



“Safer Alternatives to Copper Antifouling Paints” Project

Stakeholder Workgroup Meeting

January 21, 2009

A photograph of a marina at sunset. The sky is a warm orange and yellow, with the sun low on the horizon. In the background, there are silhouettes of buildings and hills. The foreground is filled with numerous sailboats of various sizes, their masts and rigging creating a complex pattern against the bright sky. The water is calm, reflecting the light from the sky.

Agenda

1. Introductions

2. Hull Testing

3. Cost Sharing

4. Other

EPA Grant Tasks Timeline

	Start Date	End Date
Assemble Work Group	01/01/08	03/31/10
Examine Current Coatings/Methods	01/01/08	04/01/08
Examine Alternative Coatings/Methods	01/01/08	05/01/08
Develop Panel Test Protocol	04/01/08	06/01/08
Conduct Panel Tests	06/01/08	10/01/08
Analyze Results / Select Best Coatings	10/01/08	01/01/09
Develop Boat Test Protocols	01/01/09	03/01/09
Conduct Boat Tests	03/01/09	10/01/09
Analyze Results	10/01/09	02/01/10
Prepare Report	12/01/09	03/31/10

Hull Testing



Hull Testing Objectives

- ❖ Evaluate top performing coatings on boat hulls for an extended time period
 1. Evaluate performance
 - Maintenance needs
 - Longevity
 2. Evaluate different coating application methods
 3. Consider environmental impacts
 4. Evaluate costs of alternative coatings

Draft Design & Questions

Consider coatings for next phase in tiered approach.

- ❖ Tier 1 = Non-biocides (5)
 - ❖ Tier 2 = ZnO only or Organic only (4)
 - ❖ Tier 3 = Remaining active ingredient combinations (10)
1. Performance (Tiers 1, 2, 3)
 - How frequently do coatings need to be cleaned to remain effective?
 - What is the longevity of coatings?
 2. Application Strategies (Tier 1)
 - How can costs be controlled when applying non-biocide paints?
 - Do different application methods impact non-biocide coating performance?
 3. Environmental Considerations (Tiers 2, 3)
 - What are the environmental impacts from Zn products or Organic biocides?

Proposed Approach

- ❖ Evaluate 10 coatings for performance on boat hulls
 - All 5 Tier 1 (non-biocide) coatings
 - 1 top performing hard non-biocide coating
 - 1 organic biocide coating (Tier 2)
 - 1 Zinc Oxide coating (Tier 2)
 - 2 Tier 3 coatings with Zinc Pyrithione (active ingredient)

Proposed Approach con't

- ❖ Non-biocides that can be applied over copper will be applied both ways
 - ❖ Per suppliers recommendations
- ❖ If enough boats are available, consider adding duplicates of all non-biocides (using preferred application method)
- ❖ Track/follow 1 or 2 copper hull paints that were newly painted in the study time period
- ❖ Do not exceed 20 boat maximum for controlled hull testing performance study

Hull Testing – Application

- ❖ Evaluate different application methods to determine which are most cost effective
 - Roll on
 - Spray on
 - Apply over copper
- ❖ Apply coating with supplier's recommended method
- ❖ Apply non-biocides over copper if supplier is open to this testing
- ❖ All parts of application procedure need to meet VOC limits (20 gal/yr exemption)

Hull Testing – Performance

- ❖ Conduct performance evaluation in consistent manner for all coatings
 - Visit all boats on set schedule – 3wks
 - Conduct assessment and perform cleaning only when needed
 - Identify number of times boats require cleaning
 - Identify level of effort needed to clean hull
 - Assess for physical failure of coating

Assessment / Cleaning

- ❖ Use designated hull cleaners for project
 - Assessment of hull condition using standard scale
 - Evaluate cleaning using standard scale
 - 3 divers max for project
 - All cleaning by hand

Boater Participation

- ❖ For each test coating:
 - Need consistency where possible
 - Use – find boats having similar use patterns
 - Frequency
 - Vessel Speed
 - Size – use boats of the same size when possible
 - Type – considerations for power or sail

Boater Participation

- ❖ Actively seeking boaters willing to participate in the project
 - Information distributed to all SIYB marinas & yacht clubs
 - Information posted on Port website
 - Stakeholder group to distribute information to their peers
- ❖ Will look to offset a portion of the application cost
- ❖ Must have boat available for 2-yr test period

Proposed Approach – Secondary efforts

1. Consider other boats outside of study having valuable coating information
 - Provides assessment in “real world” setting, no cleaning requirements or restrictions
 - No use logs, cleaning scales, etc
 - No contracts, liabilities, etc. if coatings fail
 - General coordination with boater to get their opinion on coating performance
 - May seek cleaning frequency/method information

Proposed Approach – Secondary efforts

2. Develop or maintain database of all boats identified as having study related coatings
 - Will provide longevity assessment
 - More boats provides a better confidence in performance
 - Can make better assessments on usage/performance issues
 - Can make better assessment on cleaning needs
 - Can represent variations in fouling
 - More confidence in overall cost evaluation

Evaluating Environmental Issues

- ❖ Evaluate registration data, if applicable
- ❖ Phase in environmental testing later in the project (panel testing only)
 - ❖ Conduct leach rate testing
 - Evaluate leach rate
 - Evaluate potential loading
 - Assess passive leaching only
 - ❖ Perform toxicity tests
 - Consider TIEs to determine toxic agent(s)

Cost Assessment

- ❖ Cost is an integral element to finding viable options
- 1. Consider cost to apply coatings
 - Coating, Tie coats, primers, etc
 - Stripping
- 2. Consider cost to clean coatings
 - Frequency required to maintain performance
 - Level of effort required during cleaning
- 3. Consider longevity of the coatings
 - Note physical failures as a result of cleaning, use, etc.

Cost Sharing



Cost Share Process

1. Identify costs of study design
2. Discuss cost options with parties
3. Continue efforts to find boaters willing to participate

Plans for Handling Cost of Boat Phase

- ❖ EPA grant provides no funds for coating or cleaning boats

- ❖ Proposing cost sharing for application and cleaning
 - Project team, boaters, paint suppliers, boat yards, hull cleaners participate
 - Option 1 – Costs paid directly between parties
 - Option 2 - Establish IRTA bank account for receiving payments from boaters and paying fees to boatyards and divers

Plans for Handling Cost of Boat Phase

- ❖ Develop agreements between Port and boaters, suppliers, boatyards, hull cleaners.
 - Use of standard hull cleaning rate for project boats – copy from other slide
 - Discounted rate for hull prep/ paint application

Cost Sharing

	Haulout	Apply (Prep, Strip, etc)	Paint, Primer	Re-Apply	Cleaning
Port/IRTA		X		X	
Boatyard		X*		X*	
Supplier		X	X	X	
Boater	X	X			X
Cleaner					Set rate

*To use discounted rate

Responsibilities -Boaters

❖ Coating Application

- Boaters will cover the cost of a routine haulout and painting
- Boaters can use their preferred boatyards
- Boaters will schedule their haulout with the boatyard

❖ Hull Cleaning

- Boaters will cover the cost of hull cleaning
- Flat fee for each assessment/cleaning effort
- Boaters will agree NOT to have additional cleaning services/efforts outside of the project
- Boaters will track vessel use with logbook

Responsibilities –Coating Suppliers

❖ Coating Application

- Provide paints and associated materials
- Pay for a portion of the stripping cost, if needed

❖ Re-application due to coating failure

- If coating fails, supplier will cover paint, primers, etc. needed to recoat
- Supplier will cover a portion of stripping costs (if required to recoat boat) if coating performance fails.

Responsibilities -Boatyards

❖ Coating Application

- Will prep/paint boats at slightly reduced cost
- May consider using outside stripping contractor
 - Sodium bicarbonate technology available for a lower cost
 - Other technologies may be considered

Responsibilities –Hull Cleaners

❖ Hull Cleaning

- Visit all project boats on same schedule
- Set rate for each assessment/cleaning effort
- Use standard per foot cost for all project boats
- Option 1 - Arrange contracts between boater and hull cleaner
- Option 2 – Use IRTA for boater & hull cleaner “bank account”

Responsibilities –Project Team

- Port/IRTA will cover portion of stripping cost
- Port/IRTA will cover portion of reapplication if coating fails
- Boatyards will invoice IRTA

Timeline & Schedule



Meetings / Deadlines

January 21, 2009

- ❖ Stakeholder Workgroup Meeting to discuss hull testing protocol

February - April

- ❖ Apply coatings to boat hulls

March 11, 2009

- ❖ Stakeholder Workgroup Meeting to finalize hull testing protocol

April 1 – October 31

- ❖ Begin testing phase
- ❖ Summer hull test evaluation

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A photograph of a marina filled with numerous sailboats at sunset. The sky is a warm, orange glow, and the water reflects the light. In the background, a city skyline and mountains are visible under the twilight sky. The text "THANK YOU FOR BEING A PART OF OUR PROJECT!" is overlaid in white, serif font in the center of the image.

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OF OUR PROJECT!