



Motion Assisted Environmental Enclosure (MAEE)



CAPTURING PAINT OVERSPRAY DURING HULL PAINTING OPERATIONS



Capabilities/Benefits Provided:

- Captures paint overspray while modifications to the AWP simultaneously direct the enclosure along a hull's surface.
- Eliminates overspray which generates air emissions and hazardous runoff waste.
- Enclosure is light weight, balanced, and has a superior seal.
- Reduces the manpower (1 person) required while maintaining productivity.

Objective (Product):

Demonstrate a low-cost, modular device that combines portable containment with semi-autonomous motion.

- Captures paint overspray.
- Maintains standoff gap with ship hull.
- Strap-on modifications are made to an aerial work platform (AWP), and are easily removed .
- Concept has potential for emissions capture during welding, cutting, and surface preparation operations.

Milestones/Accomplishments:

- Conducted prototype coordinated motion (vertical surface) and initial capture demonstration at Atlantic Marine (FY09/2Q)
- Modified enclosure capture demonstration (vertical) at Atlantic Marine (FY09/3Q)
- Demonstration Final Draft Report (FY09/4Q)
- FY10 Demonstration Plan (FY10/2Q)
- Coordinated motion and capture demonstration (curved surfaces) at Atlantic Marine on actual ship hull (FY10/2Q)



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Industry Need:

- Compliance with Clean Air and Clean Water Acts
- Contain and capture paint process emissions
 - Reduce heavy metal emissions (copper, zinc)
 - Reduce particulate (overspray) emissions
 - Reduce shipyard NOV's

Target shipyards – Large and Medium repair and new construction shipyards

Target ships- Navy combatants- surface ships and submarines, medium and large commercial ships



Shipyard Involvement:

- Evaluate current MAEE concept
- Design review participation/recommendations
- Provide Industrial test facility
- Participate in testing & evaluations
- Participate in shipyard demonstrations
 - Initial prototype test – March & August, 2009
 - Test and Evaluation– August, 2010 @ BAE Shipyards SE Jacksonville, Fl. on ship hull
- Expected demonstration @ PSNS in FY11