October 19, 2010

HAF/IMIO
1000 Air Force Pentagon
Washington DC 20330-1000

John Greenwald
[redacted]

Dear Mr. Greenwald,

This is in response to your undated, Freedom of Information Act request, dated 6 Jun 2009.

The Headquarters Air Force USAF/A4LE conducted appropriate searches for documents responsive to your request. Therefore, a "Release (RL)" determination is made and the documents for your request are attached.

The Headquarters Air Force FOIA office requires requester's to specify what type of records, provide a complete mailing address, and a willingness to pay statement for any fees that may incur during the processing.

There are no assessable fees for processing your FOIA request in this instance.

The undersigned is the action officer and can be reached at (703) 692-9981.

Sincerely

\\SIGNED\\
FLOYDELL JACKSON
Freedom of Information Act Specialist
2009-01617-F

Base Name	Qty	Vessel Size (if known)	Dispenses FFF (Y/N)	Remarks
MacDill	3	23 ft Flatboat	N	Belongs to Security Forces
MacDill	2	26 ft V-Haul	N	Belongs to Security Forces

TO	FROM	SIGNATURE	DATE	ACTION TAKEN
580CBSS/GBNA ROBINS AFB, GA	HQ AFMC/A4RE WRIGHT- PATT AFB OH		20080923	APPROVED ☒ DISAPPROVED ☐
585 CBSS/GBNA	AF/A4RE		2008/09/23	APPROVED ☒ DISAPPROVED ☐
				APPROVED ☐ DISAPPROVED ☐
				APPROVED ☐ DISAPPROVED ☐
				APPROVED ☐ DISAPPROVED ☐
				APPROVED ☐ DISAPPROVED ☐

1. CUSTODIAN REQUEST NO.: COMMAND DIRECTED

2. CUSTODIAN NAME/DUTY PHONE:

3. ORGN/CUSTODIAN CODE:

4. CMD	5. FAD	6. UND	7. BUD

8. CUSTODIAN SIGNATURE:

9. SIG OF ORGN COMDR (I certify that I have evaluated this request and the action herein is required.):

10. IN-USE DOC. NO.:

11. NATIONAL STOCK NO. OR PART NUMBER:

12. USE CODE: B

13. PRICE:

14. U/I:

15. EERCD:

16. EQUIP CODE: V

17. NOMENCLATURE: TRAC BACKHOE/LDR 4X4

18. ALLOWANCE IDENTIFICATION						19. QUANTITY			
ASC	COMPOSITION CODE					IN USE	CURR AUTH	NEW AUTH	NO. REQ'D
	PART	SECT.	SUB-SECT.	COL.					
049	O	O	O	O		0	0	1	1

20. ACTION REQUESTED

A. AUTHORIZATION: INCREASE ☐ ADD NEW ☒ REDUCE ☐ DELETE ☐

B. ISSUE/DUE OUT: ADVISE CODE ( ) INITIAL ISSUE ☐ REPLACEMENT ☐ CANCEL DUE OUT ☐

C. TURN IN *(Complete all applicable blocks)*

CONDITION		STATUS	YES	NO
SERVICEABLE	☐	COMPLETE *(List missing parts in Block 19)*	☐	☐
REPAIRABLE	☐	CALIBRATION REQ'D	☐	☐
CONDEMNED	☐	CLEAN, PAINT, ETC.	☐	☐
UNKNOWN	☐	DISASSEMBLY REQ'D	☐	☐
		DATE AVAILABLE FOR PICKUP		

21. JUSTIFICATION AND ITEM DESCRIPTION

Please establish an authorization for a Tractor Backhoe Loader 4X4. The justification for the Backhoe Loader is attached.

This is an authorization trade-off. The authorization trade-off is changing the NSN 3805-00-148-2169, ASC 049OOOO authorizations from 2 to 1.

22. REVIEWING AUTHORITY COMMENTS

23. ORGN	24. UKC	25. LEVEL	26. DET	27. WRM	28. EMOLOC	29. SUPPLY CONTROL NO.	30. CEMO CONTROL NO.	31. AFLC CONTROL NO
							VO8267001	08267-2440

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120

Purchase Marine Patrol Boat

Statement of Need

Place of performance: Delivered to MacDill AFB FL 33621

1.1 Construction. Boat to be heavy duty construction with heavy duty aluminum plating on the bow and hull covered with a high end anti-fouling coating, Rubber bumpers on both sides, a full all-weather cabin, and heavy weapon mounts. Additional specifics:

- **1.1.1** Approximate length = 30 feet
- **1.1.2** Beam = 8 to 10 feet
- **1.1.3** Draft at rest = 2 feet
- **1.1.4** Bottom Plating = 1/4 inch plate aluminum
- **1.1.5** Sides & Bulkhead = .125 plate Aluminum
- **1.1.6** Deck and inner linings = 1/8 inch plate Aluminum
- **1.1.7** Frame spacing = 28 inch or less
- **1.1.8** Load capacity = 6000 pounds or greater
- **1.1.9** Navigational & safety lights
- **1.1.10** Flood Lights (on fore and aft), Interior lights
- **1.1.11** All weather cabin, insulated, paneled, w/marine air conditioner
- **1.1.12** Deck Gun mounts (fore and aft)
- **1.1.13** Cabin seating for 6 or more
- **1.1.14** Tool box/Storage area
- **1.1.15** Diver Door or platform
- **1.1.16** Anti-Fouling paint on hull
- **1.1.17** Weapons storage rack in cabin

1.2 Power Plant. The boat will be powered by twin inboard diesel engines driving Jet Propulsion impellers that do not fall below the hull draft

- **1.2.1** Two inboard diesel engines, YANMAR engine is preferred.
- **1.2.2** Power Rating = 300 hp or greater
- **1.2.3** Jet propulsion impeller system
- **1.2.4** Fuel Tank with filter cleaner = 100 gallon
- **1.2.5** Cruise Speed = 40 mph
- **1.2.6** Max Speed = 50 mph
- **1.2.7** Control Panel with engine and fuel gauges

1.3 Electronic Equipment

- **1.3.1** VHF Com with Siren & PA
- **1.3.2** Depth Sounder
- **1.3.3** Law Enforcement Lights

1.4 Unsinkable or relatively unsinkable. Sponson and hull voids must be foam filled rendering the boat unsinkable or relatively unsinkable. The boat should continue to float 6-8 hours after hull is breached.

1.5 Ballistic Shielding. Approximately two thirds of the sides and front of the all weather cabin should contain protection Level III or greater ballistic shielding. A level of 3 feet from the cabin floor and clearly marked as shielded. Approx 30 sq ft per side

1.6 Trailer. A boat trailer built to move the provided boat is required.

BACKGROUND PAPER

ON

MACDILL AFB COASTAL SECURITY PAST, PRESENT AND FUTURE

1. CHALLENGES AND SOLUTIONS

1.1 September 11, 2001 changed the way Security Forces assessed security threats. For MacDill AFB the 7 ½ mile coastline went from being a footnote in security planning to the most accessible egress of our perimeter. Almost half of MacDill's coastline cannot be easily reached by terrestrial response forces, making it practically indefensible and an ideal point of entry for terrorists. This weakness in our security has been identified by every security assessment of MacDill AFB since 2001. During the 2003 ESC Systems Effectiveness Assessment (SEA) modeling and simulation was used to calculate the Probability of Effectiveness of detecting and delaying a waterborne threat to the Restricted Areas; without Marine Patrols and Waterside Security System (WSS) 8.63 aircraft were destroyed in a baseline scenario but with Marine Patrol and WSS system, no aircraft were destroyed.[1]

1.2 The MacDill AFB Coastal Security program embodies the USAF tactical doctrine of Integrated Base Defense.[2] It consists of two main components. Marine Patrols, that exist outside of what is conventionally considered the base perimeter and extend the program out and through the installation commander's area of influence and the Waterside Security System, a radar–video identification and tracking alarm system that constantly watches form the coastline within and well beyond the commanders area of influence giving early warning of approaching water craft. These two elements fulfill the IBD objectives of See First, Understand First, and Act First, and make the program exactly what USAF CSAF General Moseley envisioned when he said "Get outside the wire....and begin to think about what's a threat to this airfield, what we have to do to defend it so we can operate 24 hours a day, 7 days a week..."[3] The 6th Air Mobility Wing has successfully bridged strategy into tactics, and on a daily basis (in FPCON Normal) the Water Side Security Radar System and a minimum of two marine security patrols in the water detect and respond to boundary incursions.[4] To date the Coastal Security Program has been GWOT funded through Operation NOBLE EAGLE (ESP Code TC) and Operation ENDURING FREEDOM (ESP Code 7C).

2. A HISTORIC OVERVIEW

2.1 When the need to defend the base against suicidal terrorists became a major component of security planning in 2001 the 6 SFS recognized the need to provide routine detection and response capability of the coast line was obvious. With only land security experience the first obvious step was the development of a Marine Patrol capable of patrolling the water and intercepting water craft too close to the MacDill AFB coast line. The local Coast Guard was consulted but its mission and procedures were deemed significantly different than the initial concept of operations imagined by the 6 SFS leadership. This has proven true, but it has meant that much of the genesis and development of the Marine Patrol Program has been achieved through trial and error.

2.1.1 In order to mount a water borne patrol boats were needed and the 6 SFS made an immediate purchase of two 20-foot Action Craft boats, these were a recreational sport fishing boat, from a local vendor for $73K with FY01 EOY funds and converted them for use as Security Forces Patrol boats. By May 2002 it became apparent because of the rapidly accumulating wear and tear on the boats and the required maintenance schedule that two boats could not sustain the necessary post-9/11 OPSTEMPO. Based on experience so far three 26-foot Triton boats were purchased for $216K with EOY FY02 funds. These larger, heavier boats were purchased because the Action Craft were too small to operate safely in the 2 to 4 foot chop common to Tampa Bay for much of the year. Despite their larger size the Tritons were still recreational boats converted to SFS patrol use. It was found soon after

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[1] "Systems Effectiveness Assessment: MacDill Air Force Base," Electronic Systems Command, 10-21 Nov 03

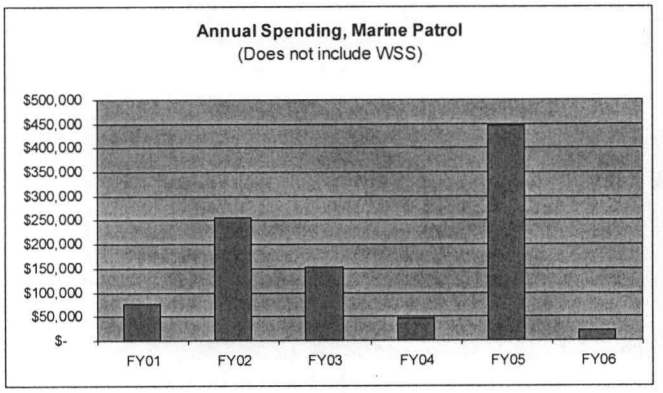
[2] Air Force Tactics, Techniques and Procedures 3-10.1, "Tactical Doctrine: Integrated Base Defense," 20 Aug 2004

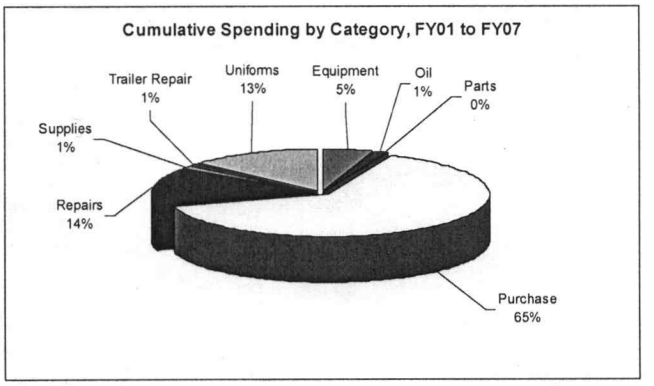
[3] HQ YSAF/A7S, "Security Forces Transformation Strategic Plan," Feb 06

[4] Marine Patrol is established by the MAFB 3-101 "Installation Security Plan" Jul 02 and operated IAW 6 SFS Operation Instruction 31-1/300 April 07 (formerly SOI 31-1 Jan 06).

purchase that the larger Triton boats could not operate in the shallow inland water ways continuing the need for the smaller Action Craft.

2.1.2 Based on operational experience and security concerns the Wing leadership and SFS identified and instituted a continuing requirement for five boats, the CONOPS during normal FPCON being two boats in the water at all times, two on land at rest and drying out between shifts and one available to rotate boats through the constant maintenance required to keep the boats in service. It was found that resting boats after each shift greatly reduced the amount of maintenance required. By FY03 the continuous use on Action Craft created wear and tear on the boats beyond projections diminishing the useful life of these boats from the manufacturers expectation of 10 plus years to what would be little more than three and in FY04 the condition of the Action Craft boats had detereated so much that the unit struggled to keep three of its five boats operational.





* Graphs do not include $2.4M in facility and construction costs.

2.1.3 Analysis of repair trends determined that in addition to the extreme wear and tear caused by continuous use there was recurring structural damage to the hulls caused by the shallows that comprise most of the MacDill AFB coastline. The shifting bottom and changing tides constantly caught our boats on the bottom causing cracks and scrapes, damaging both boats and engines. The larger Triton boats were more susceptible to this damage as well as being unsafe to operate in the canals and inland waterways so when in FY05 it was decided to replace the two Action Craft boats rather than continue to try and maintain them the 6 SFS contacted industrial boat manufacturers to replace the two Action Craft. It was evident that Recreational boats could not hold up to the rigors of constant daily use that was required of SF patrol boats. Two industrial boats made of heavy duty plate aluminum construction were purchased from Aluminum Chambered Boats (ACB) for $320K. The manufacturer assured the 6 SFS that these boats would be capable of navigating the canals and inland waterways and operating in the shallow areas where the Tritons were unable to function safely but after delivery it was found that while the aluminum hull did not suffer damage on the shallows the lower units of the engines on the ACB's scrapped the bottom and foundered in low tides just as the Tritons. An attempt was made to keep at least one of the Action Craft in service but in FY06 it was abandoned and they were turned in to DRMO bringing the SFS back down to 5 boats but without the capability of patrolling inland waterways and shallows.

2.2.1 Immediately after the purchase of the first Action Craft the need for a dedicated SFS dock with emergency launch capability became apparent and in FY02 a floating dock system with a lift that was capable of staging the Action Craft boats for emergency launch was purchased and installed at the base marina launch for $25K. This dock was effective until the larger Triton boats were purchased. The Tritons were too big for the floating dock and launch system and arrangements were made to use a boat slip in the Services Marina. As the Action Craft were used less patrolmen developed the habit of docking at the larger and more convenient Services boat slip the SFS dock fell into disuse. In FY04 planning for a permanent Security Forces dock with a boat lift system was initiated but a change in manning and mission commitments sidelined this initiative and the tentative interim fix of using a Services boat slip became a permanent practice. No arrangements were made to compensate Services for the use of this boat slip. In current practice the SFS boats and equipment are routinely left docked and unattended for parts of every shift at a public dock with no security exposing the Wing to unnecessary risks. SFS is once again seeking a secure boat dock that allows for boats at rest to be positioned for emergency launch. The current practice of docking boats in a public area with unrestricted access and near a recreation area where young children are typically at play with minimal supervision is unacceptable. Not only are marked Police boats easily accessible to theft by aggressors but present undue temptation to children and teens at play.

2.2.2 Civil Engineers completed the posting of warning signs and buoys around the perimeter of the base exclusion zone at a cost of $362K in FY03 and completed an additional project that included the dredging of a channel from the launch out to deep water and a building for storage of Marine Patrol boats that totaled $1.043M and was completed in FY06.

2.3 The marine patrols were effective but the nature and contours of the MacDill AFB coastline meant that even with two patrols parts of the coastline were not being actively observed and in FY04 a Water Side Security Alarm System was purchased from SPAWAR at a cost of $974K that required two towers and fiber optic cable installed at an additional cost of $300K. SPAWAR recommended that a complete system including four tower sites mounted with radar and camera systems and connected to a central alarm panel be purchased and installed but financial constraints limited the initial purchase to two sites centrally located so they provided coverage over the largest area possible stretch of coastline, approximately 60%. The 3 year maintenance option package priced at $838K was also recommended by SPAWAR but not purchased. SFS intended to seek funds to make a follow up purchase of the remaining sites and maintenance contract in subsequent years, but the follow up purchase did not happen. Working with what they had the 6 SFS managed the system compensating for the lack of a maintenance contract by assigning willing NCOs to learn and maintain the system to the best of their ability. While this strategy slowed the deterioration of the system without proper technical support the system degraded. At its install the system was sensitive enough to alert fast moving large birds flying close to the water, but by EOY FY06 the system would not pick up slow moving fishing boats or fast moving jet skis. Down time increased as parts malfunctioned or failed completely and needed to be replaced. As time passes the malfunctions continue to become more systemic affecting more of the system and diminishing its capabilities. Major repairs must be conducted by SPAWAR and it takes four to six weeks to schedule a team to come and conduct repairs. The development of the base coastline also affected the system with vegetation growth and landscaping efforts reducing the amount of area covered by the system. Assessment of the system while planning FY07 EOY spending determined the existing system is too degraded to repair cost effectively. To return the system to its intended capabilities the existing sites need to be completely refitted in addition to purchasing the missing two in order to provide complete coverage of our coast line. The failure of the WSS has been noted in recent security assessments of security provided to the COCOMs. The failure of this critical part of our Coast Line Security Program means the 6 SFS is not fulfilling its mission obligations.

2.4 Manning marine patrols was another issue beyond SF experience. Based on suggestions from the Coast Guard patrols were manned with three persons in the early days. The unit was in permanent 12 hour shifts and to limit risk marine patrolmen were rotated off the water every six hours. When marine patrolmen were not posted on the water they served as bicycle patrols in residential and business areas. The logic used involved the need to have one person dedicated to driving the boat and one free to execute a recovery if there was a man overboard situation. When the unit was unable to sustain manning for three man patrols leadership was comfortable with reducing them to two persons because experience indicated the boats would not be operated in heavy seas and the risk of a man overboard situation was slight. The coastline was divided into sectors and two, two man patrols became the normal operation CONOP, additional patrols being added during advanced FPCONs. This practice works well and the section is manned for two 24 hour two person patrols with a section supervisor.

2.5 Training and equipment also presented unique problems for the 6 SFS. Once again the local Coast Guard was heavily relied on in the beginning. Early members of the Marine Patrol unit received basic Boater Safety training from the CG, but this did not prepare them for SF duties and was not repeated. A CG training team was invited and conducted a five day class that was a cut down version of the Coxswain (boat driver) training course required for CG boat operators. This course covered Security and Law Enforcement specific tasks and tactics and proved to be the foundation for the development of current training documentation. At present candidates for the marine patrol section must pass PE test that includes an extended swim. Once accepted they are required to complete the on-line Florida State Boat Operators course and once assigned to the unit given a thorough indoctrination by the section supervisor followed by closely supervised OJT with an experienced Marine Patrolman. Because the Marine Patrolmen were working as bicycle patrols for half of their shift the unit decided to put them in a lighter uniform. Standard BDUs were considered to heavy for continuous physical effort of bicycle operation in the tropical Tampa climate. Reference was found for a standard USAF bicycle patrol uniform and it was approved for permanent use by the Marine Patrol.

3. CURRENT CHALLENGES AND SOLUTIONS

3.1 With the SFS reduced to operating with five boats he condition of those boats became critical. In mid FY07 stress fractures in the transoms of the Tritons revealed that these boats were reaching the end of their

serviceable life. In an effort to control the high maintenance costs and extend the service life of the 6 SFS fleet the commander reallocated the civilian Vehicle Program Manager to maintaining the boats. By comparison shopping for maintenance services, he reducing operating costs significantly and by completing minor maintenance on site as soon as signs of wear and tear became visible he's prevented many minor problems from becoming more costly repairs and is extending the useful life of the Triton boats. Despite this effort since March of FY06 the unit has struggled to float the two boats needed to maintain security. Analysis of maintenance and repairs indicated that engines manufactured to last 5-10 years are lasting only about 14 months and boats expected to last 10-15 years are lasting 3-5 years. The high engine failure rate is caused by the lower units of outboard engines dragging in the shallows of our coastal waters. This jams and breaks the propellers which must be replaced frequently. This in turn jars, stresses and damages the drive trains in the lower units (we've replaced the lower unit at least once on each engine we've replaced), and ultimately tears up the engines. Because of the rapid rate of decline of engines on our boats most of the replaced lower units and engines have been covered by warranty but the unit has had to fund the cost of six lower units and four new engines. Dragging in the shallows also contributes to the stress fractures currently developing in the stern transoms of the Tritons. These external cracks are indicative of more extensive structural damage that cannot be seen. One of the Tritons developed cracks large enough to see internal water damage and the boat was removed from service pending repairs or replacement diminishing our fleet to four boats in May 07.

3.2 The 6 SFS continues to use one of the Services dock slips. During FY07 the MSG and SFS worked several ideas to build a more permanent solution that would provide the SFS with emergency launch capability, in water refueling capability, and even a permanent secure SF dock. These efforts are ongoing and issues are being evaluated by CE for feasibility and planning for future funding.

3.3 The alarm capability of the WSS has deteriorated to the point that is out of service routinely. At the time of this writing it was out of service for failed parts and was not expected to be back in service for at least a 4 to 6 weeks. The camera system continues to work and allows the SF Control center to pan and zoom into boats manually. The 6 SFS is working with the Wing, AMC and AFRL to find ways to fund the repair and replacement of this system and set up a maintenance agreement.

4. DEFINING A FUTURE STATE

4.1 Marine Patrol: The replacement CONOPS is to replace the three Triton boats with two heavy duty aluminum plate construction boats, similar to our ACBs that meet the below minimum standards and once these are in place refit the ACB's to meet the same standards. The SFS fleet would then consist of four heavy duty watercraft capable of operating in our coastal waters and inland waterways constructed for SF contingency operations. While this reduces our fleet from five boats to four it is believed the heavy duty construction and diesel engine combination would reduce maintenance costs and time enough to allow this reduction. With the marine patrol section at full capacity the SFS could maintain required coastline security without interruption. SFS has conducted vendor neutral research on possible solutions, contacting manufacturers that specialize in military and police boat construction, sister-service agencies, and local law enforcement marine patrol units to conduct a complete analysis of our needs and local requirements. Combining their input with our own experience and knowledge we've drafted these minimum requirements for future boats in the SFS inventory.

4.1.1 Construction. Boats should be made with heavy duty aluminum plating on the bow and hull and installed with rubber bumpers on both sides, a full all-weather cabin, and heavy weapon mounts.

4.1.2 Inboard Diesel Engines. Outboard gas engines require maintenance every 100 hours, inboard diesel engines every 500 - 600 hours depending on the manufacturer. From experience we expect to replace outboard engines every 14-16 months. Diesel engines will last much longer.

4.1.3 Jet Propulsion. We have ample historical evidence that boats operating with lower units hanging below the draft of the boat are going to be damaged in the shallow waters we operate in daily. Jet propulsion engines will eliminate this problem.

4.1.4 Dual Engines. A second engine decreases the chance our boat will become stranded in the water if one engine fails. It also prevents it from being taken out of action by a lucky shot. A foundering boat cannot maneuver within an engagement or pursue aggressors.

4.1.5 Diver Door/platform. This is necessary to allow our patrols to pull injured or drowning victims from the water. None of our current boats have this capability.

4.1.6 Unsinkable or relatively unsinkable. By filling chambers with polyurethane, our boats can be rendered unsinkable. This is not an overly expensive option and it insures that if our airmen are wounded

or the boat incapacitated as the engagement moves on land our airmen won't go down with the ship while the rest of Security Forces handles the intruders. We will not break off of the fight to save them until our resources are secure.

4.1.7 Armored plating. Full armor plating is unnecessary but partial plating on two sides and part of the front of the cabin would provide cover during a firefight and turn a patrol boat into a floating firing position. For a few dollars we dramatically improve our airmen's chance of survival and our ability to sustain a counter attack.

4.1.8 Additional Considerations. Once the issues with patrolling open waters and adjacent shallows is addressed, attention should shift to patrolling inland waterways and canals. Experience insists that in order for a boat to be big enough to be stable on the open water, it will be too large to operate in our shallow narrow channels. All the manufacturers we've contacted us assure us that the boats they suggest will work in our inland waterways but we've been promised that before. The best course of action is to address the bigger need first and purchase the larger boats; there is a possibility they will work in inland waterways, but if not SFS may need to address this need separately.

4.2 SF Boat Facility. Working with CE a two fold plan for SFS Coastal Security facilities was developed. As an interim measure CE recommends that a Secure Boat Dock be built on the north shore of the Marina bay outlet with a hoist that will preposition at lease one boat for emergency launch. The area will be fenced and secured with a key pad lock and be sufficiently out of the way as to not tempt juveniles unduly. To meet the long term needs CE proposed the construction of a larger facility that would supply covered docking space and attached storage building that would also house the on duty patrol men, the Alarm monitor and maintenance specialist. The site being suggested for this project is the area near the wet slips that is currently used as a disposal spot for dredge waste. Both of these facilities should meet the following minimum specifications.

4.2.1 Secured Fenced Area. The facility must be completely fenced with at least an 8 foot fence denying access and secured with a key pad locking system.

4.2.2 Dock Space. Docks must accommodate 8 meter boats. At least two should be fitted with hoists capable of lifting the boats from the water where they can be cleaned and stored but available for emergency launch. An additional two standard dock slips should be available for boats in the water.

In addition the final facility should contain

4.2.3 Storage & Maintenance Garage. At least two large open bays should be available for dry dock cleaning and maintenance. This area should be large enough to facilitate contractors conducting maintenance and repairs and should provide safe storage during hurricane conditions.

4.2.4 Maintenance Work area. The section supervisor and boat maintenance personnel need office space and tool storage area.

4.2.5 Patrolman Duty Area. Working on the water requires specialized equipment, training and at times the need to change quickly into dry clothes. A duty area complete with showers and full size lockers for each assigned person, shower facilities for men and women is necessary.

4.2.6 Alarm Manager Space. A complex of interconnected rooms must be available for the alarm monitor. In addition to a duty office for the Alarm System Manager space will be needed for the on duty alarm monitor, for equipment and electronics related to the alarm systems and storage of back up system components.

4.3 Waterside Security System: The AMW vision should be a no-compromise, world-class coastal security system that creates a Common Operating Picture for response forces and C2 with the desired effect of eliminating adversary Probability of Effectiveness as measured by an Electronic Systems Center (ESC) Systems Effectiveness Analysis (SEA). Combining the input from vendors we've contacted and using our own experience we've drafted the following minimum requirements:

4.3.1 Consolidated User Interface. The system must be able to be monitored by one person in a single location. Components must work together seamlessly and provide an easy to use and understand Graphic User Interface (GUI). This cuts down training time and alleviates confusion.

4.3.2 Compatibility with Existing Alarm Systems. A new system should be compatible with the Advantor system currently in use by the USAF, and should be capable of upgrading to Advantor 5 when it is approved for implementation. The system should sound an audible alarm when a vessel enters any user selected areas allowing the monitor to multitask while maintaining awareness to all base alarm activity.

4.3.2 Target History and Automatic Tracking. The ability to look back and see where a targets came from and how it traveled helps identify recurring patterns and would give us a greater understanding of our security needs focusing future efforts. An automated tracking system controlling the camera means faster response times and fewer incidents.

4.3.3 Comprehensive Camera Coverage. With more cameras on the coastline, we establish 100% visual coverage over all surrounding waterway around MacDill. This helps with dispatching the Marine Patrol to any and all intrusions while maintaining eyes on the target before, during and after any encounters.

4.3.4 Advanced Radar Capability. Upgrading and increasing the number of radar towers covering our AOR drastically improves our security by alerting the monitor when any vessel enters into MacDill's intrusion zone. Acquiring 100% radar coverage of our coastline is crucial to safeguarding against threats.

4.3.5 Wireless communication. Allowing water and land patrols to visually asses the threat before responding helps to evaluating the threat and prepare for contingencies that might not be considered otherwise before contact is made enhancing the effectiveness of the responding patrol and increasing survivability of patrol members.

4.3.6 Battery and Generator Backup. In the event of a power outage, the system must continue to operate without compromising security.

4.3.7 Open Architectural System. We expect the need for coastline security to be ongoing into the future so a component system capable of easily being upgraded with advancing technology is necessary. We need to Avoid proprietary hardware and software whenever possible and ensure the greatest chance of economical upgrades in the future as well as minimizing maintenance costs along the way.

4.3.8 Comprehensive Maintenance Contract. From experience we know that in order to maintain this equipment it needs regular maintenance by qualified technicians. Failure to do so at our initial purchase has dramatically reduced the longevity of our existing system. The cost of a maintenance contract is related to the conditions we set so we must balance our needs with our likely budget. We may want to consider instituting a civilian position trained and dedicated to maintaining our system in addition to annual or semiannual tune ups by the manufacturer's representative.

4.3.9 Reliable and Durable. In order to be satisfactory on MacDill AFB the system must provide all-weather protection for 100% of the coastline and able to survive hurricanes.

4.3.10 Minimize Manpower Usage. An ideal system will be low maintenance and produce the fewest false alarms possible limiting both USAF maintenance time and allowing for the judicious use of responding forces.

4.3.11 Long Term Viability. The desired system will provide maximum flexibility over a five year horizon. This includes having an open architecture, an ability to eventually transmit to new SF facilities (or EOC) and response forces, and integrates with Transformational Technology Insertion (TTI) C2 systems.

5. ADDITIONAL CONSIDERATIONS

5.1 Concurrent and related initiatives include replacing the Waterside Security System, the installation of a secure boat dock and boat lifts, installation of a refueling capability at the Marina, and improving incident command and control via boat mounted cameras to feed back to the SF Control Center and feeding WSS information directly to boat crews, and analyzing manpower alternatives to offset deployment demands.

USA AVENGER Inc.

6th Security Force Squadron
7235 Bay Shore Blvd
Macdill AFB,FL 33621

QUOTE - 4 April 2008

AVENGER 26 Feet (8 M) PATROL BOAT

Aluminum Hull Aluminum Superstructur	**5083 H116 Marine Alloy**
Dimensions:	
LOA	29' 6" (9 meters)
Hull Length	26' 4" feet (8 Meters)
Beam	9' 9" (2.8m)
Draft	2 feet (0.6m)
Capacity: (approximate)	
Fuel tanks	One 135 GAL
Range @ cruise speed	435 - 400 miles
Specifications general	
Cruise speed	40 MPH
Top Speed	50 MPH +
Full Load	6,500 LBS
Structures construction:	
Frame Spacing	28" Centers
Bottom Plating, Bow to Engine room	5083 H116 Aluminum/Eng. Room & Jet drive 1/4"
Side Shell	.125" 5083 H116 Aluminum

Structures construction cont:

Main Deck Plating	1/8" 5083 H116 Aluminum
Inner liner	1/8" 5083 H116 Aluminum
C/L Bulkhead	.125" 5083 H116 Aluminum
Longitudinal Stiffeners	1-3/4" X 3/4" X 1/8" I Beams Aluminum
Transverse frames	.160" 5083 H116 Aluminum
Keel Bar	4" X 1/2" Flatbar Aluminum
House Plating	.125" 5083 H116 Aluminum
Rubber bumper (rub rail)	5" X 10" Gilman port/starboard sides and bow
Sponson	Foam filled closed cell foam
Hull Voids	Foamed filled
Windows	1/4" Tempered Glass
Transducer well	0.190" Plate

Machinery:

Main Engines	Cummins X (2) QSD 230 HP
Marine Gear	ZF A85 1:1
Jet Drives	Hamilton HS 213 OR MERC Cummins
Drive Lines	Two

Fuel:

Tank 135 Gal.	.160" 5083 H116 w/ vent and Gauge - s.s. fill up
Fuel filters	Racor
Fuel lines	3/8" Stainless Steel
Fuel gauge	GAF RIG

Electronics:

VHF ICOM-602 with	One
Siren & PA system	One
Depth Sounder	One

Electrical:

Wire	Marine grade USCG approved
Navigation Lights	Perko or Aquasignal 12 V Navigation lights per USCG
Batteries	(2) 4D with boxes for Eng. (1) for vessel supply (2) for Air conditioning
Instruments	As supplied with engines 12V DC & Jets
Flood Lights	(2) Aft end of crew cabin & (1) Fwd.
Interior Lights	Balmar multi-lite
Electrical control panel	12 VDC (16) breaker
Search Light - Night Tracker	One hand held
Air Cond. RV Type, DC powered	Roof mounted

Safety Equipment

Flare kit	One
Fire Extingusher fixed - Engine room	One
First aid kit	One
Ring Buoy 24" with mounts	Two
Anchor Package F X 11	100' rope
Flash light - USCG	One
Life Preservers - USCG	2
Fog bell - 8"	One
Fire Ext. - 6lb Dry Chemical	One Mounted in cabin

Boat Equipment

Boat Hook - Alloy	One
Dock Lines	1/2" X 30' X (4) off
Fore & Aft deck gun mount	Two
Spare parts	One complete Filter & other
Small toll Box	One
Sliding seats shock mitigating	Two
Cabin insulation & paneling	INCL.P.M.
Flooring	Cabin Vinyl - Non skid decks
Cabin windows	Tempered glass 1/4
Cabin doors	(2) small forward, aft full size
Cabin Boxes	(2) small bench type with cushion

Painting:(commercial finish not faired)

Exterior Above Waterline.	Ameron system for aluminum or equal
Exterior Below Waterline anti-fouling	Internationalsystem for aluminum or equal

Exclusions & Options:

Any and all items not listed and or addressed in this proposal are to be considered exclusions, add on options or cost added changes to the original proposal .

Tests and Trials:

All equipment and structure of the vessel shall be tested . Dock trials shall be conducted to determine proper adjustment and suitability of all equipment. A sea trial will be conducted prior to delivery so that all machinery and equipment can be tested to its fullest extent. The vessel shall be subjected to navigational tests such as turning, backing, etc. to demonstrate satisfactory maneuverability.

Drawings:

Structural, plumbing and electrical supplied upon delivery of vessel

Changes:

1. Any changes or modifications to the listed construction will be considered a separate line item and not part of the original pricing contained within this contract/proposal.
2. All changes will be quoted and billed separately .
3. In process change acceptance is at the discretion of USA Avenger.
4. Allowances that are exceeded are the responsibility of the purchaser .

Pricing:

Base price for one "1" unit	**$264,137.00**

Terms:

Interim financing to be provided by purchaser with progress payments to the builder

Terms	**50% Down** **25% Upon Completion of Hull Fabrication** **12.5% Upon Engine Installation** **12.5% Upon Completion**

Options not included in pricing:

Ballistic shielding Imbedded in Port and Starboard cabin sides, approx. 25 sq. ft/side @ protection level III	$600 per square foot installed
Training at Macdill USAF Base	$85 per hour + costs
Trailer,aluminum, double axle float on	Double axle float on Estimate $5,200

TO	FROM	SIGNATURE	DATE	ACTION TAKEN
6 MSG/CC	6 LRS/CC		28 Aug 08	APPROVED ☑ DISAPPROVED ☐
6 LRS/LGRV	6 MSG/CC	for	2 Sep 08	APPROVED ☑ DISAPPROVED ☐
HQ AMC/A4RV	6 LRS/LGRV		6 Jan 09	APPROVED ☑ DISAPPROVED ☐
				APPROVED ☐ DISAPPROVED ☐
				APPROVED ☐ DISAPPROVED ☐
				APPROVED ☐ DISAPPROVED ☐

1. CUSTODIAN REQUEST NO: E358VV02370026
2. CUSTODIAN NAME/DUTY PHONE: TSgt Osbourne 968-7941
3. ORGN/CUSTODIAN CODE: 6 LRS / 358VV
4. CMD: AMC | 5. FAD: | 6. UND: A | 7. BUD:
8. CUSTODIAN SIGNATURE:
9. SIG OF ORGN COMDR (I certify that I have evaluated this request and the action herein is required.)

10. IN-USE DOC. NO.:
11. NATIONAL STOCK NO. OR PART NUMBER:
12. USE CODE: B
13. PRICE: 79000.00
14. U/I: EA
15. EERCD:
16. EQUIP CODE: V
17. NOMENCLATURE: Boat, Patrol

18. ALLOWANCE IDENTIFICATION

ASC	COMPOSITION CODE					IN USE	CURR AUTH	NEW AUTH	NO REQ'D
	PART	SECT.	SUB-SECT.	COL.					
						003	000	003	003

19. QUANTITY

20. ACTION REQUESTED

A. AUTHORIZATION: INCREASE ☐ ADD NEW ☒ REDUCE ☐ DELETE ☐

B. ISSUE/DUE OUT: ADVISE CODE ( ) INITIAL ISSUE ☐ REPLACEMENT ☐ CANCEL DUE OUT ☐

C. TURN IN (Complete all applicable blocks)

CONDITION		STATUS	YES	NO
SERVICEABLE	☐	COMPLETE (List missing parts in Block 19)	☐	☐
REPAIRABLE	☐	CALIBRATION REQ'D	☐	☐
CONDEMNED	☐	CLEAN, PAINT, ETC	☐	☐
UNKNOWN	☐	DISASSEMBLY REQ'D	☐	☐

DATE AVAILABLE FOR PICKUP

21. JUSTIFICATION AND ITEM DESCRIPTION

The 6th Security Forces Marine Patrol section will utilize these vessels. As of 21 February 2008, the Department of Homeland Security added MacDill Air Force Base coastal waters to the Restricted and Security Zones list. A permanent restricted area exists in all waters contiguous to MacDill AFB. This zone extends out into the bay more than 1/2 mile from the shore and cannot be breached without the permission of the Installation Commander. In addition, AFI 31-101, para 13.3, requires the Security Forces to determine patrol and response capabilities to protect the resources assigned to MacDill AFB. Two 24 hour marine patrols (or six 8 hour boat missions) per day are needed to secure the 7.2 mile coastline, much of which is not easily accessible from land. The capability to expand to four 24 hour patrols during increased Force Protection Conditions (FPCON) is also critical to maintaining base security. Boats are critical assets needed to provide constant patrol and intrusion response capability to the waterside perimeter of the base.

22. REVIEWING AUTHORITY COMMENTS

Without these patrols the security of the base perimeter will be compromised, access to the base and its critical KC-135, C-37 aircraft, and two tenant war fighting commands (USCENTCOM and USSOCOM) is easily exploitable. The compensatory measure to replace the marine patrols is posting security along the waterline perimeter. This option is manpower intensive and no longer supportable due to the current AEF construct. If the Marine Patrol vessels are not approved, it will greatly hinder timely response during increased FPCONS when multiple boats are required on the water simultaneously. This will result in the inability of the 6 SFS to protect the 6 AMW, USCENTCOM, and USSOCOM from a terrorist attack, resulting in potentially catastrophic loses to the KC-135 and C-37 fleet, and to the mission - critical COCOM and Coalition Force assets.

23. ORGN	24. UKC	25. LEVEL	26. DET	27. WRM	28. EMOLOC	29. SUPPLY CONTROL NO.	30. CEMO CONTROL NO.	31. AFLC CONTROL NO
						V02370026		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
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10. IN-USE DOC. NO

11. NATIONAL STOCK NO. OR PART NUMBER

12. USE CODE	13. PRICE	14. U/I	15. EERCD
B	165000.0	EA	

16. EQUIP CODE	17. NOMENCLATURE
V	Boat, Aluminum Chambered

18. ALLOWANCE IDENTIFICATION					19. QUANTITY			
ASC	COMPOSITION CODE				IN USE	CURR AUTH	NEW AUTH	NO. REQ'D
	PART	SECT.	SUB-SECT.	COL.				
					002	000	002	002

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AFEMS REQUEST NR..: 30826600004

---------- ORGANIZATION INFORMATION: ----------

SRAN...: FE6520 ORG CD...: 276 SHOP CD...: PJ DET DOC NR...:

OR

MAJCOM ABBR...:

---------- ITEM INFORMATION: ----------

STOCK NR.....: 1940-01-262-5743RN FSC....: 1940

OR

PART NR...: CAGE...:

---------- ALLOWANCE INFORMATION: ----------

ALLOWANCE IDENTITY...: 011COOB

OR

ALW END ITEM ID...: WATERCRAFT MSN APPL...: 011COOB MSN EXCP...:

PRINT ACR TO DATASET (Y):

SELECT:

PF1: HELP PF3: PREVIOUS MENU PF4: PREVIOUS SCREEN

PF5: PAGE BACKWARD PF6: PAGE FORWARD

001E PROCESS O.K.

UNCLASSIFIED AFEMS (C001) *UNCLASSIFIED*
23 SEP 2008 (TACR) ALLOWANCE CHANGE REQUEST 12:53:14
ACTION: PAGE 2 OF 5

AFEMS REQUEST NR..: 30826600004 COMMAND INITIATED.:

ALW ID/ASC: 011COOB END ITEM: WATERCRAFT MSN APPL: 011COOB MSN EXCP:
PART NR.....: CAGE.....:
STOCK NR.....: 1940-01-262-5743RN FSC.....: 1940

A C	MAIL	EVAL OFFICE SYM	DATE FWD	ESTIMATD REL DATE	APP DISAPP	EVALUATOR
		ABKJ	08266	08311		KEN JONES

INITIATOR.....: P SIMPSON NON-AFEMS REQ NR..:
ADDRESS.....: 3500 FETCHET AVE
LOCATION.....: ANDREWS AFB, MD INITIATOR DSN NR..: 278-8464
ATTACHMENT INDICTR: Y ACR SUBMIT (Y)....:

SELECT: SCROLL LINES:
PF1: HELP PF3: PREVIOUS MENU PF4: PREVIOUS SCREEN
PF5: PAGE BACKWARD PF6: PAGE FORWARD PF7: SCROLL BACKWARD PF8: SCROLL FORWARD
524E END OF LIST.

AFEMS REQUEST NR..: 30826600004 COMMAND INITIATED.:

ALW ID/ASC: 011COOB END ITEM: WATERCRAFT MSN APPL: 011COOB MSN EXCP:
PART NR.....:
STOCK NR.....: 1940-01-262-5743RN
CAGE.....:
FSC.....: 1940

---------- ORGANIZATION INFORMATION ----------

SRAN...: FE6520 ORG CD...: 276 SHOP CD...: PJ DET DOC NR...:
ORG ID.....: 0212RSQ70000
PARENT MAJCOM.....: ANG
FORCE ACT DESG....: 2
WRM MAJCOM, USING.: ANG

SELECT:
PF1: HELP PF3: PREVIOUS MENU PF4: PREVIOUS SCREEN
PF5: PAGE BACKWARD PF6: PAGE FORWARD
001E PROCESS O.K.

AFEMS REQUEST NR..: 30826600004 COMMAND INITIATED.:

ALW ID/ASC: 011COOB END ITEM: WATERCRAFT MSN APPL: 011COOB MSN EXCP:
PART NR.....: CAGE.....:
STOCK NR.....: 1940-01-262-5743RN FSC.....: 1940
---------- ITEM INFORMATION: ---------- UPDATED (Y)..:
NOUN.....: MOTORBOAT UNIT OF ISSUE.....: EA
URGENCY OF NEED...: ERRC.....: U
UNIT PRICE.....: 82,135.00 BUDGET CODE.....: *
ACQUIS ADVICE CODE: L EQP MGT CD.....: 4
EQUIPMENT DESCRIPTION:
BOAT, 30 FT

SELECT:
PF1: HELP PF3: PREVIOUS MENU PF4: PREVIOUS SCREEN
PF5: PAGE BACKWARD PF6: PAGE FORWARD
001E PROCESS O.K.

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*UNCLASSIFIED*                    AFEMS (C001)                    *UNCLASSIFIED*
23 SEP 2008              (TACR) ALLOWANCE CHANGE REQUEST                12:53:41
ACTION:                                                            PAGE 5 OF 5

AFEMS REQUEST NR..: 30826600004                          COMMAND INITIATED.:
================================================================================
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PART NR...........:                                    CAGE.............:
STOCK NR..........: 1940-01-262-5743RN                 FSC..............: 1940
------------------------ ALLOWANCE INFORMATION: ----------  UPDATED (Y)..: Y
SRAN...: FE6520     ORG CD...: 276     SHOP CD...: PJ     DET DOC NR...:
CUR AUTH QTY......:     0                                 IN USE QTY.......:     0
NEW AUTH QTY......:     1                                 REQUESTED QTY.....:     1
TOTAL ALW QTY.....:     0                                 EQUIP CODE.......:
USE CODE..........: B                                     UNIT TYPE CODE....:
ADVICE CODE.......:                                       MAINT LEVEL.......:

                        ACR JUSTIFICATION.:
                        ACR EVALUATORS COMMENTS.:

SELECT:
PF1: HELP                                PF3: PREVIOUS MENU    PF4: PREVIOUS SCREEN
PF5: PAGE BACKWARD PF6: PAGE FORWARD
001E PROCESS O.K.
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UNCLASSIFIED AFEMS (C001) *UNCLASSIFIED*
23 SEP 2008 (TACR) ALLOWANCE CHANGE REQUEST 12:53:53
ACR JUSTIFICATION

AFEMS REQUEST NR..: 30826600004 COMMAND INITIATED.:

A TEXT
TRAINING, RESCUE AND RECOVERY VEHICLE WATERCRAFT WILL BE UTILIZED AS RESPONSE EQUIPMENT FOR HOMELAND SECURITY AND NATIONAL DISASTER RESPONSE. IT WILL BE A VITAL RESCUE CRAFT TO MEET THE UNIT'S 11 AF MISSIONS AND CIVIL SEARCH AND RESCUE IN ALASKA.
THE NEED FOR THIS TYPE OF VESSEL WAS VALIDATED IN THE AFTERMATH OF HURRICANE KATRINA AND THE HARDING LAKE, AK MISSION IN 2007 (SEE ATTACHED MISSION REPORT)
FUNDING FOR THE WATERCRAFT HAS BEEN APPROVED AND VETTED THROUGH NGB/AR5C AND A3, MAJ FINNERTY AND CHIEF BROOKS.
NGREA FUNDS HAVE BEEN PROVIDED FOR THIS PURCHASE.
P SIMPSON 278-8464
_

SELECT: SCROLL LINES:
PF1: HELP PF3: PREVIOUS MENU PF4: PREVIOUS SCREEN
PF7: SCROLL BACKWARD PF8: SCROLL FORWARD

523E BEGINNING OF LIST.

Uniform National Discharge Standards

Phase II State Consultation Briefing

David Kopack
Naval Sea Systems Command
Logistics, Maintenance, and
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(NAVSEA 04)
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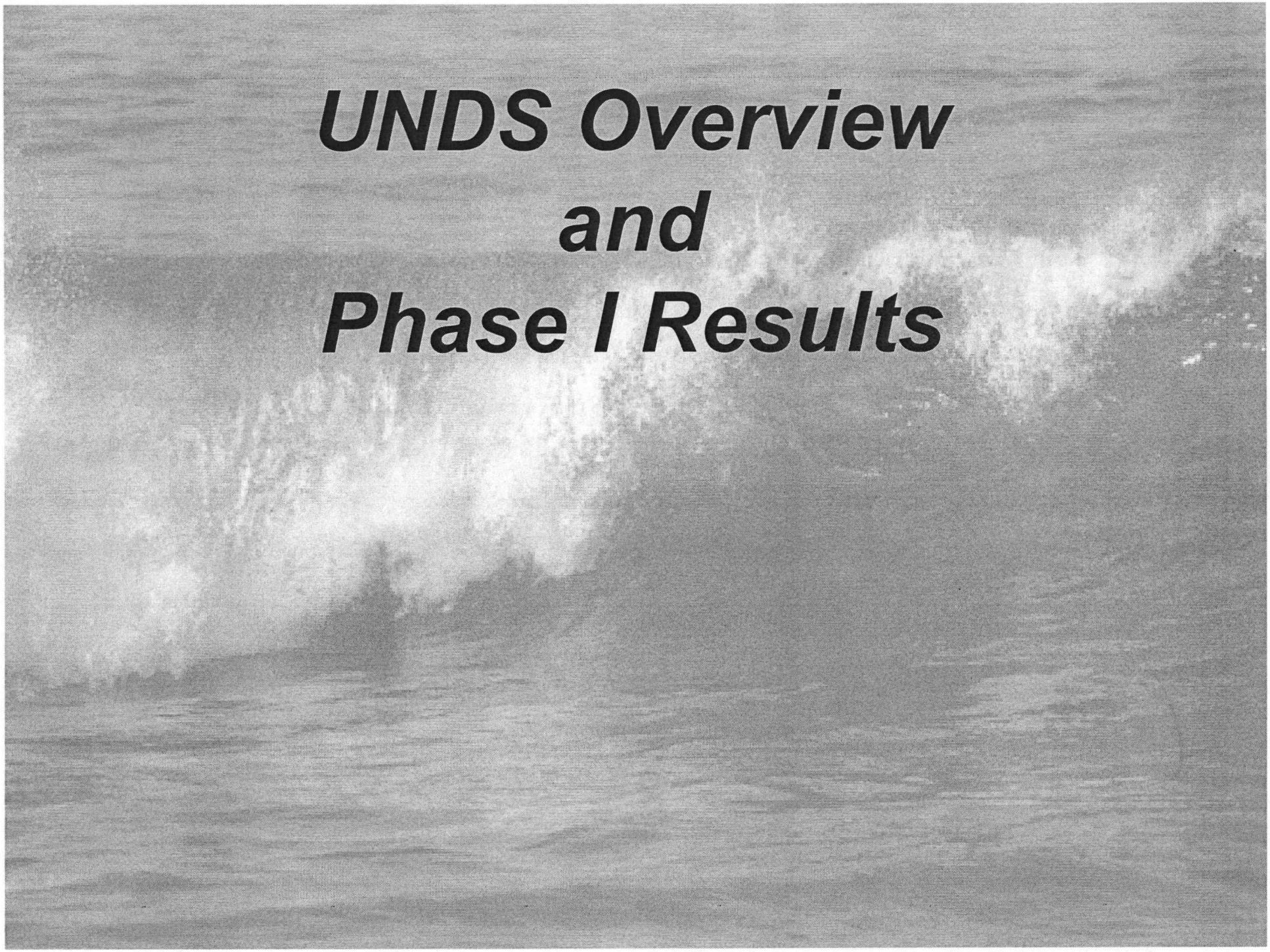
KopackDF@navsea.navy.mil

Steve Giordano
U.S. EPA
Office of Wetlands, Oceans,
and Watersheds (OWOW)
(202) 566-1272
Giordano.Steven@epa.gov

Purpose and Topics

- **Purpose**
  - ⇒ Provide an update on UNDS-related activities
  - ⇒ Maintain open lines of communication and encourage State involvement
- **Topics**
  - ⇒ UNDS overview and Phase I results
  - ⇒ UNDS Phase II update
  - ⇒ Initial findings
  - ⇒ State input


UNDS Overview
and
Phase I Results

UNDS History

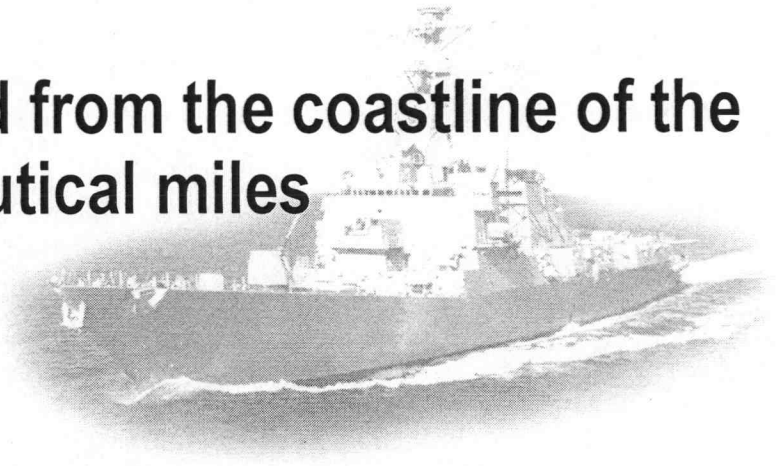
- **Amendment to Section 312 of the Clean Water Act**
  - ⇒ Authorizes DoD and EPA to identify and evaluate discharges from Armed Forces vessels to determine which discharges require control for protection of the environment
  - ⇒ Authorizes DoD and EPA to establish marine pollution control device (MPCD) performance standards for discharges determined to require control
  - ⇒ Provides States, working with EPA, the ability to establish no-discharge zones for one or more discharges

Benefits of UNDS

- **Enhances the operational flexibility of vessels of the Armed Forces domestically and internationally**
- **Stimulates the development of innovative vessel pollution control technology**
- **Advances development by the Armed Forces of environmentally sound ships**

UNDS Applicability

- **Applicable to DoD and U.S. Coast Guard vessels (collectively referred to as Armed Forces vessels)**
- **Not applicable to:**
  - ⇒ MARAD vessels
  - ⇒ Time- and voyage-chartered vessels
  - ⇒ Vessels while under construction
  - ⇒ Memorial/museum vessels
  - ⇒ Vessels in drydock
  - ⇒ Amphibious vehicles
  - ⇒ Army Corps of Engineers vessels
- **Applicable to inland waters and from the coastline of the U.S. and its territories to 12 nautical miles**



UNDS Rulemaking Considerations

- **UNDS requires consideration of seven factors in establishing regulatory requirements:**
  - ⇒ Nature of the discharge
  - ⇒ Environmental effects of the discharge
  - ⇒ Practicability of using an MPCD
  - ⇒ Effect of an MPCD on the operation of a vessel
  - ⇒ Applicable U.S. laws
  - ⇒ Applicable international standards
  - ⇒ Costs of MPCD installation and use

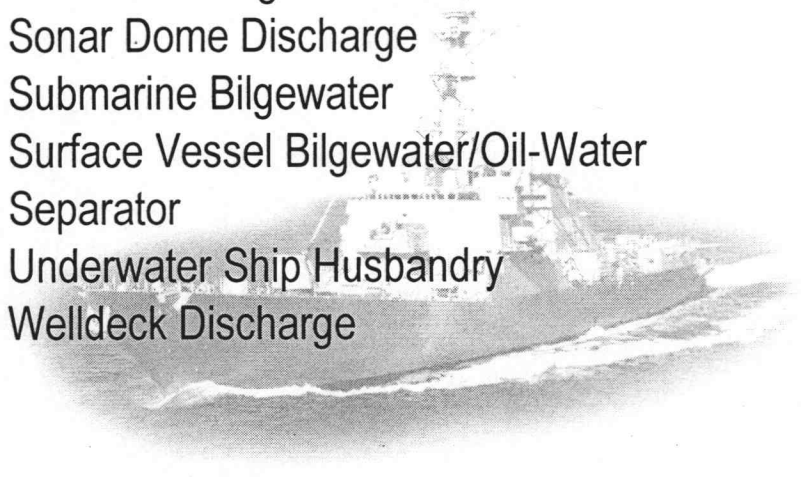
Phased Approach

Phase I	Identify and Characterize Discharges	Joint DoD/EPA Rule	Final Rule Published
Phase II	Establish MPCD Performance Standards	Joint DoD/EPA Rule	Batch One Rulemaking Underway
Phase III	Develop Implementing Instructions	DoD Only Rule	Completed 1 year after Phase II

Phase I Results

- **Navy and EPA identified 39 discharges from Armed Forces vessels and determined 25 require control:**

- Aqueous Film-Forming Foam
- Catapult Water Brake Tank & Post-Launch Retraction Exhaust
- Chain Locker Effluent
- Clean Ballast
- Compensated Fuel Ballast
- Controllable Pitch Propeller Hydraulic Fluid
- Deck Runoff
- Dirty Ballast
- Distillation & Reverse Osmosis Brine
- Elevator Pit Effluent
- Firemain Systems
- Gas Turbine Water Wash
- Graywater
- Hull Coating Leachate
- Motor Gasoline Compensating Discharge
- Non-oily Machinery Wastewater
- Photographic Laboratory Drains
- Seawater Cooling Overboard Discharge
- Seawater Piping Biofouling Prevention
- Small Boat Engine Wet Exhaust
- Sonar Dome Discharge
- Submarine Bilgewater
- Surface Vessel Bilgewater/Oil-Water Separator
- Underwater Ship Husbandry
- Welldeck Discharge




UNDS Phase II Update

Phase II: Overview

- **Requires identification and evaluation of potential MPCDs based on the seven factors outlined in the statute**
- **Establishes performance standards based on the environmental performance of feasible MPCDs**
- **Establishes target standards when existing MPCDs cannot achieve desired performance**

Phase II: Performance Standards

- **May be based on numerical limits**
- **May include management practices**
  - ⇒ Pollution prevention activity on-board to reduce or eliminate adverse characteristics (e.g., material substitution, good housekeeping)
  - ⇒ Holding for transfer and shoreside treatment
- **May vary by**
  - ⇒ Distance from shore
  - ⇒ Vessel class, type, age, and design

Phase II: Methodology

Developed technical evaluation methodology

↓

Tested methodology on planning discharges

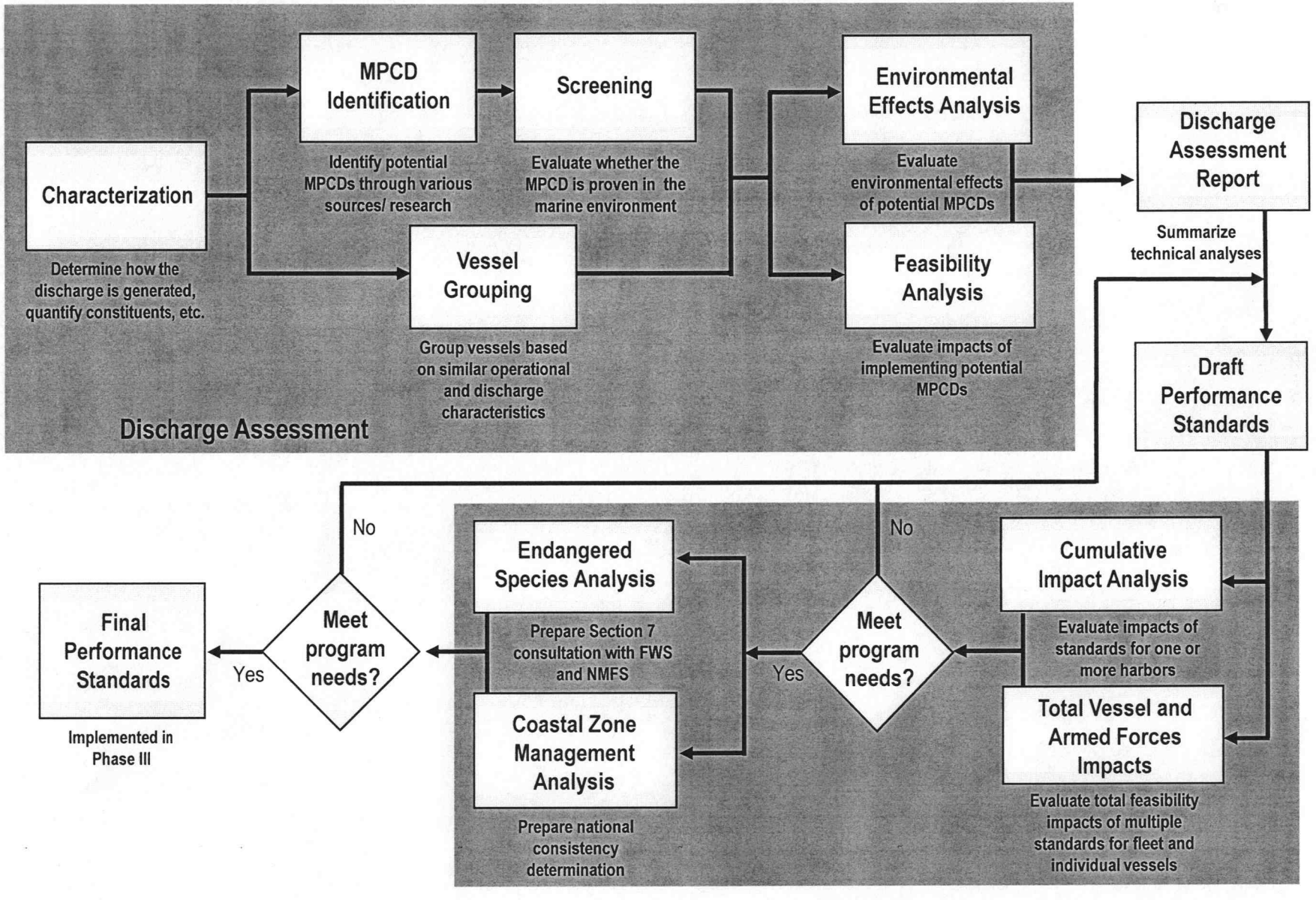
↓

Incorporated lessons learned

↓

Applying methodology to remaining discharges

Phase II: Analysis Process



Phase II: Batch Rulemaking

- **Promulgating discharge standards in "batches"**
- **Benefits include:**
  - ⇒ Obtaining State, Tribal, and public input early (with Batch One completion)
  - ⇒ Realize UNDS benefits sooner for both environmental and military readiness

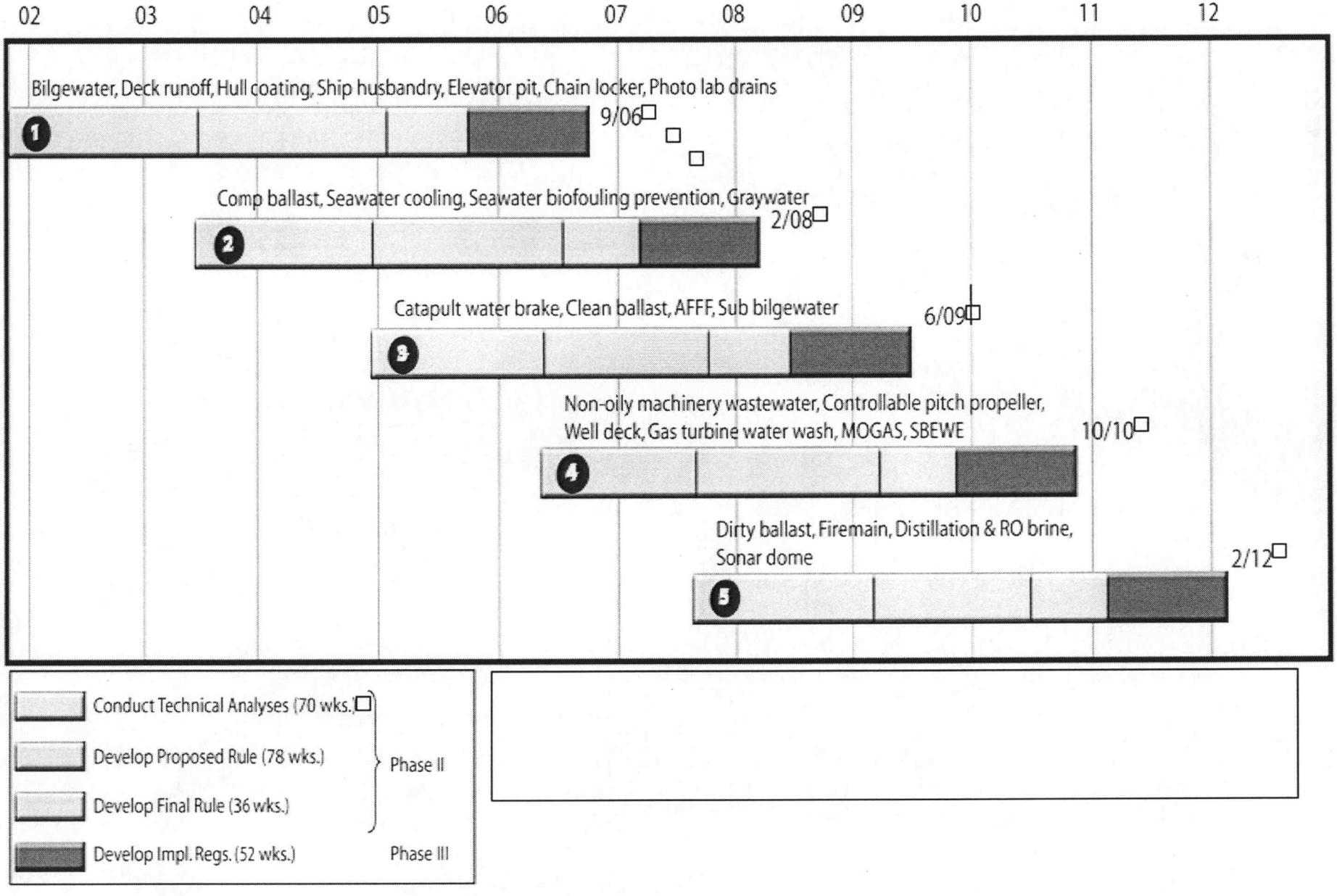
Phase II: Batch One

- **Includes seven discharges**
  - ⇒ Technical analyses are complete
    - » Surface vessel bilgewater/oil-water separator effluent (planning discharge)
    - » Weather deck runoff (planning discharge)
    - » Hull coating leachate
    - » Underwater ship husbandry
    - » Chain locker effluent
    - » Elevator pit effluent
    - » Photographic laboratory drains

Phase II: Batch One Schedule

- **Phase II initiation of technical activities**
  - ⇒ March 1999
- **Completion of Batch One technical analysis**
  - ⇒ August 2003
- **Phase II Batch One proposed rule**
  - ⇒ January 2005
- **Phase II Batch One final rule**
  - ⇒ September 2005

Phase II: Batch Rulemaking Schedule



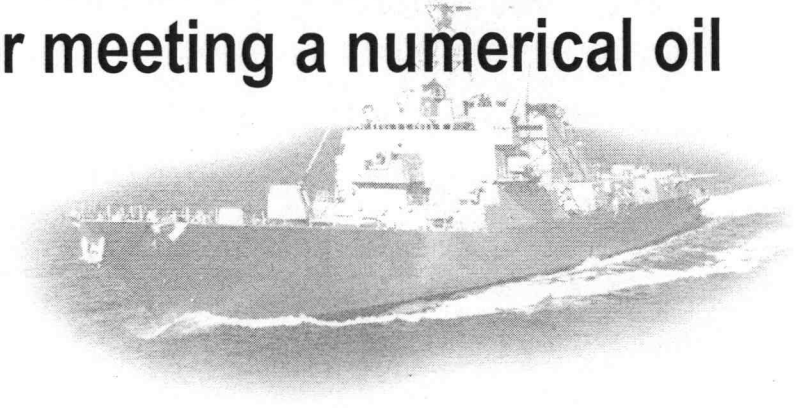
Phase II: Batch Two

- **Beginning technical analyses for Batch Two discharges**
  - ⇒ Compensated Fuel Ballast
  - ⇒ Graywater
  - ⇒ Seawater Cooling
  - ⇒ Seawater Piping Biofouling Prevention


Batch One:
Initial Findings

Surface Vessel Bilgewater/OWS

- **A mixture of wastewater and leakage that drain to the lowest inner part of the hull, known as the bilge**
- **MPCD(s) passing the screen given technical evaluation:**
  - ⇒ Centrifuge (primary)
  - ⇒ Collection, Holding, and Transfer (CHT) (primary)
  - ⇒ Gravity Coalescence (primary)
  - ⇒ Hydrocyclone (primary)
  - ⇒ Filter Media (secondary)
  - ⇒ Membrane Filtration (secondary)
- **Performance standard is expected to be based on collection where practicable or meeting a numerical oil & grease limit**



Weather Deck Runoff

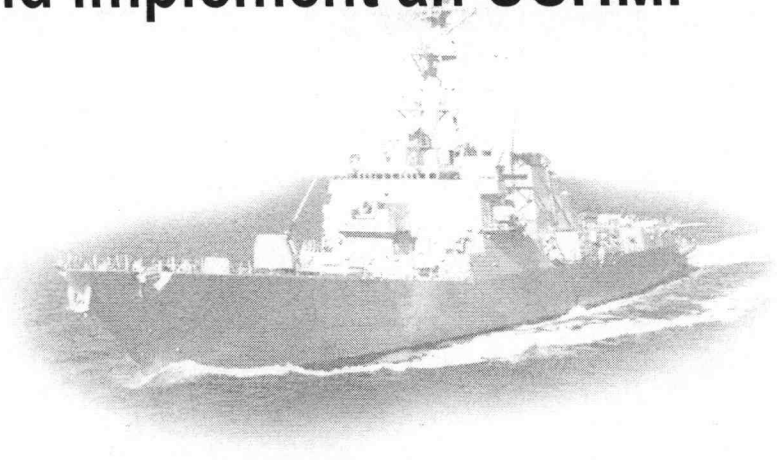
- **Precipitation, washdowns, and seawater falling on the weather deck of a vessel and discharged overboard through deck openings**
- **MPCD(s) passing the screen given technical evaluation:**
  - ⇒ Topside Management Plan (TMP)
- **Performance standard is expected to require all Armed Forces vessels to implement a TMP**

Hull Coating Leachate

- **Constituents that leach, dissolve, ablate, or erode from the paint on the hull into the surrounding seawater**
- **MPCD(s) passing the screen given technical evaluation:**
  - ⇒ Establish a maximum allowable copper release rate
  - ⇒ Advanced antifouling coatings
  - ⇒ Foul-release coatings
- **Performance standard is expected to be based on a combination of all three MPCDs – coating selection will be vessel dependent**

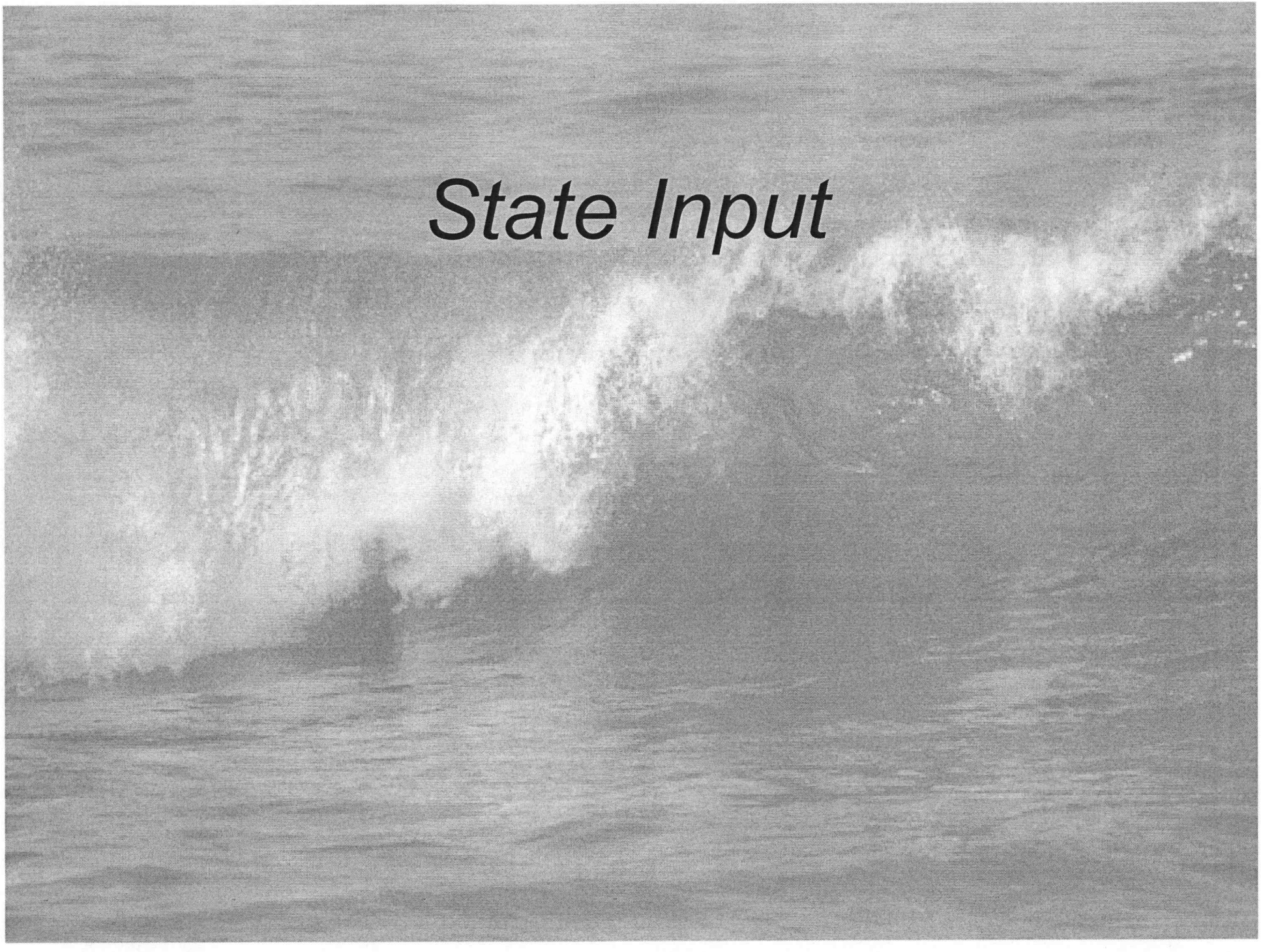
Underwater Ship Husbandry

- **Materials discharged during the waterborne inspection, maintenance, cleaning, and repair of vessel hulls**
- **MPCD(s) passing the screen given technical evaluation:**
  - ⇒ Underwater ship husbandry management plan (USHMP) to control the discharge of underwater hull cleaning constituents during hull cleaning activities
- **Performance standard is expected to require each branch of the Armed Forces to adopt and implement an USHMP**



Streamlined Analyses

- **Discharges that do not require in-depth technical analyses**
  - ⇒ **Current practice (e.g., collection) does not cause environmental impacts**
    - » Elevator pit effluent
    - » Photographic laboratory drains
    - » Chain locker effluent
- **Performance standard is expected to be no discharge within 12 nautical miles**


State Input

State Input

- **Seek input on the UNDS process and State-specific concerns**
  - ⇒ Special circumstances relating to your State's waters that would apply to UNDS discharges
  - ⇒ Specific enforceable policies of your Federally approved coastal management program that could apply to the discharges regulated by UNDS
- **Other relevant information, including points of contact**

Summary

- **Phase I rule is complete**
- **Phase II effort underway**
  - ⇒ Developing performance standards for Batch One
  - ⇒ Beginning technical analyses for Batch Two discharges
- **Seeking input from States**
  - ⇒ Special circumstances relating to your State's waters that would apply to UNDS discharges, especially the Batch Two discharges
  - ⇒ Specific enforceable policies from your coastal management program that could apply to UNDS discharges

Contacts

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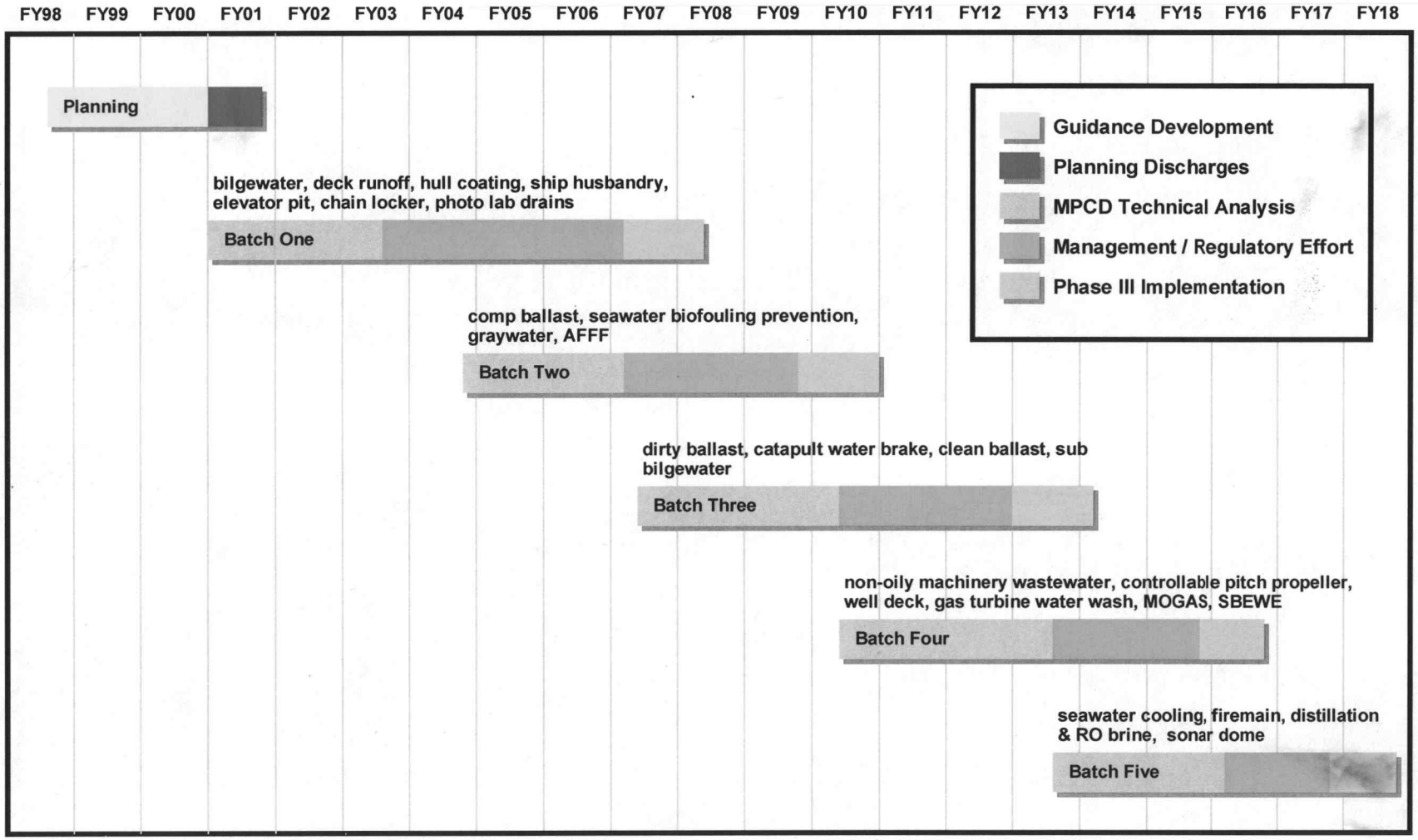
- **UNDS Homepage**
  - ⇒ http://unds.bah.com

UNDS Projected Schedule

Forecast as of 28 Sept 2005 based on flat-line level of effort beginning in 2007



Assumptions/Estimates to support Phase II, Batch One Preamble

General Navy Assumptions

E-8 for fleet implementation. FY 2004 rate of $48.76 per hour. Source: DoD Financial Management Regulation, Volume 15, Appendix C (August 2004).

HQ rate – approximately $100/hour based on FY 2004 NAVSEA labor rates.

Policy – Update to OPNAVINST 5090. Requires 1/2 man year (100K) for more complex standards. Includes review and approval by entire change of command from technical warrant holders to Chief of Naval Operations. Standards with fewer requirements or impact to fleet require 1/4 man year for policy update (50K). Additional non-labor costs are incurred for policy updates. Printing costs, distributing costs, and administrative requirement costs are included.

Non-labor costs include copying, filing, printing, software or CD development, and administrative materials.

Reporting (estimates based on NAVSEA HQ input):
Non-compliance reporting 10% of impacted vessels will have 1 report per year. (2 hours per report)
Emergency exception reporting 5% of impacted vessels will have 1 report per year. (2 hours per report)
HQ labor and non-labor input required for response and management to reports generated by the Fleet (2 hours and $20 per report).

Training for abbreviated discharges (elevator pit, photo lab drain and chain locker) based on NAVSEA HQ input. 1 hour training annually for 5 sailors on each impacted vessel and ½ man day for prep by the Environmental Officer.

Record Management for all UNDS non-compliance or emergency exception discharge reports will be maintained at a centralized location. It will be manned by 2 Navy FTEs and 1 USCG FTE.

All costs from discharge FIARs and DARs are in 1999 dollars based on a 3.2% discount rate and a 15-year lifecycle.

DECK RUNOFF

Estimates of vessels subject to the deck runoff standard are based on the assumption all vessels produce the deck runoff discharge, thereby including all vessels in the Batch One vessel database. This is the same assumption used in the technical analyses.

Navy

Active Fleet includes 300 vessels (large surface ships and submarines). Smaller vessels are consolidated as the fleet or HQ maintains their requirements. Smaller vessels do not have the crew to maintain the requirements onboard.

DRO source – FIAR document (Smith, 2001 and 2002 citations)
HQ TMP
1,075,000 for development of Fleet TMP (1999 dollars)
- 2.5 FTEs at $100/hour for 2080 hours per year.
- 380K for software development
- 175K for initial training to include HQ and fleet briefings.

320K for labor, overhead, and 2 part time employees (HQ costs-1 PAC and 1 LANT) (1999 dollars) at the HQ level. An additional 4 hours is estimated for each of 20 update reports sent from the fleet using fleet costs of $48.76/hour. (2004 dollars)

Vessel Specific TMP
Development – 8 hours per ship using E-8 salary ($48.76 based on FY 2004 dollars) – large fleet, estimate 300 vessels (~190 active large vessels, 80 submarines, and remainder grouping of smaller vessel classes)
Training – 400K (2004 dollars) annually on the fleet level – 8 hours per ship (300), 1 HQ FTE (1/2 LANT and 1/2 PAC) and 75K for materials.
Annual review and revision – 2 hours per vessel (300 vessels) and minimal non-labor cost

Reporting:
Non-compliance reporting 10% of impacted vessels (300) will have 1 report per year. 2 hours per report at $48.76/hour. HQ hours to respond and manage report estimated to be 2 hours per report (30 reports per year). Non-labor costs estimated to be $20 per report.
Emergency exception reporting 5% of impacted vessels (300) will have 1 report per year. 2 hours per report at $48.76/hour (15 reports per year). HQ hours to respond and manage report estimated to be 2 hours per report. Non-labor costs estimated to be $20 per report.

USCG

DRO – source DRO FIAR (Volpe, 2001)
Initial development – 500K (includes vessel specific plans)
Initial training is 550K (150K course materials, 200K performance analysis and 200K training needs analysis)
Annual review and revision is 160K (1 FTE)

8 hours for VTMP development, 2 hours for update (# of USCG ships) – also needed for reporting #'s

Army

DRO – source DRO FIAR (Arredondo, 2001)
Initial development – 100K (includes vessel specific plans)
Annual review and revision is collateral duty for a Program Manager estimated to be 50K/year.
Training incorporated into existing Warrant Officer courses and costs are considered negligible.

MSC

HQ TMP development costs covered by Navy estimates. (Source: Deck Runoff FIAR, 2003) MSC will incur training costs.

Air Force

UNDERWATER SHIP HUSBANDRY

Estimates of vessels subject to the underwater ship husbandry standard are based on the Underwater Ship Husbandry Vessel Grouping Document.

Navy
Based on UWSH FIAR and VG (2003).
Navy technical manual updates include Fleet instructions (40K), Joint Fleet Maintenance Manual (80K), and current specifications (120K). This is estimated to be 1 manyear worth of effort at HQ level. Non-labor costs are included in this estimate.

Initial training costs include the development of the representative training program (20K) and the execution of the initial representative training (150K). Recurring or annual training is estimated to be 30K. This includes non-labor costs to update training materials and Fleet hours/Contract managers to participate in the training.

Recurring/annual compliance costs include contract oversight (75K) and upgrading/updating costs (75K).

USCG
Based on UWSH FIAR (Volpe, 2003).
USCG follows NSTM Chapter 081 for underwater ship cleaning guidance.
Initial costs include development and distribution of the plan and policy/doctrine development. Recurring costs include annual oversight contract costs and policy modifications to incorporate upgrades.

MSC

Costs included in Navy estimates to develop, distribute and implement a USHMP. (Source: Underwater Ship Husbandry FIAR, 2003)

Army

Army vessels do not require a management plan. All Army vessels are cleaned out of the water. (Source: Underwater Ship Husbandry FIAR, 2003)

Air Force

SURFACE VESSEL BILGEWATER

Estimates of vessels subject to the elevator pit effluent standard are based on equipment expert review of the Batch One vessel database and the Surface Vessel Bilgewater Vessel Grouping Document.

Navy

Reporting:
Non-compliance reporting 10% of impacted vessels (3114) will have 1 report per year. Fleet estimates 2 hours per report at $48.76/hour (311 reports per year). HQ hours to respond and manage report estimated to be 2 hours per report (311 reports per year). Non-labor costs estimated to be $20 per report.
Emergency exception reporting 5% of impacted vessels (3114) will have 1 report per year. Fleet estimates 2 hours per report at $48.76/hour (156 reports per year). HQ hours to respond and manage report estimated to be 2 hours per report. Non-labor costs estimated to be $20 per report.

USCG

MSC

Army

Air Force

HULL COATING LEACHATE

Estimates of vessels subject to the hull coating leachate standard are based on the Hull Coating Leachate Vessel Grouping Document.

Navy

Reporting:
Non-compliance reporting 10% of impacted vessels (2153) will have 1 report per year. Fleet estimates 2 hours per report at $48.76/hour (215 reports per year). HQ hours to respond and manage report estimated to be 2 hours per report (215 reports per year). Non-labor costs estimated to be $20 per report.
Emergency exception reporting 5% of impacted vessels (2153) will have 1 report per year. Fleet estimates 2 hours per report at $48.76/hour (108 reports per year). HQ hours to respond and manage report estimated to be 2 hours per report. Non-labor costs estimated to be $20 per report.

USCG

MSC

Army

Air Force

CHAIN LOCKER EFFLUENT

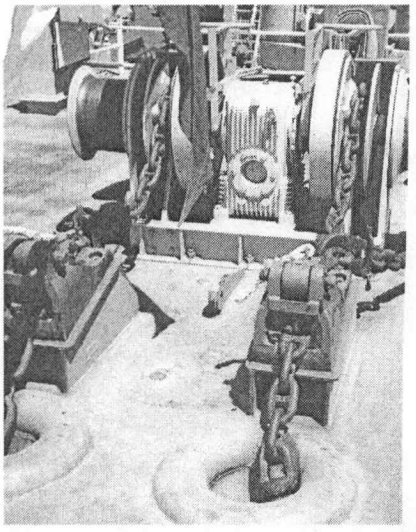
Estimates of vessels subject to the chain locker effluent standard are based on equipment expert review of the Batch One vessel database and the Discharge Assessment Report.

CHAIN LOCKER VESSEL ASSUMPTIONS

- At least 446 vessel were estimated to produce the discharge. The number could be higher, because some small vessels may have chain lockers. However, this information is not readably available through open sources, and its confirmation required research beyond the scope of the task. The process developed for the identification of vessels was:

  1. Identified all active vessel over 170 feet in length in the Batch One database. The cut off length was based on the length of the smaller surface vessels listed as producing the discharge in the UNDS Phase One TDD.
  2. Removed all submarines, as their chain lockers are always submerged, open to the sea, and do not collect effluent to produce this discharge (From UNDS Phase 1 TDD).
  3. Removed vessel with non-propulsion systems (e.g., barges and floating drydocks). These vessels are designed to be towed by another vessels or secured to a pier, and therefore, are not expected to have heavy anchor chain that require chain lockers.
  4. Removed large Army vessels (i.e., LSV and LCU 2000). These vessels, even though they have heavy anchors they use winches with wire rope for their anchor instead of chains (Army Technical Manual TM 55-500).
  5. Maintained some vessels that were not included in Phase One TDD as producing the discharge because they are known to have heavy anchor chains and are expected to have chain lockers (see photo I took in 2000 of the anchor chain of a WLM 175). Examples include USCG Buoy Tenders WLB 225, WLB 180, WLM 175. However, I recommend confirming assumption with Volpe.

Service	No.
MSC	86
Navy	272
USCG	88
TOTAL	446



USCGC WLM 555 JAMES RANKIN (WLM 175 Class)

Navy

Reporting:
Non-compliance reporting 10% of impacted vessels (272) will have 1 report per year. Fleet estimates 2 hours per report at $48.76/hour (27 reports per year). HQ hours to respond and manage report estimated to be 2 hours per report (27 reports per year). Non-labor costs estimated to be $20 per report.
Emergency exception reporting 5% of impacted vessels (272) will have 1 report per year. Fleet estimates 2 hours per report at $48.76/hour (14 reports per year). HQ hours to respond and manage report estimated to be 2 hours per report. Non-labor costs estimated to be $20 per report.

Training:
Training will be conducted on an annual basis by each ship's Environmental Officer (total of 272 vessels). It is expected to consist of a 1 hour course for hands-on training with an estimated 5 sailors attending the class (6 sailors total including the officer). Half a man day will be needed for the Environmental Officer to prepare for the class (4 hours).

USCG

MSC

Army

Air Force

ELEVATOR PIT EFFLUENT

Estimates of vessels subject to the elevator pit effluent standard are based on equipment expert review of the Batch One vessel database and the Discharge Assessment Report.

Navy

Reporting:
Non-compliance reporting 10% of impacted vessels (209) will have 1 report per year. Fleet estimates 2 hours per report at $48.76/hour (21 reports per year). HQ hours to respond and manage report estimated to be 2 hours per report (21 reports per year). Non-labor costs estimated to be $20 per report.
Emergency exception reporting 5% of impacted vessels (209) will have 1 report per year. Fleet estimates 2 hours per report at $48.76/hour (11 reports per year). HQ hours to respond and manage report estimated to be 2 hours per report. Non-labor costs estimated to be $20 per report.

Training:
Training will be conducted on an annual basis by each ship's Environmental Officer (total of 209 vessels). It is expected to consist of a 1 hour course for hands-on training with an estimated 5 sailors attending the class (6 sailors total including the officer). Half a man day will be needed for the Environmental Officer to prepare for the class (4 hours).

USCG

MSC

Army

Army does not have any vessels that generate elevator pit effluent (Source: Elevator Pit DAR, 2003).

Air Force

Air Force does not have any vessels that generate elevator pit effluent (Source: Elevator Pit DAR, 2003).

PHOTOGRAPHIC LABORATORY DRAINS

Estimates of vessels subject to the photographic laboratory drains effluent standard are based on equipment expert review of the Batch One vessel database and the Discharge Assessment Report.

Navy

Reporting:
Non-compliance reporting 10% of impacted vessels (54) will have 1 report per year. Fleet estimates 2 hours per report at $48.76/hour. HQ hours to respond and manage report estimated to be 2 hours per report (5 reports per year). Non-labor costs estimated to be $20 per report.
Emergency exception reporting 5% of impacted vessels (54) will have 1 report per year. Fleet estimates 2 hours per report at $48.76/hour (3 reports per year). HQ hours to respond and manage report estimated to be 2 hours per report. Non-labor costs estimated to be $20 per report.

Training:
Training will be conducted on an annual basis by each ship's Environmental Officer (total of 54 vessels). It is expected to consist of a 1 hour course for hands-on training with an estimated 5 sailors attending the class (6 sailors total including the officer). Half a man day will be needed for the Environmental Officer to prepare for the class (4 hours).

USCG

MSC

Army

Army does not have any vessels that generate photographic laboratory drain effluent (Source: Photographic Laboratory Drains DAR, 2003).

Air Force

Air Force does not have any vessels that generate photographic laboratory drain effluent (Source: Photographic Laboratory Drains DAR, 2003).