



*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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# Presentation Outline

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# Background

- U.S. EPA and shipyard representatives agree that current emissions factors data sets are limited in quantity and quality
- NSRP has taken a proactive approach to improve this by funding various projects to generate new emissions factors data
- October 2009 - U.S. EPA issues “Emissions Factors Program Improvements” through Advance Notice of Proposed Rulemaking (ANPR)
- U.S. EPA requested public comment on Agency’s initial ideas for improvements to emissions factors program



# Industry Impact and Opportunity

- Potential Regulatory Impact
  - Potential to significantly alter regulatory landscape with regard to emissions factors used for regulatory reporting purposes
  - Acceptance of improved emissions factors has potential to reduce shipyard regulatory burden and associated compliance costs
- Industry Opportunity
  - Take advantage of opportunity and take active role in process
  - Engage with regulatory agencies at all levels (Federal, state, and local) critical to determining and *influencing* how upcoming changes will impact individual shipyards and industry overall



# Response to Industry Need

- *CTC* developed white paper to support industry in:
  - Preparing for upcoming changes in the Federal emissions factors program
  - Implementing newly generated emissions factors at various regulatory levels
- BAE Systems San Diego Ship Repair:
  - Provided valuable information in development of white paper
  - Offered cost share critical to support implementation portion of project
- Awarded – March 2010



# 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: February 10, 2011
- How will project provide value to the Navy and Industry?
  - Regulatory Compliance – Supports shipyards in the implementation of data that will be used for regulatory reporting activities. May 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.



# 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 Approach

- **Task 1 – Provide Support at the Federal Level**
  - Support submittal of emissions factors developed in past Panel project to U.S. EPA
  - Present industry’s comments/recommendations to U.S. EPA and discuss intended use for submitted emissions factors
- **Task 2 – Provide Support at the State Level**
  - Complete data gathering exercise to determine states using alternative emissions factors and criteria upon which those factors are based
  - Prioritize states having highest need for implementation of updated emissions factors
- **Task 3 – Provide Support at the Local Level**
  - Select shipyard and accompanying local regulatory agency in up to two states for analysis of local emissions reporting/regulatory process
    - State One: California, due to increased regulatory concerns
    - State Two: To be selected based on findings of Task 2
  - Meet with local regulators at each selected shipyard in effort to secure acceptance of newly generated emissions factors at local level
- **Task 4 - Final Summary Report**
  - Summarize project activities and successes



# Task 1 - Federal Support Accomplishments

- March – April, 2010: Developed a process to initiate discussions regarding use of emissions factors.
  1. Provide proposed emissions factors to U.S. EPA for review
  2. Collect input from across industry on U.S. EPA's proposed *Emissions Factors Program Improvements*
  3. Present industry's comments/recommendations to U.S. EPA in formal letter
  4. Schedule and conduct a meeting with U.S. EPA to discuss proposed improvements, industry's comments/recommendations, and intended use for submitted emissions factors.
- Outlined this approach in project deliverable: *Letter to Accompany the Emissions Factors that will be Submitted to the U.S. EPA* ( Deliverable submitted to ATI on 4/29/10)



# Task 1 - Federal Support Accomplishments

- June, 2010: Briefed the NSRP ETP on the U.S. EPA's *Emissions Factors Program Improvements*, as proposed in October 2009 ANPR (Deliverable submitted to ATI on 7/01/10)
- July/August, 2010: Distributed the briefing to all shipyards that participated in past Panel project, along with request to submit concerns/ questions/ comments/ recommendations regarding U.S. EPA's ANPR
- September, 2010: Summarized major points in letter that was submitted to U.S. EPA (11/01/10), along with request for a meeting with POCs that were involved in the past NSRP ETP Project (Deliverable submitted to ATI on 9/24/2010)



# Task 1 - Federal Support Path Forward

- December/January, 2011: Set up a meeting with U.S. EPA
- Preliminary agenda of topics for discussion
  - Residual Risk Rule (RRR)
    - Status of the RRR Process overall
    - Anticipated date for the review of the shipbuilding industry
    - Will the NSRP ETP data and/or revised emissions factors be included in that ruling?
  - Emissions Factors Improvements Program
    - Status of the Emissions Factors Program rulemaking
    - Expected date for the Proposed Rule
    - Will the NSRP ETP data and/or revised emissions factors be included in that proposal?
    - Is there a path forward for how the new emissions factors data will be utilized?
  - NESHAP for Welding Operations
    - Is this still an option moving forward, and if so, what is the status of this effort?
    - Will the NSRP ETP data and/or revised emissions factors be included in that proposal?
  - Path forward
    - Finally, what can the NSRP ETP do to help EPA as the Agency moves through the upcoming regulatory changes listed above?



## Task 2 – State Support Accomplishments

- May - July, 2010: Completed data gathering exercise to determine if and/or what states provided alternative emissions factors for reporting welding emissions.
  - Distributed questionnaire to 21 shipyards.
  - Researched 5 states: CA, CT, FL, ME, and TX
- August, 2010: Presented the data in the “State Emissions Factors Reporting Summary” (Deliverable submitted to ATI on 9/01/10)
- September, 2010: Selected shipyards in 2 states to support the implementation of emissions factors data
  - BAE Systems San Diego Ship Repair, California
  - General Dynamics Bath Iron Works (BIW), Maine



# Task 2 – State Support State Selection Summary

- Why California?
  - Limitations exist with the information and methodology provided by California ARB and the SDAPCD
    - Methodology requires the use of default variables (FGR's, FCF)
      - Past research (FGRs, FCFs, and Cr to Cr(VI) conversion rates) was focused on GMAW and SMAW.
      - SDAPCD states that
        - “The majority of the common welding processes can be classified as either GMAW or SMAW.”
        - “Until more confirmation test results are available, a combination of the above research will be used by the District to quantify welding emissions.”
    - Methodology relies heavily on the assumption that FCAW is similar to SMAW, and does not provide any differentiation between the two.
  - Extensive regulatory reporting requirements.
    - Emissions are reported at the local (SDAPCD), state (California ARB), and federal (U.S. EPA) level.
  - Ongoing regulatory activities at the state level.
    - ARB website currently states that
      - “Emissions from stainless steel welding are a source of concern because of the potential health impacts from hexavalent chromium. ARB staff is currently determining if an ATCM is appropriate for this source category”.



# Task 2 – State Support State Selection Summary

- Why Maine?
  - BIW is currently using several of the emissions factors that were proposed as part of the U.S. EPA’s Residual Risk Ruling, as well as unidentified Pb emissions factors, which appear to be overestimating emissions when compared to the data collected by the NSRP ETP.
  - BIW reports welding emissions at the federal level to the U.S. EPA under SARA, and at the state level to MEDEP.
  - MEDEP provides Method E, which allows the use of emissions factors from other industry and trade groups that are developed based on sound science. This method provides an opportunity for the NSRP ETP-developed emissions factors to be inserted at the state level.



# Task 2 – State Support State Selection Summary

- What about the other states?
  - Texas
    - TCEQ specifically recommends the use of the U.S. EPA AP-42 emissions factors.
  - Connecticut
    - General Dynamic Electric Boat uses a combination of SDAPCD and NEMA emissions factors when calculating emissions.
  - Florida
    - BAE Southeast indicated that they are not required to report welding emissions because their Title V Air Permit lists welding emissions as an “insignificant” source.
    - BAE Southeast indicated they were not required to speciate welding HAPs such as Cr, Cr(VI), Mn, etc.
    - The state advises the use of published emissions factors when site-specific emission factors are lacking.



## Task 3 – Local Support Path Forward

- December/January, 2010:
  - Work with each of selected shipyards and with local regulators in effort to secure acceptance of newly generated emissions factors at local regulatory level



## Task 4 – Final Summary Report

- January/February, 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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