compliance: Support shipyards in the implementation of data that will be used for regulatory reporting activities. Projected to ultimately reduce regulatory burden and compliance costs.
- What platform (ship/sub/yard product/process) is being targeted for implementation?
 - Project targets shipyard welding processes, with the final goal of implementing emissions factors data for use in improving and easing regulatory compliance.



Recent Events

- National Emission Standards for Shipbuilding and Ship Repair (Surface Coating); National Emission Standards for Wood Furniture Manufacturing Operations Proposed Rule
 - Published in *Federal Register* on December 21, 2010 (75 Fed. Reg. 80220)
- NSRP ETP Project Team participated in meeting with U.S. EPA at Research Triangle Park, NC
 - January 19th, 2011
- Submitted comments to EPA in response to Proposed Rule
 - February 22nd, 2011



Summary of the Proposed Rule

- Limited in its coverage
 - Source category covered by MACT standard includes only surface coating operations that occur at these facilities during shipbuilding and ship repair
- Comments on the March 29, 2007 ANPRM (72 FR 29287)
 - Approximately 20 comments received in response to ANPRM were reviewed and considered; adjustments to dataset were completed where U.S. EPA concluded comments supported such adjustment
- Proposes that risks from Shipbuilding and Ship Repair (Surface Coating) source category are acceptable; no MACT changes or additional risk regulation necessary

National Emission Standards for Shipbuilding and Ship Repair (Surface Coating): National Emission Standards for Wood Furniture Manufacturing Operations, published in the Federal Register on December 21, 2010 (75 Fed. Reg. 80237)



Proposed Rule: What About Welding?

- Risk Analysis Results (85 facilities)
 - 4 found to have maximum individual risk (MIR) of cancer of **100-in-1 million or greater (Limit for acceptable risk)**
 - Surface coating accounted for ~1% of the total risk
 - 41 facilities with MIR for cancer risks of **1- in-1 million or greater (Ample margin of safety)**
 - 15 have surface coating operations that contribute greater than 50 percent to the facility-wide risks
 - 6 found to have maximum chronic non-cancer Target Organ-Specific Hazard Index (TOSHI) values greater than **1**
 - None had surface coating operations that contributed greater than 50 percent to these facility wide risks
- “The facility-wide **cancer risks** at these 41 facilities, and at the four facilities with risks of 100-in a million or more, are **primarily driven** by emissions of hexavalent chromium from **welding and abrasive blasting operations**”
- “The **chronic non-cancer risks** at these 6 facilities are **primarily driven** by manganese emissions from **welding and abrasive blasting operations**”

National Emission Standards for Shipbuilding and Ship Repair (Surface Coating): National Emission Standards for Wood Furniture Manufacturing Operations, published in the Federal Register on December 21, 2010 (75 Fed. Reg. 80237)



Proposed Rule: Opportunity

- Noted uncertainties in amount and form of chromium emitted from facilities
 - Many facilities' emissions inventories included estimates for Cr(VI) and Cr(III).
 - Where only estimates of total Cr emitted were provided, a default assumption of 34 percent Cr(VI) and 66 percent Cr(III) was applied
- **“We request comment on the distribution of the default emissions assumptions for chromium emissions applied to the Shipbuilding and Ship Repair (Surface Coating) source category”**
- Identified welding and abrasive blasting operations as sources of HAP at these major source facilities
 - Recognizes that different types of metals (welding) and minerals (abrasive blasting and welding) could be involved
 - Intends to list welding and blasting operations that occur at shipbuilding and ship repair facilities as a major source category under Section 112(c)(5) of the CAA
- **“We request additional information on the HAP emitted by these activities. Once we have this information, we will be in a better position to identify the appropriate scope of the major source category to be listed”**

*National Emission Standards for Shipbuilding and Ship Repair (Surface Coating):
National Emission Standards for Wood Furniture Manufacturing Operations,
published in the Federal Register on December 21, 2010 (75 Fed. Reg. 80237).*



Summary of Meeting with U.S. EPA

- Reviewed and discussed NSRP ETP-generated data
- Discussed potential of a welding and blasting major source category under CAA Section 112 (c)(5)
 - No decision has been made regarding scope, regulatory approach, timeframe, or U.S. EPA point of contact
 - Proposed Rule NOT considered an ANPRM for potential development of welding regulations; U.S. EPA would release an ANPRM to collect required data to support any potential new welding regulation
- Gained consensus from U.S. EPA representatives that previous comments on ANPRM should be submitted again, in response to the Proposed Rule, in addition to any information regarding welding activities completed in Shipbuilding and Ship Repair Industry
 - Useful in determining how to proceed with scope for any potential regulations



Summary of Meeting with U.S. EPA

- Discussed ANPRM Emissions Factor Program Improvements, published in *Federal Register* on October 14, 2009 (74 Fed. Reg. 52723)
 - Projected date for Proposed Rule is July, 2011
 - Outline three primary items:
 1. Requirement to submit performance test data through Electronic Reporting Tool (ERT)
 2. Transition from AP-42 to WebFIRE
 3. Revision of current Source Classification Codes assigned to emitting process, such as welding
- NSRP ETP welding data is currently incompatible with ERT
 - Not required performance test data
 - No U.S. EPA reference method to sample and analyze for weld fume

ANPRM, Emissions Factor Program Improvements, published in the Federal Register on October 14, 2009 (74 Fed. Reg. 52723).



Meeting with U.S. EPA: Opportunity

- Act as first organization to implement revised emissions factors into new WebFIRE system
 - WebFIRE will become U.S. EPA's primary collection of emissions factors (anticipated to become active in late 2011 or early 2012)
 - U.S. EPA proposed cooperative project in which NSRP ETP team would beta test ERT to incorporate data not directly produced as a result of performance testing
- Update process information in AP-42
 - Welding descriptions
 - SCC
- Submit method used to develop these emissions factors for consideration as "Other Test Method" (OTM), or even possible consideration for development of future U.S. EPA Reference Method

ALL Critical to the potential development of new welding regulations



Summary of Comments

- Collaborated with *CTC* Subcontractor Mr. John Wittenborn of Kelly Drye Collier Shannon, PLLC
- Provided overview of NSRP
- Summarized NSRP ETP efforts
 - Comments submitted June 28, 2007 - Response to Comments on the March 29, 2007 ANPRM (72 Fed. Reg. 14734)
 - Control Technology Demonstration and Weld Fume Evaluation
 - Evaluation of Welding Electrodes to Determine the Mass Fraction and Decay Rate of Hexavalent Chromium
 - Developing Emissions Factors for Electrodes Commonly used within the Shipbuilding Industry for use in Regulatory Reporting Procedures



Task 3 – Local Support Path Forward

- April/May, 2011:
 - Work with each of selected shipyards and with local regulators in effort to secure acceptance of newly generated emissions factors at local regulatory level
 - San Diego Ship Repair, BAE Systems
 - General Dynamics Marine Systems, Bath Iron Works
 - Utilize progress made with U.S. EPA at Federal level to support our position



Task 4 – Final Summary Report

- June/July, 2011: Prepare Final Report that includes:
 - Objectives of project
 - Progress made against objectives
 - Results
 - Benefits (quantitative and qualitative)
 - Conclusions
 - Recommendations for shipyards that plan to submit welding emissions data to regulatory agencies in future



Questions?



Project Contact Information

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