

Environmental Technology Panel Outreach Project

FINAL REPORT

**For the
National Shipbuilding Research (NSRP)
Environmental Technology Panel**

by

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Environmental Technology Panel Outreach Project Final Report

Project Summary

The Environmental Technology Panel Outreach Project is a subproject of the Environmentally Green Ship Jumpstart Initiative project proposed by the Environmental Technology Panel in 2002. The goal of the ETP Outreach Project was to:

- expand participation by shipyards and others in ETP meetings and activities, which had been declining for the several previous years;
- develop a comprehensive strategic plan for the ETP that would improve the overall quality of the ETP meeting content, provide better Panel input to the ECB, and develop better research products for the US Shipbuilding and Repair Industry Sector; and,
- determine the environmental issues of concern affecting the US Shipbuilding and Repair Industry Sector to assist the ETP in determining meeting content and project proposals.

The project was executed through a series of coordinated tasks designed to identify “target” shipyards to participate in ETP meetings and activities, survey the target shipyard to identify environmental issues of concern and devise a ETP strategic plan that could be used to ensure the ongoing success of the panel.

Project task deliverables were prepared and submitted to the Project Manager for review and comment. Project update presentations were prepared and made at ETP meetings as appropriate. A final Project Report was prepared that collated the existing task deliverables and presented the overall project results and conclusions.

List of Outreach Project Task Deliverables

1. Task One Deliverables
 - a. Updated US Shipyard Contact Database
 - b. List of Target Shipyards
 - c. Results of Shipyard communications effort

2. Task Two Deliverables
 - a. Regulatory Areas of Concern Report
 - b. Survey Form
 - c. Analysis of Survey Results

3. Task Three Deliverables
 - a. ETP Meeting Two Year Strategic Plan
 - b. Proceedings of the 3rd Annual Shipyard Environmental Issues Conference
 - i. *Available on November 7, 2003, following the Conference.*

ETP Outreach Project Results and Conclusions

Results

Specific elements of the Panel Strategic and Communication Plans, developed in this Project were implemented prior to the ETP Winter 2003 meeting to determine their effectiveness in increasing Panel participation. The results of this meeting demonstrated the strategic and communication plans could be successfully implemented and would result in a significant increase in ETP participation levels (see Chart 1: ETP Participation Levels 1996-2003).

Specific data providing indication of success include:

1. Total attendance (51) at the ETP Winter 2003 meeting was the third highest from the period of 1996 through 2002¹, and approximately double the average attendance (26) of the previous three years.
2. More shipyards (20) were represented at the ETP Winter 2003 meeting than at any ETP meeting from the period of 1996 through 2002¹.
3. The ratio of shipyard participants to shipyards represented at the ETP Winter 2003 meeting was 1.3, the highest since January 1999. This is indicative of the fact that many shipyards were sending more than one person to the meeting.
4. The ratio of shipyard participants to the total participants at the ETP Winter 2003 meeting was 0.51, indicating an even mix of shipyard personnel and others in attendance. This is a significant improvement over the average 0.39 ratio of shipyard participants to the total participants at ETP meetings from 1996 through 2002.

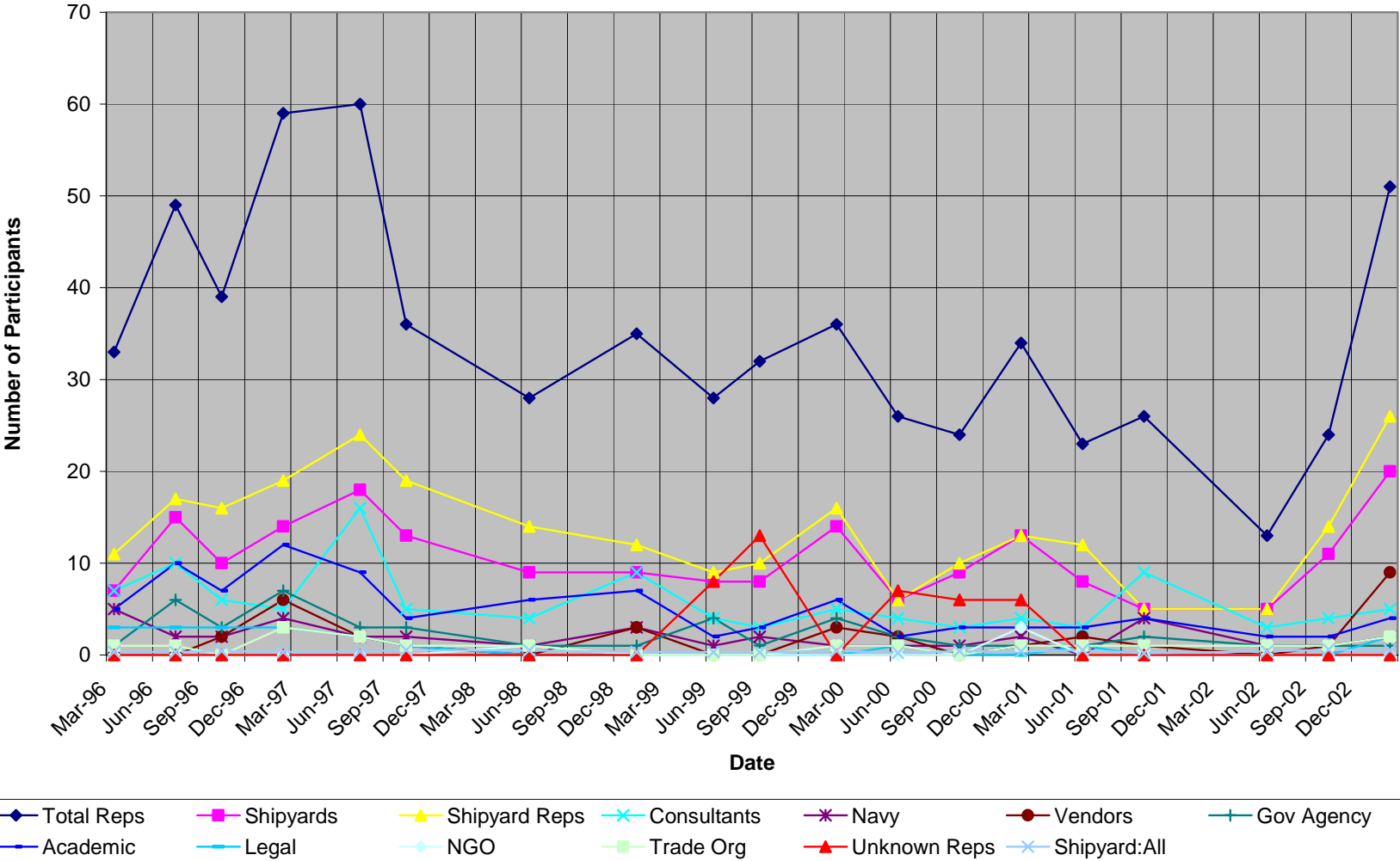
Conclusions

The Outreach Project was a result of the recognition the ETP participation was declining and the Panel was in danger of becoming a non-functional. AECI believes that primary reasons for this decline was an inadvertent result of the NSRP Panel reorganization that occurred in 1998. These changes resulted in a reduction in the perceived value received by shipyard representatives in attending ETP meetings. As shipyard personnel stopped attending meetings, participation by non-shipyard participants also declined.

The Outreach Project successfully demonstrated that the declining participation can be reversed, if the elements of the strategic and communications are adopted by the Panel.

¹ Attendance records for ETP meeting prior to 1996 were not available.

Chart 1: ETP Participation Levels 1996-2003



Panel Outreach Project

Task One: Subtask One Deliverable:

**Updated US Shipyard Contact
Database**

Shipyard Contact Database

Company	Full Name	Job Title	Business Address	Business Phone	Business Fax
Business Address State : AK (8 items)					
10 Mile Marine Services			9737 Totem Bight Road North, Ketchikan, AK 99901-9200	(907) 247-5304	
Alaska Ship and Drydock Inc.	Doug Ward		3801 Tongass Avenue P.O. Box 9470, Ketchikan, AK 99901	(907) 225-7199	(907) 247-7200
Alaska Vessel	Dan Valdez	Owner/Manager	107 E 54th Avenue, Anchorage, AK 99518	(907) 563-8178	(907) 561-8580
Allen Marine	David Allen	President	1512 Sawmill Creek Road P.O. Box 1049, Sitka, AK 998351049	(907) 747-8100	(907) 747-8570
Bering Sea Marine			100 Toll Story Street, St Paul Island, AK, 99660	(907) 546-2544	
Seward Ship's Drydock	D. J. Whitman	General Manager	P.O. Box 944, Seward, AK 99664	(907) 224-3198	(907) 224-5376
Southeastern Fabrications			P.O. Box 2038, Wrangell, AK, 99929-2038	(907) 874-2064	
Walashek Shipyard, Inc	Frank Walashek	President	P.O. Box 92185, Dutch Harbor, AK 99692	(907) 581-1546	(907) 581-1413
Business Address State : AL (17 items)					
Alabama Shipyard	Terry Preston	Environmental Manager	P.O. Box 3202, Mobile, AL 36652	(251) 690-7093	(251) 690-4957
Austal USA, LLC	Bill Pfister		P.O. Box 1049, Mobile, AL 36633	(334) 434-8000	(334) 434-8080
Bender Shipbuilding & Repair Co., Inc.	Jackie Morris	Environmental Manager	265 South Water Street, Mobile, AL 36603	(251) 434-8803	(251) 434-8812
Gazzier Shipyard, Inc.	Richard Gazzier	President	P.O. Box 858, Bayou La Batre, AL 36509	(334) 824-4396	(334) 824-7579
Harrison Brothers Dry Dock & Repair Yard, Inc.	William H. Harrison III	President	6th Street/Blakely Island, Mobile, AL 336602	(334) 432-4606	(334) 438-3188
Henry Marine Service	Allen Henry	President/Owner	910 Dunlap Drive, Spanish Fort, AL 36577	(334) 438-9442	(334) 438-9443
Horizon Shipbuilding			Bayou La Batre, AL		
J&J Marine Inc	Fred Johnson	President	P O Box 623, Bayou Labarte, AL 36652-2964	(251) 824-7938	(334) 824-7933
LaForce Shipyard			P.O. Box 107, Bayou La Batre, AL 36509-9998		
Master Boat Builders, Inc.	Michael Rice	President	P.O. Box 702, Bayou La Batre, AL 36509	(334) 824-2388	(334) 824-4401
Master Marine, Inc	Brett S. Dungan	President	14284 Shell Belt Road P.O. Box 665, Bayou La Batre, AL 36509	(334) 824-4151	(334) 824-7050
Mobile Dry Docks Company			1920 Bay Bridge Cutoff Road, Mobile, AL, 36610-3502	(334) 456-1880	
Mobile Drydock Co.,Inc.	William Yost	President	P.O. Box 2964, Mobile, AL 36652	(334) 456-1880	(334) 456-1910
Nelson Boat Yard Inc	Jimmy Nelson		16800 Nelson Lane, Gulf Shores, AL 36542	(334) 968-7974	(334) 968-7974
Rodriguez Boat Builders Inc			14843 Shell Belt Road, Coden, AL, 36523	(334) 824-4067	
Silver Ships	Mike McCarty	President	9243 Bellingrath Rd., Theodore, AL 36590	(251) 973-0000	(251) 973-2711
Steiner Shipyard, Inc	Russell R. Steiner	President	8700 Hemley P.O. Box 742, Bayou La Batre, AL 36509	(334) 824-4140	(334) 824-4884
Business Address State : AR (2 items)					
Burrow Barge Cleaning	Cloyc Burrow	Owner	4822 Highway 63, Black Rock, AR, 72415-9157	(870) 869-2411	
SeaArk Marine	John McClendon	President	404 North Gabbert Street P.O. Box 210, Monitcello, AR 71655	(870) 367-9755	(870) 367-2120
Business Address State : CA (23 items)					
Al Larson Boat Shop	Jack Wall	President	1046 South Seaside Avenue P.O. Box 3098, Terminal Island, CA 90731	(310) 514-4100	(310) 519-7183
Anderson Boat Yard Inc.	Ron Anderson	Shipyard Manager	Richardson Bay, Sausalito, CA	(800) 310-6432	(415) 332-8136
Bay Ship & Yacht Co.	Bruce Elerick R.E. A.	Manager, Safety & Environmental Health	2900 Main Street, Alameda, CA 94501	(510) 337-9122	(510) 337-0154
Bay Ship & Yacht Co.	Steve Taft	General Manager	310 West Cutting Blvd., Richmond, CA 94804	(510) 237-0140	(510) 237-2253
Channel Islands Boat Yard	Lonnie Jarvis	Shipyard Manager	3615 South Victoria Avenue, Oxnard, CA 93035	(805) 984-9273	(805) 985-6660
Continental Maritime	Homer McCarthy		1995 Bay Front Street, San Diego, CA 92113-2122	(619) 234-8851 ext. 531	(619) 232-6858
Davis Boat Works, Inc.	Donald E. Moore	VP of West Coast Operations	1313 West 24th Street, National City, CA 91950	(619) 336-1634	(619) 336-1629
Fulton Shipyard Inc			307 Fulton Shipyard Road, Antioch, CA 94509	(925) 757-2611	
General Dynamics/NASSCO	Judie Blakey		2798 Harbor Dr, San Diego, CA 92113-3650		
General Engineering & Machine Works	Peter J. Blake	President	840 Harrison Street, San Francisco, CA 94107	(415) 391-2255	(415) 777-9940
Goltens Marine Co. of Wilmington	Joseph Johnson	General Partner	330 Broad Avenue, Wilmington, CA 90744	(310) 549-2550	(310) 549-1350
Marine & Industrial Repair	Paul Penso	General Manager	1614 W Cowles St, Long Beach, CA 908131227	(562) 495-0846	
Marine Docksides & Industrial Inc.	Mark Swales	President	131 N. Avalon Blvd., Wilmington, CA 90744	(310) 830-6100	
National Steel & Shipbuilding Co.	Mike Chee	Environmental Manager	P.O. Box 85278, San Diego, CA 92186	(619) 544-7778	(619) 744-1088
Pacific Ship Repair	Dennis Stone	Safety and Environmental Manager	1625 Reigl Street, San Diego, CA 92113	(619) 232-3220 ext. 155	
Pacific Ship Repair and Fabrication	Gary Thomas	President	1625 Rigel Street, San Diego, CA 92113	(619) 232-3200	(619) 232-2070
PacOrd Inc.	Bob Hartsock	President	240 W. 30th Street, National city, CA 91950	(619) 336-2200	(619) 474-3422
San Francisco Drydock Inc.	Joe O'Rourke	President and General Manager	Foot of 20th Street P.O. Box 7644, San Francisco, CA 941077644	(415) 861-7447	(415) 558-8466
San Pedro Boat Works	Andy Wall	President	Berth 44, Outer Harbor, San Pedro, CA 90731	(310) 832-7203	(310) 519-7183
Southwest Marine, Inc.	Sandor Halvax	Manger of Material Management	Foot of Sampson Street, San Diego, CA 92107	(619) 238-1000 ext. 2060	(619) 557-4221
Southwest Marine, Inc. - San Pedro Division	Joe O'Rourke	Division Vice President	985 S Seaside P.O. Box 3600, Terminal Island, CA 907317331	(310) 519-0600	(310) 833-2222
Ventura Harbor Boatyard	Linda Johnson	President	1415 Spinnaker Drive, Ventura, CA 93001	(805) 654-1433	(805) 654-8066
Willar Marine	Jack Hochadel		1250 N. Grove Street, Anaheim, CA 92806	(714) 666-2451	(714) 632-8136
Business Address State : CT (2 items)					
Electric Boat Corporation	Donna L. Elks	Manager of Environmental Resources	75 Eastern Point Road, Groton, CT 06340-4989	(860) 433-2791	(860) 433-6355

Shipyard Contact Database

Company	Full Name	Job Title	Business Address	Business Phone	Business Fax
Thames Shipyard & Repair Co. Business Address State : FL (35 items)	John Peter Wronowski	President	2 Ferry Street P.O. Box 791, New London, CT 6320	(860) 442-5349	(860) 440-3492
Atlantic Marine, Inc.	Wayne Holt	Director Safety/Environmental	8500 Heckscher Drive, Jacksonville, FL 32226	(904) 251-1582	(904) 251-1579
Bahamas Marine International			1791 Blount Road #515N, Pompano Beach, FL , 33069-5117	(954) 917-0602	
Bay Fabrication Inc.	Brian R. D'isernia	President	2200 Nelson Street, Panama City, FL 32401	(850) 763-1900	(850) 763-7904
Boston Whaler, Inc.	Mike Myers	President	100 Whaler Way, Edgewater, FL 32141	(904) 428-0057	(904) 428-7310
Broward Marine, Inc.		President	750 NE 7th Avenue, Dania, FL 33004	(954) 925-8118	(954) 927-4200
Cavanagh Marine Repair	James Cavanagh	Owner	P O Box 487, Cortez, FL, 34215-0487	(941) 727-2905	
Ceeco Ship Repair & Machine			739 Scallop Drive #59, Cape Canaveral, FL, 32920-4524	(321) 784-1620	
Coastal Ship Repair			99 Dover Ave., Merritt Island, FL 32592	(321) 784-6007	
Derecktor of Florida	Udo Weidauer	President	775 Taylor Lane, Dania, FL 33004	(954) 920-5756	(954) 925-1146
Duckworth Steel Boats Inc	Ernest Duckworth	President	1051 Island Avenue, Tarpon Springs, FL, 34689-6917	(727) 934-2550	(727) 937-7252
Eastern Shipbuilding Group	Brian R. D'sernia	President	2200 Nelson Street, Panama City, FL 32401	(850) 763-1900	(850) 763-7904
Eastern Shipyards, Inc.			P.O. Box 960, Panama City, FL 32402	(850) 763-1900	(850) 763-7904
Fort Myers Yacht & Shipbuilding	Tony Pocklington	President	2909 Frierson St., Fort Myers, FL 33916	(941) 332-7800	(941) 332-0940
Freeport Shipbuilding & Marine Repair Inc.	Jim Murray	President	P.O. Box 49, Freeport, FL 32439	(850) 835-4125	(850) 835-4873
Goltens Miami	Steinar Danielsen	President	2323 NE Miami Court, Miami, FL 33137	(305) 576-4410	(305) 576-3827
Gulf Marine Repair Corp	Phillip Reuben		1200 Sertoma Drive, Tampa, FL 33605	(813) 247-3153	
Harley Boat Company	Howard D. Harley	President	300 South First Avenue, Bartow, FL 33830	(863) 533-2800	(941) 533-0787
Harley Shipbuilding Corporation	Howard Harley	President	300 South First Ave., Bartow, FL 33830	(813) 294-7669	(813) 948-8771
Hendry Corporation	Aaron W. Hendry	President	5107 South Westshore Blvd., Tampa, FL 33611	(813) 831-1211	(813) 837-8277
International Ship Repair	Randy Crotts		1616 Penny Street, Tampa, FL 33605	(813) 247-1118	(813) 247-6553
Jones Boat Yard, Inc	Cleve Jones	President	3399 N.W.S. River Drive, Miami, FL 33142	(305) 635-0891	(305) 633-6758
Keith Marine Inc.	Dick Keith	President	P.O. Box 187, Palatka, FL 32177	(386) 312-0000	(386) 312-9811
Marine Inland Fabricators	Stewart F. Sumpton	President	1725 Buchanan Street, Panama City, FL 324091482	(850) 265-1383	(850) 265-0487
Merrill-Stevens Drydock Co	Fred W. Kirtland	President	1270 NW 11th Street, Miami, FL 33125	(305) 324-5211	(305) 326-8911
Mobro Marine, Inc.	Paul K. Westcott	Safety and Compliance Coordinator	606 State Road 16 East, P.O. Box 986, Green Cove Sprngs, FL 32043	(904) 284-9670	(904) 358-8706
North Florida Shipyard, Inc	Joseph Shiffert	President	Foot of East Adams Street P.O. Box 3255, Jacksonville, FL 32202	(904) 354-3278	(904) 353-2665
Patti Shipyard, Inc.	Frank Patti Sr.	General Manager	P.O. Box 271, Pensacola, FL 32592	(850) 453-1282	(850) 453-8835
Port Everglades Machine Works	Steve Bellask	President	P.O. Box 22156, Fort Lauderdale, FL 33335	(954) 524-8551	
Port Manatee Ship Repair Inc.			2114 Piney Point Road, Palmetto, FL, 34221-9551	(941) 722-6653	
Queen Craft Shipyard			3615 Calhoun Avenue, Panama City, FL 32405	(850) 769-2391	(850) 769-9290
St. Augustine Marine	John Luhrs	President	404 South Iberia Street Suite A, St. Augustine, FL 32084	(904) 824-4394	(904) 824-9755
Sun State Marine	Robert Coppedge	Vice President	Reynolds Industrial Park, P.O. Box 1167, Green Cove Springs, FL 32043	(904) 264-6582	(904) 264-6660
Sun State Marine Services, Inc.		Environmental Manager	1305 Shoreside Drive, Tampa, FL 33675	(813) 248-1123	
Tampa Bay Shipbuilding & Repair Company	John Timmerman	Manager, Environmental, Safety and Sec...	1130 McClosky Blvd., Tampa, FL 33605	(813) 248-7334	
Trident Shipworks, Inc.	Stephen Nichols	President	5251 W. Tyson Ave., Tampa, FL 33611	(813) 839-5151	
Business Address State : GA (4 items)					
Palmer Johnson	Travis Cowart	Director, Environmental & Safety	301 North Lathrop Avenue, Savannah, GA 31415	(912) 239-1101	(912) 236-8887
Palmer Johnson, Inc.	William C. Parsons	President	3124 River Drive, Thunderbolt, GA 31404	(912) 352-4956	(912) 352-0593
Savannah Marine Services, Inc.	Edwin M. Erksine	Vice President	Hutchinson Island, Savannah, GA 31401	(912) 232-3943	(912) 232-2717
US Shipyard			1300 Gloucester ST #C, Brunswick, GA, 31520-7056	(912) 262-1929	
Business Address State : HI (11 items)					
Ala Wai Marine Ltd.	David Becker	General Manager	1651 Ala Moana Blvd., Honolulu, HI 96815	(808) 946-4213	(808) 943-1495
Honolulu Marine Inc-Kewalo Shipyard	Charles Pires	President	123 Ahui Street, Honolulu, HI 96813	(808) 537-2939	(808) 526-9811
Honolulu Shipyard Inc	Bill Clifford		Pier 41 Building #6, Honolulu, HI, 96817	(808) 848-6211	
Keehi Marine, Inc	Yoshi Muraoka	Director	24 Sand Island Road, Honolulu, HI 96819	(808) 845-6465	(808) 841-6610
Kewalo Shipyard			123 Ahui Street, Honolulu, HI, 96813-5509	(808) 537-2939	
Marisco, LTD.	Fred Anawati	President	91-607 Malakola Road, Kaplei, HI 96707	(808) 682-1333	(808) 682-5848
Navatek Ships Ltd.	Jim Clifford	Marketing Manager	P.O. Box 30989, Honolulu, HI 96820	(808) 848-6437	
Pacific Marine & Supply Co. Limited	Steven Loui	President	841 Bishop Street, Honolulu, HI 96817	(808) 531-7001	(808) 523-7668
Pacific Shipyards International	Jim Cummings	Environmental Manager	One Drydock Way, P.O. Box 30989, Honolulu, HI 96820	(808) 848-6211	(808) 848-6279
Walashek Industries			607 Ala Moana Boulevard, Honolulu, HI 96813-4924	(808) 523-7526	
Young Brothers Tug & Barge Corp	Glen Hong	President	1331 North Nimitz, Honolulu, HI 96817	(808) 543-9311	(808) 543-9458
Business Address State : IA (1 item)					
Hall Towing, Inc.	Don Hall	President	P.O. Box 1465, Fort Madison, IA 52627	(319) 372-3078	(319) 372-1719

Shipyard Contact Database

Company	Full Name	Job Title	Business Address	Business Phone	Business Fax
Business Address State : IL (12 items)					
Black Marine, Inc.			1 E. Dupont Rd., Seneca, IL 61360	(815) 357-6666	(815) 357-6699
Clearyville Marine Service, Inc.	Bruce Brown	President	P.O. Box 262, Chester, IL 62233	(618) 826-2015	(618) 826-3313
Crowley's Yacht Yard, Inc.			2500 S. Corbett Street, Chicago, IL 60608	(312) 225-2170	
Hamms Holiday Harbor	Dick Hamm	President	Rural Route 1, Rome, IL 61562	(309) 274-5401	(309) 274-5057
Hannah Marine Corp.	Dave Patterson	Shipyard Manager	Route 83 & Archer Avenue, Lemont, IL 60439	(630) 257-5457	(630) 257-9049
Joliet Marine & Drydock Inc	Everett Leasure	President	529 N Chicago Street, Joliet, IL, 60432-1705	(815) 726-4478	
Lee Barge Cleaning & Repair	John Lee	President	24044 Majestic Drive, Minooka, IL, 60447-9276	(815) 467-7402	
National Maintenance & Repair	Kimble R. Lehman	President	Foot of Hawthorne Street, Hartford, IL 62048	(618) 254-7451	(618) 254-7451
Osage Repair	Larry Jamison	Manager	South Front Street, Hennepin, IL 61327	(815) 925-7357	(815) 925-7192
Riverside Maintenance Inc	Cristopher Weck	President	P O Box 343, Lockport, IL, 60441-0343	(630) 356-0582	
Riverway Repair	Bruce Hancock	Vice President	P.O. Box 168, East Carondelet, IL 62240	(618) 286-4571	(314) 621-2446
Service Welding & Shipbuilding	Dennis Egan	Proprietor	P.O. Box 352, Lemont, IL 60439	(630) 739-6660	(630) 739-4455
Business Address State : IN (3 items)					
Corn Island Shipyard, Inc.	Don Foertsch	President	Highway 66 P.O. Box 125, Lamar, IN 47550	(812) 362-8808	(812) 362-8809
Jeffboat, LLC	Steven Morris	Director of Safety	1030 East Market Street, Jeffersonville, IN 47130	(812) 288-1741	(812) 288-1805
Marine Builders, Inc.	David Evanczyk	President	208 W Church Street, Utica, IN 47130	(812) 283-7932	(812) 282-1485
Business Address State : KY (7 items)					
James Marine, Inc.	Eric Crabtree		P.O. Box 2305, Paducah, KY 42002-2305	(270) 898-7391	(270) 443-1881
National Maintenance and Repair of Kentucky, Inc.	James R. Mudd	General Manager	P.O. Box 321, Ledbetter, KY 42058	(270) 898-4000	(270) 898-4005
Ohio Valley Marine Service, Inc	Mike Saalwachter	Drydock Supervisor	2nd Street P.O. Box 212, Henderson, KY 42420	(270) 826-9171	(270) 826-9352
Owensboro Harbor Service, Inc	Dwight Knepper	Manager	P.O. Box 33, Owensboro, KY 42302	(270) 264-1316	(270) 264-1457
Paducah River Services	Bob Wehrman	General Manager	P.O. Box 2305, Paducah, KY 420022305	(270) 898-6897	(270) 898-7316
Walker Boat Yard, Inc.	Jason Adams	Environmental & Safety Manager	4040 Clarks River Road, Paducah, KY 42002-1400	(270) 445-4457	(270) 444-4043
Yager Marine Industries	Jim Yager	President	P.O. Box 2000, Owensboro, KY 42302	(270) 926-3611	(270) 926-3660
Business Address State : LA (101 items)					
Acadian Shipyard, Inc.	Don Underwood	President	Bourg-Larose Highway P.O. Box 298, Bourg, LA 70343	(504) 594-4123	
Allied Shipyard, Inc.	Bruce Callais		P.O. Box 1240, Larose, LA 70373	(504) 693-3323	(504) 693-3687
Ambar Marine	Ron Ackerman		4304 Firestone Rd, Metairie, LA 70001	(504) 733-7303	(504) 733-8325
Azalea Fleet Barge Maintenance			9600 River Road, Westwego, LA, 70094-2244	(504) 431-7368	
Barnett Marine Inc.	William Barnett	President	2709 Concord Road, Belle Chasse, LA 70037	(504) 394-6055	(504) 394-1557
Barnett Shipyard			Lafitte, LA		
Bayou Boeuf Shipyard, Inc	Sam Siracusa	President	8968 Highway 90 E, Morgan City, LA 70380	(504) 384-2164	
Bayou Le Carpe Shipyard			154 Caillou Island Court, Houma, LA, 70363-7505	(985) 876-3511	
Berwick Shipyard	Wade Cantrell	President	P.O. Box 168, Berwick, LA 70342	(504) 385-2360	
Boland Marine & Manufacturing, Co.	Mike Keim	President	P.O. Box 53287, New Orleans, LA 70153	(504) 581-5800	(504) 581-5814
Bollinger Algiers, LLC	Alvin Naquin	Operations Manager	434 Powder Street, New Orleans, LA 70114	(504) 362-7960	(504) 361-1679
Bollinger Amelia Repair, LLC	David Cole	Technical Operations Manager	606 Ford Industrial Road, Amelia, LA 70340	(985) 631-2020	(985) 631-2933
Bollinger Calcasieu LLC	Rick Bastian	Operations Manager	8086 Global Drive, Sulphur, LA 70665-8807	(337) 583-7383	(337) 583-7160
Bollinger Fourchon	David Stevens	Operations Manager	106 Norman Doucet Drive, Golden Measow, LA 70357	(985) 396-2366	(985) 396-3055
Bollinger Gretna LLC	Kenneth Boothe, Sr.	Operations Manager	4640 Peters Road, Harvey, LA 70058	(504) 367-8080	(504) 362-1938
Bollinger Gulf Repair	Max Miller	Regional Coordinator Corporate Environ...	3900 Jourdan Rd., New Orleans, LA 70126	(504) 248-2254	(504) 246-2492
Bollinger Larose, LLC	Paul Baillieux	VP & General Manager	1515 Hwy. 24, Larose, LA 70373	(985) 693-7599	(985) 665-7599
Bollinger Marine Fabricators, LLC	Lynn Falgout	Vice President and General Manager	816 Bollinger Lane, Amelia, LA 70340	(985) 631-5300	(985) 631-5499
Bollinger Morgan City, LLC	Larry Vauclin	VP & General Manager	806 Bollinger Lane, Amelia, LA 70340	(985) 631-3600	(985) 631-4993
Bollinger Quick Repair, Inc.	Albert Stein	Operations Manager	615 Destrehan Ave., Harvey, LA 70059	(504) 340-0621	(504) 371-7406
Bollinger Shipyards Lockport, LLC	Donald T. Bollinger	Chairman and Chief Operating Officer	8365 Highway 308 South, Lockport, LA 70374	(985) 532-2554	(985) 532-7225
Bollinger Shipyards Lockport, LLC.	Dwayne R. Breaux	Director of Environmental Affairs	8365 Hwy. 308 South, Lockport, LA 70374	(985) 532-2554	(985) 532-7225
Bourg Drydock & Service Co.	Jerry Gonsoulin	President	P.O. Box 1852, Houma, LA 70361	(504) 594-5851	(504) 594-5992
Breaux Brothers Enterprises	Ward Breaux	President	P.O. Box 550, Loreauville, LA 705520550	(337) 229-4232	(337) 229-4951
Breaux's Bay Craft, Inc.	Roy Breaux Jr.	President	P.O. Box 370, Loreauville, LA 705520370	(337) 229-4246	(337) 229-8332
Buck Kreihns Company, Inc.	William Baraldi	President	2225 Tchoupitoulas Street P.O. Box 53305, New Orleans, LA 70153	(504) 524-7681	(504) 522-5879
Calcasieu Shipyard, Inc.		Environmental Manager	8086 Global Drive, Sulphur, LA 70665	(318) 583-7383	(318) 583-7160
C-Craft Shipyard Corp.	Paul L. Haines Jr.	President	24007 Highway 233 P.O. Drawer 1820, Morgan City, LA 70381	(504) 631-2628	(504) 631-3513
CGB Marine Services Co.	Frank Malore		P.O. Box 1390, La Place, LA 70069	(504) 652-7285	(504) 652-8822
Channel Shipyard of New Orleans, Inc.	Cherrie Felder	Vice President	P.O. Box 679, Ama,LA 70031-0679	(504) 431-0914	(504) 431-0934

Shipyard Contact Database

Company	Full Name	Job Title	Business Address	Business Phone	Business Fax
Coastal Ship Repairs Inc	Costas Nicopoulos	President	3833 Desire Parkway, New Orleans, LA, 70126-5507	(504) 442-8911	
Crosby Roosevelt Marine Ways			1901 S Bayou Drive, Golden Meadow, LA, 70357-3013	(985) 475-5593	
Dehart Shipyard Inc	Rovert Dehart	President	312 S Henry Street, Abbeville, La, 70510-5816	(337) 893-4410	(337) 898-1353
Diversified Group, Inc.	Danny Hughes	President	8800 W. Commerce Road, # 500, Harahan, LA 70123	(504) 733-2800	(504) 733-2884
Dixie Machine Welding & Metal Works, Inc.	John C. Adams	President	1031 Anunciation Street P.O. Box 53355,70153, New Orleans, LA 70130	(504) 581-3088	(504) 586-2245
Dixie Shipyard, Inc.	Paul M. Bonvillain	President	8646 Park Ave, Houma, LA 70363	(504) 851-1314	(504) 851-5103
Douglas Marine Service, Inc.	Bill Douglas	President	P.O. Box 669, Baldwin, LA 70514	(337) 828-4344	
Dulac Shipyard Inc			8610 Grand Caillou Road, Dulac, LA, 70353-1839	(985) 563-7144	
Elevating Boats, Inc.	Lynn Dean	Owner	900 St. Bernard Parkway, Braithwaite, LA 70040	(504) 682-5245	(504) 533-6291
Elmwood Dry Dock & Repair, Inc.	Chris Parsonage	President	222 Bayou Rd. P.O. Box 1148, Belle Chase, LA 70037	(504) 394-6230	(504) 392-8439
Equitable Shipyards Inc			150 Highway 21, Madisonville, LA, 70447-9674	(985) 845-3009	
Grand Isle Shipyard	Brad Pregeant	Yard Manager	P.O. Box 275, Grand Isle, LA 70358	(504) 787-2801	(504) 787-2141
Gretna Machine & Iron Works,LLC	David Beerbohm	Facility Manager	4640 Peters Road, Harvey, LA 70058-1839	(504) 367-8080	(504) 362-1938
Gulf Craft, Inc.	Frank Aucoin	General Manager	P.O. Box 150, Simmesport, LA 71369	(318) 941-2165	(318) 941-2150
Gulf Craft, Inc.	Scott Tibbs	President	3904 Highway 182, Patterson, LA 703928916	(504) 395-6259	(504) 395-3657
Halter Gulf Repair	Larry Brown	Manager	3900 Jourdan Road P.O. Box 8126, New Orleans, LA 70126	(504) 242-5200	(504) 246-2492
Halter Lockport/Halter Marine Inc.	Paul J. Loupe	General Manager	Highway 308 P.O. Box 278, Lockport, LA 70374	(504) 532-5515	(504) 532-5378
Halter Marine Group	Harvey Walpert	Sr. Vice President	3900 Jordon Road, New Orleans, LA 70182		
Halter Marine Group, Inc.	Robert J. Honold	Operations Manager	P.O. Box 8126, 3900 Jourdan Road, New Orleans, LA 70126	(504) 242-5200	(504) 246-2492
HB Buster Hughes Fabrication	Danny Hughes	President	2617 Engineers Road, Belk Chasse, LA 70037	(504) 394-9980	(504) 586-2245
Houma Marine Fabricators, Inc.	O. E. Monnier	Vice President	1100 Oak St., Houma, LA 70363	(504) 879-3346	(504) 876-6343
Hudson Drydock, Inc.	Wendle Huddleston	President	P.O. Box 1781, Morgan City, LA 70381	(504) 384-7140	(504) 385-5729
Intercoastal City Dry dock	Henry Faciane	Director	18938 Live Oak Road, Abbeville, LA 70510	(337) 893-4184	(337) 893-0620
Intercoastal Marine Repairs, Inc.	Sammy R. Zito	President	P.O. Box 10306, Jefferson, LA 701810306	(504) 835-8531	(504) 838-9632
Intracoastal City Dry Dock	Lewis J. Faciane	President	18938 Live Oak Rd, Abbeville, LA 70510	(337) 893-4184	(337) 893-0620
J. Ray McDermott, Inc.	Scott Bergeron	Manager of Industrial Hygiene & Environ...	P.O. Box 188, Morilan City LA 70381	(504) 631-8236	(504) 631-8135
Kody Marine, Inc	Clyde Naquin	Owner	600 Peters Road, Harvey, LA 70058	(504) 364-1176	(504) 364-1712
LA Dock Co. LLC	Tony Buancore	General Manager	Foot of Riverview, Port Allen, LA 70767	(225) 343-0204	(225) 343-0237
Land and Marine Fabricators	W. J. Galatas	President	36191 Sloat Road, Slidell, LA 70460	(504) 645-0770	(504) 645-0842
Lash Marine Services, Inc.	Ben Causey	Lafitte Shipyard Manager	665 Rosethorn Road, Lafitte, LA 70067	(504) 689-3428	(504) 689-3440
Lash Marine Services, Inc.	S. A. Corkern Jr.	Manager Barge M&R & Shipyard Operati...	650 Poydras St., Suite 1700, P.O. Box 58409, New Orleans, LA 70153-84...	(504) 529-5461	(504) 529-8993
LEEVAC Shipyards, Inc.	Gilbert Waldrep	Environmental Manager	111 Bune Road, Jennings, LA 70546	(337) 824-3142	(337) 824-8885
Louisiana Marine Repairs Inc			1930 S State Street, Abbeville, LA 70510-8226	(337) 893-5544	
Main Iron Works, Inc	Leroy Molaison	President	P.O. Box 1918, Houma, LA 70361	(504) 876-6302	(504) 872-2440
Mariner Shipyard Services			601 Thompson Road, Houma, LA 70363-7350	(985) 223-3395	
McDonough Marine	John Kipp	Manager, Health, Environmental and Saf...	1750 Clearview Parkway, Metairie, LA 70001-2470	(504) 780-8100	(504) 780-8200
McDonough Marine Service	Gary Feehan	Manager	414 Bayou Road, Belle Chasse, LA 70037	(504) 394-7548	
McDonough Marine Service	David Hanby Jr.	Executive Vice President & General Man...	1750 Clearview Parkway, Metairie, LA 70001-2470	(504) 780-8100	(504) 780-8200
Murphy Shipyard Inc	Murphy Baudoin	President	131 W 46th Street, Cut Off, LA, 70345-3128	(985) 632-3124	
National Maintenance and Repair of Louisiana	John W. Sansing	General Manager	P.O. Box 10486, New Orleans, LA 70181	(504) 733-4190	(504) 736-1274
Neuville Boat Works, Inc	J. L. Neuville	President	6402 Dasplit Road, New Iberia, LA 70560	(337) 229-6507	(337) 229-8242
New Orleans Shipyard Inc	Royce Wilkin	President	P O Box 656 , Ama, LA, 70031-0656	(504) 431-9611	
NGSS Avondale Operations	Steven E. Lacoste Esq.	Environmental Counsel	P.O. Box 50280, New Orleans, LA 70150-0280	(504) 436-5030	(504) 436-5204
North American Shipbuilding, LLC	Gary Chouest	Owner and Chief Executive Officer	P.O. Drawer 580, Larose, LA 70373	(504) 693-4072	(504) 798-7818
Ocean Technical Services Inc. (OTECH)	Esteban Fernandez	President	1140 Peters Rd., Harvey, LA 70058	(504) 364-1572	(504) 362-5949
Offshore Ship Builders Inc			5342 Highway 311, Houma, LA 70360	(985) 868-9326	
Offshore Shipyard Inc			150 Offshore Shipyard Road, Venice, LA 70091-4300	(985) 534-2499	
Patterson Shipyard Inc	Howard Rochelle	President	P O Box 69, Patterson, LA, 70392-0069	(985) 395-2864	
Pax Inc	Joe Boyer	Manager	Babin Road, Gonzales, LA 70737	(225) 644-6885	(225) 647-5268
Pelican Shipyard & Machine Shop, Inc.	Richard Businelle	President	28805 Intracoastal Road, Plaquemine, LA 70764	(225) 659-2631	(225) 659-2281
Plaquemine Point Shipyard	David Easley	General Manager	1070 River Road, Sunshine, LA 70780	(225) 642-5376	(225) 642-5381
Quality Shipyards, Inc.	Bobby Barthel	Vice President	3201 Earhart Blvd. P.O. Box 1817.70361, Houma, LA 70360	(504) 876-4846	(504) 868-7339
Rae Shipyard Inc	John Melancon	President	25300 Highway 1, Golden Meadow, LA, 70357-5332	(985) 396-2771	(504) 396-2553
Regional Fabricators, Inc.	Sean Devillier	Health and Safety Director	P.O. Box 9037, New Iberia, LA 70562-3482	(337) 367-3488	(337) 367-3482
SBA Shipyards Inc			Highway 3166, Jennings, LA, 70546	(337) 824-1519	
Seacraft Shipyard Corporation			3820 Lake Palourde Road, Morgan City, LA, 70380-6118	(985) 631-2628	

Shipyard Contact Database

Company	Full Name	Job Title	Business Address	Business Phone	Business Fax
Stephens Shipyards, inc	Wilbert Stephens	Owner	P.O. Box 107, Morgan City, LA 70380	(504) 384-6530	
Sun State Marine Services, Inc.	William Ludt	Managing Director	146 Calco Boulevard, Ste. 101, Lafayette, LA 70503	(318) 234-4111	(318) 267-9488
Superior Shipyard & Fabrication	Steve Stall	President	20987 Highway 1, Golden Meadow, LA 70357	(504) 475-6441	(504) 475-6481
Swiftships Shipbuilders, LLC	Calvin J. Leveux	President	1105 Levee Road P.O. Box 1908, Morgan City, LA 70831	(504) 384-1700	(504) 380-2559
T.T. Barge	Mark Toepfer	General Manager	Foot of Riverview, Port Allen, LA 70767	(225) 343-0204	(225) 343-0237
T.T. Barge Services	Raymond Greenwell	President	83 Hickory Ave., Harahan, LA 70123	(504) 738-0082	(504) 738-7259
T.T. Coatings	Chuck Hassell	Superintendent	6000 River Road, Harahan, LA 70123	(504) 733-7115	
Textron Marine & Land Systems	Laszlo Bujdoso	President	19401 Chef Menteur Highway, New Orleans, LA 70129	(504) 245-6600	(504) 254-8000
Tidewater, Inc.	William O'Malley	CEO & President	1440 Canal Street, Ste. 2100, New Orleans, LA 70112	(504) 568-1010	(504) 566-4582
Tiger Shipyard, Inc.	Chad Mollere	Environmental Manager	Post Office Drawer 770, Foot of Riverview, Port Allen, LA 70767	(504) 343-0204	(504) 343-0237
Total Marine Services, Inc	A. R. Bergeron	President	2057 Destrehan Avenue, Harvey, LA 70058	(504) 348-3000	(504) 348-0961
Trinity Marine Products	David Ford	OHSE Manager	150 Highway 21, Madisonville, LA 70447	(985) 792-5460	(985) 792-5488
Trinity Marine Products	David Johnson	Plant Manager	P.O. Box 108, Port Allen, LA 70767	(225) 749-3181	(225) 749-3345
Trinity Yachts, Inc	John Dane III	President	4325 France Road P.O. Box 8001, 70182, New Orleans, LA 70126	(504) 283-4050	(504) 284-7171
Verret Shipyard	Murray Verret	Owner	29120 Highway 75, Plaquemine, LA 70764	(225) 659-2647	
Business Address State : MA (4 items)					
Fairhaven Shipyard & Marina, Inc.			50 Fort Street P.O. Box 493, Fairhaven, MA 2719	(508) 996-8591	(508) 992-1326
General Ship Corporation	Arnold Mende	President	300 Northern Avenue, South Boston, MA 02210	(617) 261-4200	
Gladding-Hearn Shipbuilding, The Duclos Corp.	George R. Duclos	Chairman and Chief Operating Officer	1 Riverside Avenue Box 900, Somerset, MA 02760300	(508) 676-8596	(508) 672-1873
Gloucester Marine Railways Corp.			81 Rocky Neck Ave., Gloucester, MA 01930	(978) 283-2775	
Business Address State : MD (7 items)					
AEPCO	Lester Lee	Vice President	15800 Crabbs Branch Way, Ste. 300, Rockville, MD 20855	(301) 670-6770	(301) 670-9884
Baltimore Marine Industries	David Cassidy	President and Chief Operating Officer	600 Shipyard Road, Baltimore, MD 212191023	(410) 477-7601	(410) 477-7609
BethShip	Walter W. Farson	Environmental Engineer	Sparrows Point, MD 21219-2599	(410) 388-4644	(410) 388-5637
Chesapeake Shipbuilding Corp.	Tony Severn	President	710 Fitzwater Street, Salisbury, MD 21801	(410) 742-4900	(410) 742-3689
General Ship Repair Corp.	Derick Lynch	President	1449 Key Highway, Baltimore, MD 21230	(410) 752-7620	(410) 752-4650
Swath Ocean International			5020 Sunnyside Avenue #105, Beltsville, MD, 20705-2307	(301) 595-9850	
Yacht Maintenance Co., Inc	Charles R. Smith III	President	101 Hayward Street, Cambridge, MD 21613	(410) 228-8878	(410) 228-4216
Business Address State : ME (7 items)					
Bath Iron Works Corp.	Vince Dickinson	Environmental Manager	700 Washington Street, Dept. 13, Bath, ME 04530	(207) 442-1790	(207) 442-3356
Bay Engineering	Derek White	Vice President	423 East Main Street, Searsport, ME 4974	(207) 548-2764	(207) 548-6584
Gamage Shipbuilders Inc.	Winword Gamage	President	Shipyard Rd., South Bristol, ME 4568	(207) 644-8181	(207) 644-8273
Gowen, Inc.	Joseph M. Schmader	President	400 Commercial Street, Portland, ME 04101	(207) 773-1761	(207) 874-0394
Industrial Welding & Machine, Inc.	Roger Lessard	President	430 Commercial Street P.O. Box 1004, Portland, ME 4104	(207) 773-8482	(207) 871-7008
Maine Shipyard & Marine Railway	George Drivas	President	257 Front Street , S Portland, ME, 04106-1510	(207) 767-1914	(207) 767-3022
Rockland Marine	Perry Holmes	President	79 Mechanical Street P.O. Box 309, Rockland, ME 4841	(207) 594-7860	(207) 594-8032
Business Address State : MI (2 items)					
MCM Marine Inc.	Darwin J. McCoy	President	1065 E Portage, Sault Ste. Marie, MI 49783	(906) 632-4316	(906) 632-7766
Nicholson Terminal & Dock Co.	Daniel J. Deane	President	P.O. Box 18066, River Rouge, MI 48218	(313) 842-4300	(313) 843-1091
Business Address State : MN (1 item)					
Upper River Services, Inc	Gary Lewis	Yard Superintendent	40 State Street, St. Paul, MN 55107	(651) 292-9293	(651) 227-8456
Business Address State : MO (8 items)					
Humboldt Boat Service Co.	Charles Ken Tobbs	Owner	Foot of Humboldt Street, St. Louis, MO 63147	(314) 381-9968	(314) 381-9966
JB Marine Service	George Foster	President	P.O. Box 510199, St. Louis, MO 63151	(314) 894-3805	(314) 892-4507
Kiesel Marine Service, Inc.	Ron Dent	Terminal Manager	4801 Fyler Street, St. Louis, MO 63116	(314) 421-0328	(314) 421-1645
Meremac Marine Shipyard Inc	Tom Drubac	President	1 Meramec Marine Drive, Arnold, MO 63010	(636) 464-2433	(636) 464-3439
Missouri Dry Dock & Repair Co., Inc	Aaron Dombrowski	Assistant to the President	500 Aquamsi Street, Cape Girardeau, MO 63701	(573) 335-6685	(573) 335-3479
Mo Dry Dock & Repair Co			500 Aquamsi Street, Cape Girardeau, MO, 63703-7480	(573) 335-6685	
SOS Barge & Dock Service Inc	Jennifer Gray	President	RR 2 Box 534a, Camdenton, MO 65020-9619	(573) 873-3303	
Trinity Marine Products	Paul E. Mauer	General Manager	Highway 84 West, Caruthersville, MO 63830	(573) 333-1840	(573) 333-2657
Business Address State : MS (19 items)					
Big River Shipbuilders, Inc.	J. O. Smith	President	404 Port Terminal Circle, Vicksburg, MS 39181	(601) 636-9161	(601) 636-9165
Colle Towing Co., Inc.	John Colle	President	P.O. Box 340, Pascagoula, MS 39568	(228) 762-5700	(228) 769-0629
Flechas Shipyard, M.M.	Mike Flechas	President	4514 Flechas Street, Pascagoula, MS 39567	(228) 762-3628	(228) 762-3629
Friede Goldman-Halter Marine Group, Inc.	J. L. Holloway	President	13085 Industrial Seaway Road P.O. Box 3029,39505-3029, Gulfport, MS ...	(228) 896-0029	(228) 897-4866
Friede Goldman-Halter-Pascagoula	Rick Zubic	Yard Manager	5110 Washington Avenue P.O. Box 1328, Pascagoula, MS 395681328	(228) 769-8333	

Shipyard Contact Database

Company	Full Name	Job Title	Business Address	Business Phone	Business Fax
Halter Marine Group	Richard McCreary	Sr. Vice President	P.O. Box 3029, Gulfport, MS 39505		
Halter Marine Pascagoula, Inc.	Roy M. Martin Jr.	Safety Manager Pascagoula Division	P.O. Box 1328, 5110 Washington Avenue, Pascagoula, MS 39568-1328	(228) 769-8333	(228) 769-7592
Halter Moss Point/Halter Marine Inc.	Bobby Howell	Yard Manager	5801 Elder Ferry Road P.O. Box 8767, Moss Point, MS 395628767	(228) 475-1211	(228) 474-1947
Halter Port Bienville	Dennis Garrard	Yard Manager	13151 Road E, Bay Saint Louis, MS 39520	(228) 533-7733	(228) 533-9931
M M Flechas Shipyard			4514 Flechas Street, Pascagoula, MS, 39567-1604	(228) 762-3628	
Mississippi Marine Central Yard	Barry Alderman Jr.	General Manager	2401 Harbor Front Road, Greenville, MS 38702-0539	(662) 335-1175	(662) 332-3424
Mississippi Marine Corporation	Jeff Nightingale	Vice President	2419 Harbor Front Road, Greenville, MS 38702-0539	(601) 332-5457	
Moss Point Marine/Halter Marine Inc.	Dan Strahan	Yard Manager	7801 Trinity Drive P.O. Box 1310, Moss Point, MS 39552	(228) 475-6885	
NGSS Ingalls Operations	E. Kay Freeman	Chief Environmental Engineer	P.O. Box 149, Pascagoula, MS 39568-0149	(228) 935-3919	(228) 935-2952
Omega Shipyard	David Williams	General Manager	5659 Elder Ferry Road, Moss Point, MS 39563	(228) 475-9052	(228) 475-5254
Sea-Fab, Inc	Charles Graham Sr	President	4111 Cedar Street, Pascagoula, MS 39567	(228) 769-2500	
Signal International	Pat Killeen R. E. M.	Director of Safety and Environmental	600 louise Street, Pascagoula, MS 39568		
Superior Boat Works, Inc.	Collins Brent	President	Harbor Front Industrial Park Highway 82W, Greenville, MS 38702-0008	(601) 378-4700	(601) 378-4708
VT Halter Marine	Jessie Danner	Director of Environmental Compliance	P.O. Box 3029, 13085 Seaway Road, Gulfport, MS 39505	(228) 712-2243	(228) 896-2648
Business Address State : NC (2 items)					
Bock Marine Builders Inc	Kenny Bock	President	233 Core Creek Road, Beaufort, NC, 28516-7525	(252) 728-6855	(252) 728-5189
Dodge Railway	Mark Dodge	President	275 Rose Bay Loop Road, Sanquarter, NC 27885-9460	(252) 926-9961	
Business Address State : NJ (7 items)					
Banks Ship Rigging Corp			Viking, Newark, NJ 7114	(973) 589-5757	
Brady Marine Repair	Daniel Muirhead	Vice President	780 Dowd Avenue, Elizabeth, NJ 07201	(908) 355-8686	(908) 355-0584
Kerney Ship Repair, Inc	Frank Kerney Sr	President	1710 East Elizabeth Avenue, Linden, NJ 7036	(908) 486-2644	(908) 486-5734
Ocean Yachts, Inc.	John Leek III	President	Rte. 563 P.O. Box 312, Weekstown, NJ 08215	0.	(609) 965-4914
Union Dry Dock & Repair Co.	Robert Ferrie	Vice President	51 Newark Street, Fifth Floor, Hoboken, NJ 07030	(201) 792-9090	(201) 792-4977
Viking Yacht Co.	Robert Healey	President	Route 9, New Gretna, NJ 08224	(609) 296-6000	(609) 296-3956
Yank Marine. Inc			Tuckahoe, NJ		
Business Address State : NY (10 items)					
ACME Repair Co., Inc.	Felix P. Nodar	President	326-328 Front Street, Staten Island, NY 10304	(718) 720-5522	(718) 273-6942
B & A Marine Co., Inc.	Bill Crokos	President	75 Huntington Street, Brooklyn, NY 11231	(718) 875-6700	(718) 858-0029
Caddell Dry Dock & Repair Company, Inc.	Steven Kallil	President	Foot of Broadway, Staten Island, NY 10310	(718) 442-2112	(718) 981-7493
Derecktor Shipyards	Paul Derecktor	President	311 E. Boston Post Road, Mamaronock, NY 10543	(914) 698-5020	
Eastern Technical Enterprises	Petro M. Beys	President	D/D #4, Brooklyn Navy Yard, Brooklyn, NY 11205	(718) 855-9514	
GMD Shipyard	Michael Cranston	President	Brooklyn Navy Yard Building 595, Brooklyn, NY 11205	(718) 260-9200	(718) 260-9284
May Ship Repair Contracting Corp	Mohamed Adam	President	3075 Richmond Terrace, Staten Island, NY 10303	(718) 442-9700	
Muller Boat Works, Inc	James Muller	President	2214 E 69th Street, Brooklyn, NY 11234	(718) 444-4343	(718) 766-8836
Reynolds Shipyard Corp.	Mike Reynolds	President	200 Edgewater Street P.O. Box 0500/10, Staten Island, NY 10305	(718) 981-2800	(718) 447-2710
Sterling Harbor Shipyard & Marina	Donna Wexler	President	Manhasset Avenue, Greenport, NY 11944	(631) 477-0828	(631) 477-0847
Business Address State : OH (8 items)					
Cleveland Ship Repair Co.	Shawn Collins	General Manager	1847 Columbus Road Rear, Cleveland, OH 44113	(216) 621-9111	(216) 621-4885
H. Hansen Industries	Antonio LaMantia	President	2824 Summit Street, Toledo, OH 43611	(419) 729-1621	(419) 729-0715
McGinnis, Inc.	C. Barry Gipson	President	2nd Street Extension, South Point, OH 45680	(740) 377-4391	(740) 377-9541
O-Kan Dock & Machine	Edward Lewis	Superintendent	267 Upper River Road, Gallipolis, OH 45631	(740) 446-4686	(614) 446-4203
South Point Barge Co., Inc	Mike J. Vigilanco		P.O. Box 333, South Point, OH 45680	(740) 894-5859	
Superior Marine Ways Inc	Dale Manns	President	P O Box 519, South Point, OH, 45680-0519	(740) 894-6224	(740) 894-3923
The Great Lakes Towing Company	Joseph P. Starck Jr.	President	1800 Terminal Tower, 50 Public Square, Cleveland, OH 44113	(216) 621-4854	(216) 621-7616
Toledo Ship Repair Co.	Doug Huff	Executive Vice President	2245 Front Street, Toledo, OH 43605	(419) 698-8081	(419) 693-9066
Business Address State : OR (13 items)					
Astoria Marine Construction Co.	Don Fastabend	President	92134 Front Road, Astoria, OR 97103	(503) 325-4121	
Cascade General	Alan Sprott		5555 North Channel Ave., Portland, OR 97217	(503) 285-1111	(503) 247-1686
Charleston Shipyard	Don Yost	Operations Manager	P.O. Box 5409, Charleston, OR 97420	(541) 888-3703	(541) 888-6111
Diversified Marine, Inc.	Kurt Redd	President	1801 North Marine Drive, Portland, OR 97217	(503) 289-2669	(503) 289-2825
Foss Maritime	Bob Soid	Shipyard Manager	611 A Street, Rainier, OR 97048	(503) 556-8332	(506) 556-6713
Fred Wahl Marine Construction	Mike Lee	Production Manager	100 Port Dock Road, Reedsport, OR 97467	(541) 271-5720	(541) 271-4349
Gunderson Marine	Kevin Saylor	Industrial Hygiene Technican	4350 N.W. Front Avenue, Portland, OR 97210	(503) 972-5967	(503) 972-5983
International Marine Contractors, Inc.	John Binford		4201 Trans Pacific Parkway P.O. Box 50, North Bend, OR 97459	(541) 756-3783	(541) 751-8619
Mar Com, Inc.	Tom Maples	President	8970 North Bradford, Portland, OR 97203	(503) 285-5811	(503) 285-5974
Sells Marine Service	Richard Wilson	President	1111 NE Marine Drive, Portland, OR 97211	(503) 285-3838	

Shipyard Contact Database

Company	Full Name	Job Title	Business Address	Business Phone	Business Fax
Southern Oregon Marine, Inc	Dale Sause	President	1746 Coos River Highway P.O. Box 1220, Coos Bay, OR 97420	(541) 269-2116	(541) 267-7848
Sundial Marine Tug & Barge Works Inc.	Don Nugent	General Manager	5605 NE Sundial Road, Troutdale, OR 970609504	(503) 667-1974	(503) 666-7872
Zidell Marine Corporation	Jay Ziddell	President	3121 SW Moody Avenue, Portland, OR 97201	(503) 228-8691	(503) 228-6750
Business Address State : PA (8 items)					
Barge Maintenance, Inc.	Richard Jackson	President	P.O. Box 332, South Heights, PA 15081	(724) 375-0208	(724) 375-1431
C & C Marine Maintenance Co.	Don Cechkan	General Manager	P.O. Box 118, Georgetown, PA 15043	(724) 573-9863	(724) 573-0657
Hiller Barge	Gabe Centofanti	President	1051 Grasshouse Road, Jefferson Hills, PA 15025	(412) 384-8118	
Industry Terminal & Salvage Co.	Lynn Busatto	President	P.O. Box 255, Industry, PA 15052	(412) 734-3212	(724) 643-6670
Kvaerner Philadelphia Shipyard Inc.	Mike Masington	Manager, Safety & Security	2100 Kitty Hawk Ave., Philadelphia, PA 19112	(215) 875-2649	(215) 875-2729
Metro Machine	Jeff Facenda		Holland Street, Erie, PA, 16507	(814) 452-0330	
Premier Marine	Rex Woodward	President	4900 Grand Avenue, Pittsburgh, PA 15225	(412) 262-4300	(412) 269-0258
Susquehann Santee Boatworks	Jeff Smith	General Manager	384 Millwood Road, Willow Street, PA 17584	(717) 464-3668	(717) 464-1935
Business Address State : RI (5 items)					
American Shipyard Co. LLC	Joseph R. Beckham	General Manager	1 Washington St. P.O. Box 570, Newport, RI 02840	(401) 846-6000	(401) 846-6001
Blount Industries, Inc.	Luther H. Blount	President	461 Water St., Warren, RI 02885	(401) 245-8300	(401) 245-8303
Little Harbor Marine	Ralph Willard	President	One Little Harbor Landing, Portsmouth, RI 02871	(401) 683-7100	(401) 683-7117
Promet Marine Services Corp.	David H. Cohen	President	242 Allens Avenue, Providence, RI 02905	(401) 467-3730	(401) 467-5370
SENECO	Rich Pilny	Manager, Safety & Health	10 MacNaught Street, North Kingstown, RI 02852	(401) 295-0373 ext. 107	(401) 294-4140
Business Address State : SC (7 items)					
B & D Marine and Industrial Boilers, Inc.	Phyllis Faircloth	President	3567 Meeting Street P.O. Box 71687, Charleston, SC 29403-1687, N. Ch...	(843) 747-0951	(843) 747-0659
Charleston Ship Co.	Carl Beal	President	5800 Dorchester Road, Charleston, SC 29418	(843) 767-5100	(843) 767-5040
Detyens Shipyards, Inc.	D. Loy Stewart	President	2383 Highway 41, Mount Pleasant, SC 29466	(843) 308-8000	(843) 308-8008
Deytens Shipyard	Mike Marshall		1670 Drydock Ave., N. Charleston, SC 29405	(843) 308-8000	
Ross Marine	A. R. Swygert Jr.	President	2676 Swygert Blvd. P.O. Box 308, John's Island, SC 29455	(843) 559-0379	(843) 559-3172
S-S Barge Maintenance Inc			Dock Road, Georgetown, SC 29440	(843) 546-5185	
Stevens Marine Services, Inc.	Robert Hope		4170 Highway 165, Youngers Island, SC 29448	(843) 889-8854	(843) 889-6119
Business Address State : TN (2 items)					
Great Rivers Marine Services/Ingram Barge Co.	Rick Harnack	General Manager	440 Harding Rd., Nashville, TN 37205-2290	(615) 298-8258	(615) 298-7683
Trinity Marine Products			101 Shelby Ave, Nashville, TN 37213	(615) 244-2051	
Business Address State : TX (12 items)					
Acme Shipbuilding			3513 Dickinson Avenue, Dickinson, TX, 77539-5317	(281) 337-1622	
AMFELS	Terry Bates		P.O. Box 3107, Brownsville, TX 78523	(956) 831-8220	(956) 831-6220
Bollinger Houston, LP	Larry Burrows	General Manager	201 Broadway Street, Houston, TX 77012	(713) 923-2201	(713) 921-6161
Bollinger Texas City LP	Max Sparre	General Manager	2201 Dock Road, Dock 42, Texas City, TX 77590	(409) 945-0770	(409) 945-0754
Burton Shipyard, Inc.	Mike Adams	Purchasing	P.O. Box 278, East Roundbunch Road, Bridge City, TX 77611	(409) 735-2491	(409) 735-5200
Channel Shipyard	Make Bailey	Compliance Officer	P.O. Box 926, Highlands, TX 77571	(281) 424-1581	(281) 424-2183
Conrad Industries, Inc.	Harold Broussard	Director of Safety	710 Market Street, Orange, TX 77630	(409) 883-6666	(409) 882-0609
First Wave	Jack Holmes	Director of Environmental Affairs	2102 Broadway, Houston, TX 77012	(713) 847-4600	(713) 847-4601
Houston Ship Repair Inc			16201 Wood Drive, Channelview, TX, 77530-2729	(281) 452-5841	
Southwest Shipyard LP	John Evans	Health and Safety Manager	18310 Market Street, Channelview, TX 77530	(281) 862-3200	(281) 860-3239
TDI-Halter, Inc.	Sandra Taylor	Environmental Manager	2500 MLK Blvd., P.O. Box 968, Orange, TX 77631-0968	(409) 985-0526	(409) 985-0534
Trinity Industries, Inc.	Dennis M. Lencioni P. E.	Corporate Environmental Engineer	1358 Motor Street, Dallas, TX 75207	(214) 589-8141	(214) 589-8739
Business Address State : VA (9 items)					
Aepco Marine	John Adams	General Manager	2517 Ferry Road #200, Virginia Beach, VA 23455	(757) 490-8500	(757) 490-7175
Colonna's Shipyard	Frank Wheatley	Environmental Manager	400 East Indian River Road, Norfolk, VA 23523	(757) 545-2414	(757) 545-5475
Lyon Shipyard, Inc.	Thomas Beacham	Environmental Manager	Foot of Brown Avenue, Norfolk, VA 23504	(757) 622-4661 ext. 328	(757) 623-4751
Metro Machine Corp.	Jeff Facenda	Environmental Manager	Peral Street, P.O. Box 1860, Norfolk, VA 23501	(757) 543-6801	(757) 494-0437
Moon Engineering Co., Inc.	James E. Sammons	Director of Safety	2 Harper Avenue, Portsmouth, VA 23707	(804) 393-3000	(804) 393-3505
Newport News Shipbuilding & Drydock Co.	Frank Thorn	Manager, Environmental Engineering	4101 Washington Avenue, Newport News, VA 23607-6007	(757) 688-9247	(757) 688-6007
Norfolk Naval Shipyard	Mike Host	Head, Environmental Programs Divisions	Code 106.3, Portsmouth, VA 23709	(757) 396-5381 ext.121	
Norshipco	R. Michael Ewing	Environmental Manager	750 West Berkley, Norfolk, VA 23523	(757) 494-4663	(757) 494-4554
Tecnico	Brian Applewhite	Safety Manager	831 Industrial Ave., Chesapeake, VA 23324	(757) 545-4013	(757) 543-5402
Business Address State : WA (10 items)					
All American Marine	Matthew J. Mullett	CEO	201 Harris Ave., Bellingham, WA 98225-7018	(360) 647-7602	(360) 647-7607
Dakota Creek Industries, Inc.	John Killingsworth		820 4th Street, P.O. Box 218, Anacortes, WA 98221	(360) 293-9575	(360) 293-432
Duwamish Shipyard, Inc.	Kyle McCleary	Controller	5658 West Maginal Way, S.W., Seattle, WA 98106	(206) 767-4880	(206) 767-5867

Shipyard Contact Database

Company	Full Name	Job Title	Business Address	Business Phone	Business Fax
Fishing Vessel Owners Marine Ways	Daniel J. Larsen	Secretary/Treasurer	1151 West Thurman, Seattle, WA 98119	(206) 282-6421	(206) 284-9094
Foss Maritime	Dag Lunde	Manager, Loss Control & Compliance	660 East Ewing Street, Seattle, WA 98119-1529	(206) 281-3948	(206) 281-4702
MARCO Seattle, Inc.	Cherie K. Berg	Manager, Shipyard Administration	2300 West Commodore Way, Seattle, WA 98199	(206) 285-3200	(206) 285-8486
Marine Industries Northwest, Inc.	Robert Morris	Vice President	313 East F Street, Tacoma, WA 98421	(253) 627-9136	(253) 627-1094
Nichols Brothers Boat Builders	Michael Crotty	Safety, Health & Environmental Manager	P.O. Box 580, Freeland, WA 98249	(360) 331-5500	(360) 331-7484
Pacific Fishermen, Inc.	Philip Ballinger	General Manager	5351 24th Street, Seattle, WA 98107	(206) 784-2562	(206) 784-1986
Todd Pacific Shipyards Corporation Business Address State : WI (2 items)	Allen D. Rainsberger CHMM ...	Manager Environmental / Occupational S...	1801-16th Ave. S.W., Seattle, WA 98134	(206) 623-1635 X 207	(206) 442-8519
Bay Shipbuilding Co.	Kimberly Christoferson		605 North 3rd Ave., Sturgeon Bay, WI 54235	(920) 746-3213	(920) 743-2371
Marinette Marine Corporation	Mike Lueskow	Manager, Environmental, Safety & Security	1600 Ely Street, Marinette, WI 54143	(715) 735-9341 Ext. 458	(715) 735-4771

Panel Outreach Project

Task One: Subtask 2 Deliverable:

Develop short list of "Target Shipyards" to contact regarding participation in NSRP

Targeted Shipyard Participation in the Environmental Technology Panel Meeting and Activities

Introduction:

Participation by shipyard facilities in the NSRP Environmental Technology Panel has been steadily decreasing for the past several years. In an effort to increase ETP participation by shipyards, a list of shipyards that can be targeted for contact regarding participation was developed according to the procedure identified below. The list consists of approximately 100 shipyard facilities throughout the United States, and is divided in two groups of “Primary” and “Secondary” targets. The Primary targets are those facilities that will be contacted first regarding their participation with the ETP. The follow up for the Secondary Targets will be done as resources allow. The overall goal of developing the Targeted Shipyard Participation is to develop a pool of participating shipyards to ensure a minimum of 20 shipyard representatives at the ETP meetings.

Targeted Shipyard Participation Selection Criteria: The following criteria were used to select the list of Targeted Shipyards:

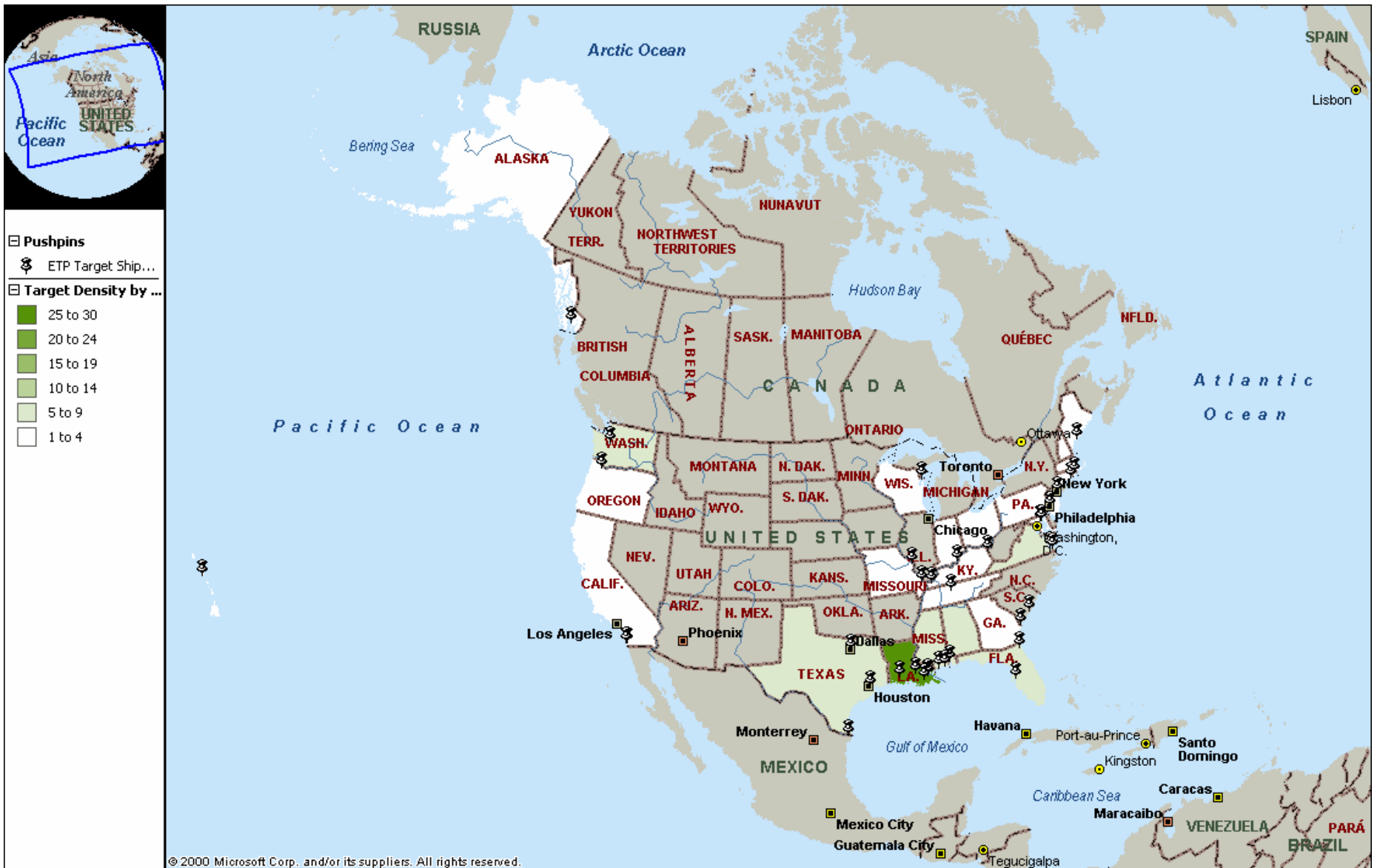
- Previous and current participation status in ETP meetings and activities
 - Currently active status indicates a facility has attended 3 or more ETP meetings in the last two years.
 - Previous active status indicates a facility has attended 2 or less ETP meetings in the last two years.
 - Non-Active status indicates a facility that has attended 1 or no ETP meetings in the last two years.
- Geographic location
 - As environmental issues have regional biases, it is important to have a broad geographical range of facilities represented at the ETP meetings.
- NSRP Executive Control Board Representation
 - Those shipyards that are represented on the NSRP Executive Control Board are committed to the success of the NSRP Panels, including the ETP.
- National Trade Group Representation
 - Those shipyards that are currently active members of one of the national shipyard trade associations have indicated their willingness to participate in national and regional issues affecting the national shipbuilding and repair industry sector.
- Primary Market Niche
 - Environmental issues affecting shipyards vary to some extent based upon the market niche(s) in which the shipyard is active as well as those customers that the shipyard serves. A broad representation of shipyards from all market niches at the ETP is important to ensure all vital issues are recognized and addressed. The following shipyard primary market niches were identified:

Task One Subtask Two

- Public Ships – Other
 - New Construction
 - Repair
- Public Ships – Navy
 - New Construction
 - Repair
- Commercial Ships
 - New Construction
 - Repair
- Fishing Vessels
 - New Construction
 - Repair
- Offshore Rigs
 - New Construction
 - Repair
- Service Vessels
 - New Construction
 - Repair
- Barges
 - New Construction
 - Repair
- Yachts and Pleasure Craft
 - New Construction
 - Repair
- Gas Freeing and Cleaning
- Shipyard Breaking

The above selection criteria was subjectively weighted and applied to the list of Targeted Shipyards in order to produce the lists of Primary and Secondary Targets. Table One attached below contains the complete list of Primary and Secondary ETP Participation Targets.

Figure 1: Distribution of Target Shipyards by State



Task One Subtask Two

Panel Outreach Project

Task One: Subtask 3 Deliverable:

Develop and Implement Target Shipyard Communications Effort

ETP Communications Plan

Purpose: Establish a formal procedure to ensure the successful communication of ETP meetings, activities and content to the maximum number of shipyards, interested individuals and organizational targets.

Define “interested individuals and organizations targets” – Those individuals or organizations that do, or could have a significant impact on the environmental management of shipbuilding and repair facilities.

Problem Statement: The current communication procedure only provides for communication with a limited number of individuals and organizations within the universe of potential targets. This is primarily caused by the fact that the existing communication system is set up in such a manner that the “targets” must self-identify¹ to the system in order to receive information regarding ETP meeting and activities. There is no formalized procedure to identify potential new primary targets within the shipbuilding and repair industry sector, or associated secondary “subject matter” experts.

Proposed Solution: Expand the existing ETP communications procedure to include direct “marketing “ of ETP meetings and activities to a broader range of targets than is currently done by the NSRP. The expanded ETP communication procedure would be implemented and maintained by the ETP itself, with feedback to the NSRP. The funding to implement and maintain the ETP communications program would be realized through the NSRP-ETP annual budget and ETP meeting registration fees. The ETP panel will contact with a consultant to implement the communications protocol.

ETP Communications Plan: The ETP communications plan as detailed below was developed using existing “target-marketing” procedures successfully used by other professional and technical organizations. The plan is executed in three distinct phases: Development, Implementation and Maintenance. The elements of each phase are as follows:

- Development Phase
 - Develop a primary contact list of US Shipbuilding and Repair Industry facilities. The primary contact list should contain the following data:
 - Facility Contact Name
 - Facility Contact Title
 - Facility Name
 - Facility Address
 - Facility Contact Phone Number
 - Facility Contact Fax Number

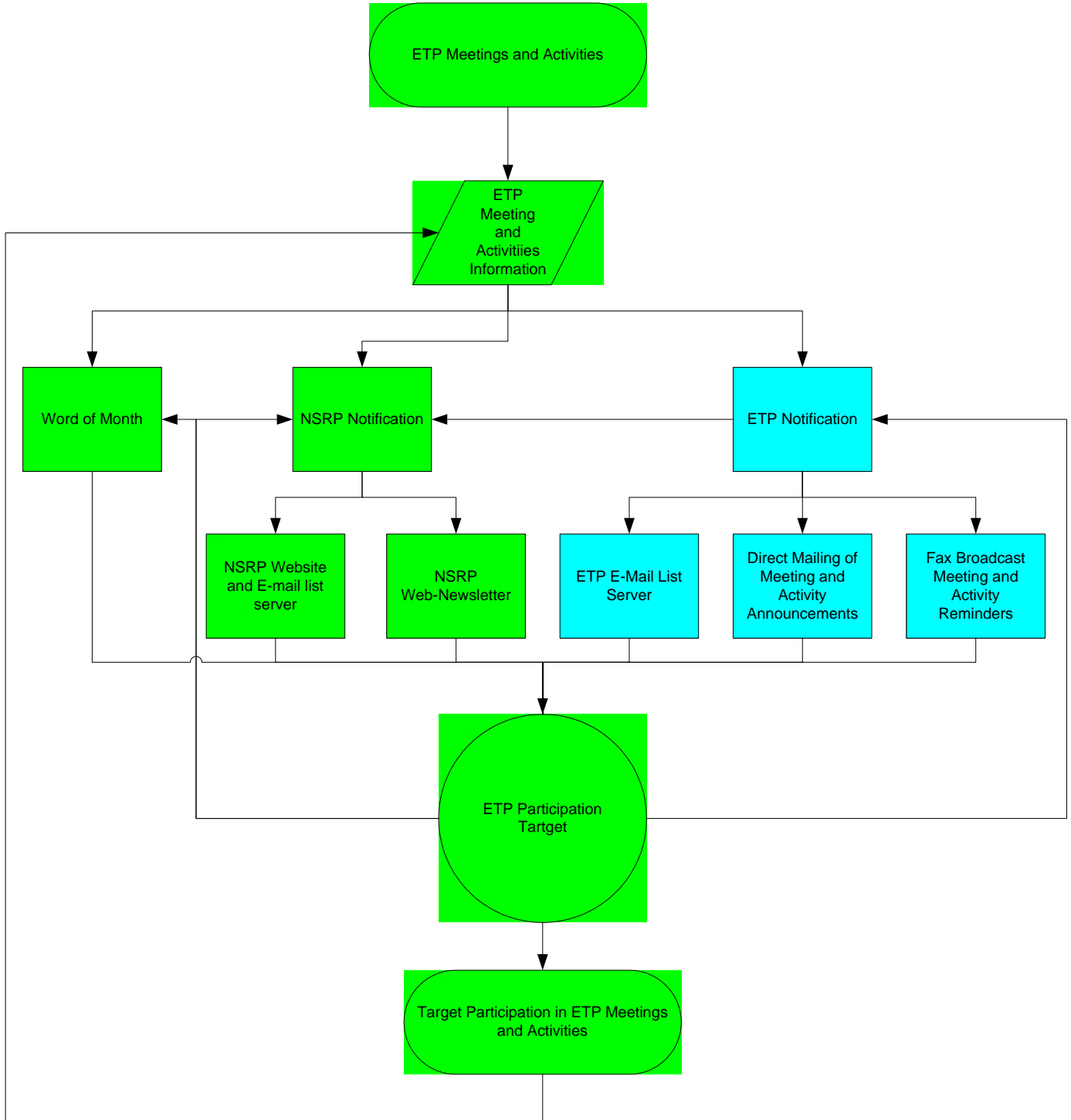
¹ Self-identification is accomplished by one of two methods: 1) the target must attend a meeting and list themselves on a sign-up sheet, or sign up on the e-mail list server on the NSRP Website.

- Facility Contact E-mail Address
 - Develop a secondary contact list of subject matter experts associated with the US Shipbuilding and Repair Industry. The secondary contact list should contain the following data:
 - Facility or Individual Contact Name
 - Facility or Individual Contact Title
 - Facility Name
 - Facility or Individual Address
 - Facility or Individual Contact Phone Number
 - Facility or Individual Contact Fax Number
 - Facility or Individual Contact E-mail Address
 - Input primary and secondary contact data into contacts management database software. Minimum requirements for the database software are:
 - Direct communication message support, including
 - E-mails
 - Letters
 - Form letters
 - Envelop Addressing
 - Faxes
 - Dial up fax
 - Internet fax
 - Fax Broadcast Service
 - Contact activity tracking.
- Implementation Phase
 - Regular ETP meetings
 - Ten weeks prior to the meeting date, E-mail notification of ETP meeting announcement on NSRP website to all primary and secondary contacts with valid e-mail addresses. Continue e-mail notifications every three weeks until one week prior to the meeting.
 - Nine weeks prior to the meeting date, mail printed meeting announcements to the primary and secondary contacts with valid mailing addresses.
 - Seven weeks prior to the meeting date, fax a one page “First-Reminder” meeting announcement to the primary and secondary contacts lists,

- Three weeks prior to the meeting date, fax a one page “Last-Reminder” meeting announcement to the primary and secondary contacts lists.
- Other ETP Activities
 - Ten weeks prior to the activity date, E-mail notification of ETP activity announcement on NSRP website to all, or activity appropriate, primary and secondary contacts with valid e-mail addresses. Continue e-mail notifications every three weeks until one week prior to the activity.
 - Nine weeks prior to the meeting date, if appropriate for the ETP Activity, mail printed activity announcements to all, or activity suitable, primary and secondary contacts with valid mailing addresses.
 - Three weeks prior to the meeting date, if appropriate for the ETP Activity, fax a one-page “Last-Reminder” activity announcement to all, or activity suitable, primary and secondary contacts lists.
- Maintenance Phase
 - Contact Database
 - Perform quality control measures on the contact database on a quarterly basis, based upon target contact feedback, including:
 - Deletion of existing target contact from database
 - Addition of new target contact into database
 - Correction of target contact information
 - Track contact activity on a quarterly basis to determine the effectiveness of the communication plan in increasing ETP participation.

ETP Communications Plan

1/10/2003



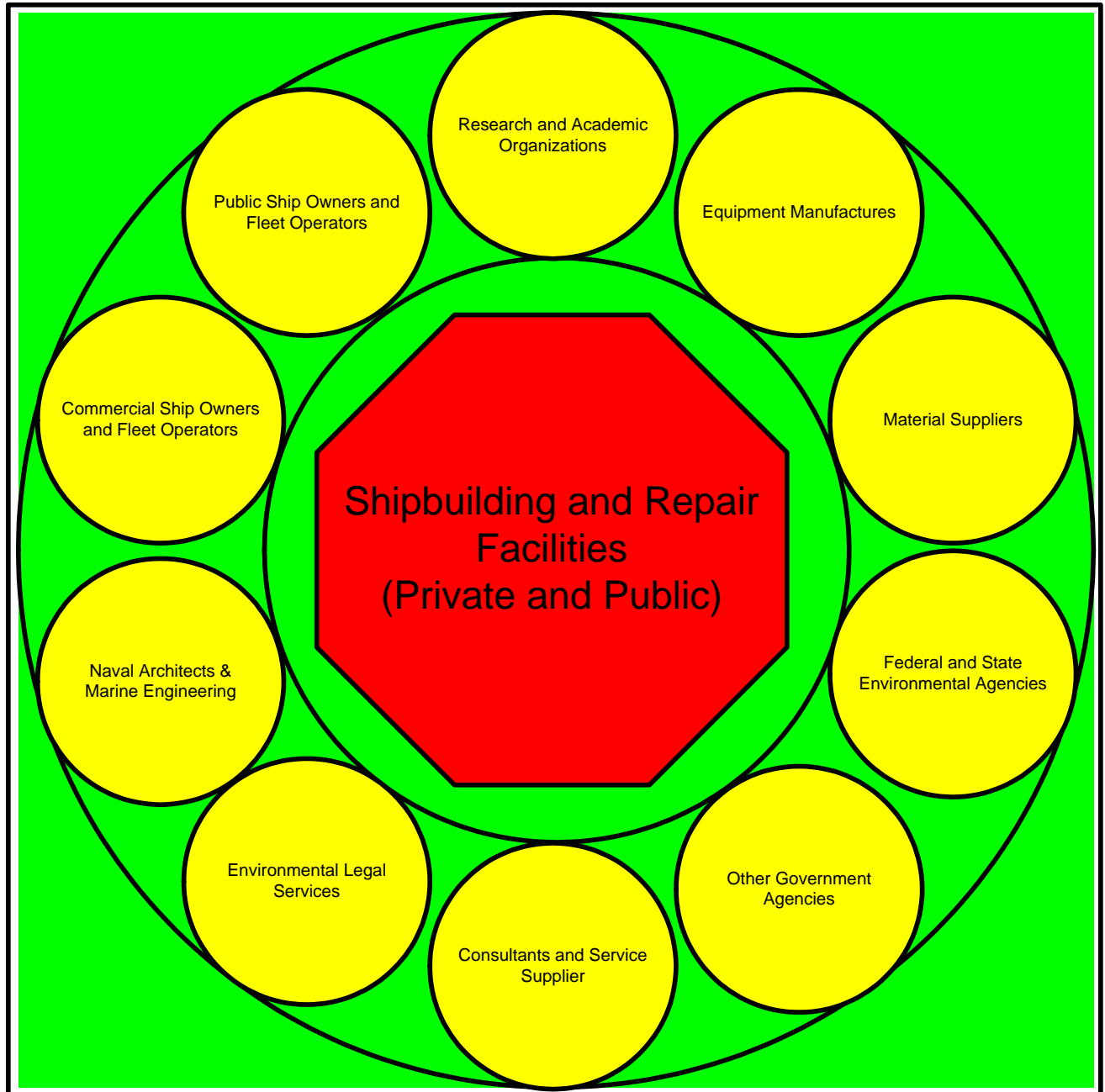
Existing

Proposed

ETP Communications Plan

1/10/2003

Environmental Technology Panel Participation Targets



Primary Targets
for ETP
Participation

Secondard
Targets for ETP
Participation

Task Two Subtask Four: Identify Shipyard Environmental Issues of Concern

Background

Shipyards in the United States must address a broad variety of environmental issues. Often these issues will vary region by region and state by state. This variation is caused by the variation in the implementation of the federal environmental statutes and regulations by the EPA Regions and the independent state environmental program priorities. In some instances, regional geographic (such as watersheds) or political (such as counties) jurisdictions may establish their own environmental authorities and programs.

As a result of this variation in program implementation and regional priorities, there may be a considerable disparity in the level of concern for the environmental impacts of shipyard processes and compliance with environmental requirements. Therefore, for Environmental Technology Panel to be responsive to the needs of the industry, it is important to develop, and maintain, a comprehensive understanding of the key national and regional environmental issues of concern. Based upon this understanding the ETP Steering Committee can now develop a long-term (one to two years) ETP Meeting content program that will be most beneficial to its participants.

Development of Survey

A survey was developed to collect information from shipyards regarding Environmental Issues of Concern. The structure and content of the survey was directly based upon a similar survey sponsored by the ETP in Year 2000. This was done specifically to allow the results of the survey to be compared and trends identified. The survey (attached) consisted of the following three sections:

- Shipyard operations and processes having potential environmental impact;
- Statutory and regulatory requirements applicable to shipyards; and
- Environmental compliance assistance tools that may be useful to shipyards.

The survey was designed to capture the qualitative perspective of the respondents regarding how they judged various elements of the three sections by indicating their “Level of Concern” (or “Level of Benefit” in the case of compliance assistance tools) at four levels. These levels were “None,” “Little,” “Moderate,” and “High.” Additionally, the survey respondent could indicate that a particular element was “Not Applicable” to their facility.

Section elements were designed in broad subject areas to allow for the respondents to relate the element to their specific circumstances. Where possible, section elements did not make a distinction between Federal or State environmental issues.

The specific organization and content elements of the survey are provided below:

Section 1: Level of Concern regarding potential or actual environmental impacts of shipyard operations and process.

Production Operations

Dry Abrasive Blasting, Out-of-doors
Dry Abrasive Blasting, Enclosed
Solvent Cleaning
High Pressure Water Washing
Ultra High Pressure Water Jetting
Coatings Application, Out-of-doors
Coatings Application, Enclosed
Metal Welding, Cutting, Brazing
Metal Grinding
Pipefitting
Shipfitting
Sheetmetal
Forge and Foundry
Machining – Shipboard
Machining – Shop
Pump and Turbine
Tank Testing
Carpentry and Woodworking
Insulation Removal and Installation
Asbestos Removal
Air Conditioning and Refrigeration Systems
Coppersmithing
Electroplating
Electrical

Facility Operations

Ship Docking
Ship Drydocking
Ship Launching
Crane and Rigging Services
Staging
Transportation
Electrical Power Generation
Compressed Air
Steam Generation

Facility Maintenance
Housekeeping
Hazardous Materials Management
Waste Management
Hazardous Waste Management

Section 2: Level of Concern with meeting existing statutory and regulatory requirements.

Water

Waste Water Discharges to POTW
Waste Water Discharges to Surface Waters
Storm Water Discharges
On-Site Waste Water Treatment
On-Site Drinking Water
Ship's Discharges to Surface Waters
NPDES Permitting-Point Sources
NPDES Permitting-Stormwater
Dredge and Fill
Oil Discharges

Air

New Source Review
Prevention of Significant Deterioration
Title V Permits
Shipyards NESHAP/MACT
Accidental Release Prevention (Title III)
Air Toxic Emissions
Particulate Emissions
VOC Emissions
Motor Vehicle Emissions
Acid Rain
Ozone Depletion (CFC)

Waste

Solid Waste Management

Hazardous Waste Management
Special Wastes (such as spend abrasive)
On-Site Reuse/Recycling
Off-Site Reuse/Recycling
On-Site Waste Treatment
Used Oil

Hazardous Materials

Underground Storage Tanks
Above Ground Storage Tanks
Hazardous Materials Transportation
Worker-Right-To-Know
Lead Abatement
Asbestos Abatement
PCB

Emergency Planning

SARA Title III
Oil Spill Contingency Planning
Hazardous Material Spills

Section 3: Level of Benefit of Potential Compliance Assistance Tools.

Agency Tools

Point of Contact for Shipyard Permitting
Agency Shipyard Representative
Shipyard Specific Guideline Documents
Compliance Assurance Inspections
Agency Training for Shipyard Personnel
Shipyard Training Agency Personnel
Annual Agency/Shipyard Conference
Agency Provided Consulting

Industry Tools

Shipyard-to-Shipyard Mentoring Program

Shipyard Developed Training Programs
 Shipyard Resource Sharing
 National Shipyard Environmental Conference
 Regional Shipyard Environmental Conference
 Industry Prepared Guidance Documents
 Industry Point of Contact for Environment Issues

This survey structure and content provided an organizational basis for the respondent to mentally review their facility’s environmental issues while completing the requested information. In this manner, it was hoped that a fairly comprehensive overview of the issues for each facility issues could be determined.

Survey Distribution and Returns

The surveys were distributed to the list of 50 Primary Shipyard Targets, as developed in Task One Subtask Two of this project, using the following survey methodology:

- Personal contact with the facility is made to determine the appropriate contact person within the facility to complete the survey.
- Personal contact was made with the identified facility contact person to explain the purpose of conducting the survey and requesting their participation.
- The survey was transmitted to the facility contact person via the most appropriate means, e-mail, fax or US Postal Service.
- The completed survey was faxed back to Austin Environmental Consulting.
- Follow up contact was made to those facilities that were sent a survey but did not complete them within one week of receipt.

While a majority of the surveys were completed and return, some were not for a variety of reasons, including:

- Facility Contact Person was too busy to participate.
- Facility was no longer in operation.
- Facility prohibited participation in survey that may contain sensitive information.

A total of 33 surveys were completed and returned. This represents a total return rate 66%. Table 1 below summarizes the number and regions from which surveys were completed and returned.

Table 1: Survey Summary

Region	No. of Surveys Received	Comments
California and Hawaii	3	Shipyards located in California

Gulf Coast	12	Shipyards located on the coast of Texas, Louisiana, Mississippi, Alabama, and the west coast of Florida.
Great Lakes & Inland Rivers	4	Shipyards located on the Great Lakes or Inland Rivers.
New England & Mid-Atlantic	6	Shipyards located in the Atlantic Coastal States from Maine to Virginia.
Southeastern	3	Shipyards located in North Carolina, South Carolina, Georgia and east coast of Florida.
Pacific Northwest	5	Shipyards located in Oregon, Washington and Alaska.

Total Surveys Received:	33
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Survey Results and Analysis

The survey results were tabulated in an Excel spreadsheet for processing and analysis. Survey results were entered using the numeric values, as indicated in Table 2 below, to allow for statistical analysis of the results.

Table 2: Survey Quantifiers

Qualitative Descriptor	Numeric Value
None	0
Little	1
Moderate	2
High	3
Not Applicable	Null

After conversion of the responses to a numeric format, National and Regional averages were calculated for each element. These average values were evaluated using following format:

Value ranges between 0 and 0.5 = No Concern (or Benefit)

Value ranges between 0.5 and 1.5 = Low Level of Concern (or Benefit)

Value ranges between 1.5 and 2.5 = Moderate Level of Concern (or Benefit)

Value ranges between 2.5 and 3.0 = High Level of Concern (or Benefit)

Shipyards Environmental Issues of Concern National Averages Results

The National Averages results are presented below for each of the survey sections and elements for both Year 2003 and Year 2000. Additionally the percentage change from Year 2000 to 2003 is calculated for each element. Those elements where the level of concern (or benefit) are greater than 1.5 (moderate to high concern) are highlighted in gold.

Table 3: National Averages

Shipyards Operations and Process	Year 2000	Year 2003	Percentage Change
<i>Production Operations</i>	<i>Level of Concern</i>	<i>Level of Concern</i>	
Dry Abrasive Blasting, Out of Doors	2.1	2.3	9.5%
Dry Abrasive Blasting, Enclosed	1.4	1.6	14.3%
Solvent Cleaning	1.5	1.3	-13.3%
High Pressure Water Washing	2	1.9	-5.0%
Ultra High Pressure Water Jetting	1.6	1.7	6.2%
Coating Application, Out of Doors	2.2	2.6	18.2%
Coating Application, Enclosed	1.7	1.8	5.9%
Metal Welding, Cutting, Brazing	1.9	1.6	-15.8%
Metal Grinding	1.6	1.3	-18.8%
Pipefitting	1.3	1.1	-15.4%
Shipfitting	1.4	1.2	-14.3%
Sheetmetal	1	0.9	-10.0%
Forge and Foundry	0	0	0%
Machining - Shipboard	0.9	0.9	0.0%
Machining - Shop	1.3	1.1	-15.4%
Pump and Turbine	0.9	1	11.1%
Tank Testing	1.4	1.4	0.0%
Carpentry and Woodworking	1.1	0.6	-45.5%
Insulation Removal and Installation	1.7	1.2	-29.4%
Asbestos Removal	1.8	1.6	-11.1%
Air Conditioning	1.2	1.5	25.0%
Coppersmithing	0	0.3	#DIV/0!
Electroplating	0	0.4	#DIV/0!
Electrical	1.1	1.2	9.1%

<i>Facility Operations</i>	<i>Level of Concern</i>	<i>Level of Concern</i>	<i>Percentage Change</i>
Shipdocking	1.2	1.2	
Drydocking	1.9	1.7	-10.5%
Ship Launching	1.2	1.2	0.0%
Crane and Rigging	1.5	1.3	-13.3%
Staging	1.1	1.1	0.0%
Transportation	1.2	1.4	16.7%
Electrical Power Generation	1.3	1.1	-15.4%
Compressed Air	1.3	1.3	0.0%
Steam Generation	0.7	0.9	28.6%
Facility Maintenance	1.8	1.8	0.0%
Housekeeping	1.8	2.1	16.7%
Hazardous Materials Management	2.1	2.3	9.5%
Waste Management	2.2	2.2	0.0%
Hazardous Waste Management	2.1	2.5	19.0%

Environmental Compliance	Year 2000	Year 2003	<i>Percentage Change</i>
<i>Water</i>	<i>Level of Concern</i>	<i>Level of Concern</i>	
Waste Water Discharges to POTW	1.7	1.5	-11.8%
Waste Water Discharges to Surface Water	2	2.4	20.0%
Storm Water Discharges	1.9	2.3	21.1%
On-Site Waste Water Treatment	2	1.9	-5.0%
On-Site Drinking Water	1	0.7	-30.0%
Ship's Discharges to Surface Waters	1.9	1.7	-10.5%
NPDES Permitting - Point Sources	1.8	2.2	22.2%
NPDES Permitting - Stormwater	2	2.3	15.0%
Dredge and Fill	2	1.7	-15.0%
Oil Discharges	1.9	2.3	21.1%
<i>Air</i>	<i>Level of Concern</i>	<i>Level of Concern</i>	<i>Percentage Change</i>
New Source Review	1.5	1.7	13.3%
Prevention of Significant Deterioration	1.6	2.3	43.8%

Title V Permits	2.1	1.7	-19.0%
Shipyards NESHAP/MACT	2.2	2.3	4.5%
Accidental Release Prevention	1.5	0.7	-53.3%
Air Toxic Emissions	2	2.1	5.0%
Particulate Emissions	2.2	2	-9.1%
VOC Emissions	2	2.3	15.0%
Motor Vehicle Emissions	1.2	1	-16.7%
Acid Rain	0.9	0.5	-44.4%
Ozone Depletion (CFC)	1	0.8	-20.0%
<i>Waste</i>	<i>Level of Concern</i>	<i>Level of Concern</i>	<i>Percentage Change</i>
Solid Waste Management	2.1	1.7	-19.0%
Hazardous Waste Management	2.3	2.4	4.3%
Special Waste Management	2	1.9	-5.0%
On-site Reuse/Recycling	1.5	1.6	6.7%
Off-Site Reuse/Recycling	1.7	1.7	0.0%
On-Site Waste Treatment	1.5	1.1	-26.7%
Used Oil	1.9	1.6	-15.8%
<i>Hazardous Materials</i>	<i>Level of Concern</i>	<i>Level of Concern</i>	<i>Percentage Change</i>
Underground Storage Tanks	0.9	0.6	-33.3%
Aboveground Storage Tanks	1.8	1.7	-5.6%
Hazardous Materials Transportation	1.8	1.7	-5.6%
Worker-Right-To-Know	2.1	1.7	-19.0%
Lead Abatement	1.6	1.8	12.5%
Asbestos Abatement	1.4	1.6	14.3%
PCB	1.5	1.3	-13.3%
<i>Contingency Planning</i>	<i>Level of Concern</i>	<i>Level of Concern</i>	<i>Percentage Change</i>
SARA Title III	1.8	1.5	-16.7%
Oil Spill Contingency Planning	2.1	2.1	0.0%
Hazardous Materials Spills	2	2	0.0%

Compliance Assistance Tools	Year 2000	Year 2003	Percentage Change
<i>Agency Tools</i>	<i>Level of Benefit</i>	<i>Level of Benefit</i>	<i>Percent Change</i>
Point of Contact for Shipyard Permitting	2.3	2.2	-4.3%
Agency Shipyard Representative	2.1	2.1	0.0%
Shipyard Specific Guidance Documents	2.6	2.4	-7.7%
Compliance Assurance Inspections	1.9	1.6	-15.8%
Agency Training for Shipyard Personnel	2.1	2.3	9.5%
Shipyard Training for Agency Personnel	2.2	2.1	-4.5%
Annual Agency/Shipyard Conference	1.9	2.3	21.1%
Agency Provided Consulting	2	2.1	5.0%
<i>Industry Tools</i>	<i>Level of Benefit</i>	<i>Level of Benefit</i>	<i>Percentage Change</i>
Shipyard to Shipyard Mentoring Program	1.7	1.7	0.0%
Shipyard Developed Training Programs	2.4	2.3	-4.2%
Shipyard Resource Sharing	2.2	2.2	0.0%
National Shipyard Environmental Conference	1.8	2.2	22.2%
Regional Shipyard Environmental Conference	2	2.3	15.0%
Industry Prepared Guidance Documents	2.4	2.2	-8.3%
Industry Point of Contact for Environmental Issues	2.2	2.2	0.0%

The survey produced the following information with respect to shipyard operations and process that potentially impact the environment:

1. Surface preparation and coating application processes are of significant concern and with all but solvent cleaning increasing in concern since Year 2000. The potential impacts of welding, cutting and brazing is also considered high, but have declined since Year 2000.
2. Asbestos removal operations, air conditioning and drydocking remained of moderate concern with asbestos removal and drydocking decreasing, and air conditioning increasing since Year 2000.
3. The shipyard facility functions that rated the highest Level of Concern were Housekeeping, Waste Management, Hazardous Materials Management and Hazardous Waste Management. All of these facility functions (except Waste Manage, which remained the same) show significant increases their levels of concern from Year 2000 to 2003.

With regard to shipyard environmental requirements:

Task Two Subtask Four

1. In regards to Water Quality requirements compliance, Waste Water Discharges to Surface Waters, Storm Water Discharges and Oil Discharges were rated the highest. Additionally, the level of concern for each of these three elements also increased more than 20% since Year 2000.
2. In regards to Air Quality requirements compliance, PSD, the Shipyard NESHAP/MACT and VOC Emission were equally ranked at a Level of Concern of 2.3. Air Toxic Emission scored the second highest Level at 2.1.
3. In regards to Waste Management requirements compliance, all elements (except On-Site Waste Treatment) were ranked at a Moderate Level of Concern, the highest being Hazardous Waste Management at 2.4.
4. In regards to Hazardous Materials Management requirements, all elements except Underground Storage Tanks and PCBs were ranked at the low Moderate Level of Concern.
5. In regards to Contingency Planning requirements, all elements ranked in the Moderate Level of Concern, with Oil Spill and Hazardous Materials Spills planning remaining at the same level as Year 2000.

With regard to potential compliance assistance tools:

1. All potential agency supplied compliance tools scored in the Moderate range, with Shipyard Specific Guidance Documents scoring the highest at a Level of Benefit rated 2.4.
2. All potential industry supplied compliance tools fell in the Moderate Level of Benefit range, with the highest rating for Shipyard Developed Training Programs¹ that was scored a 2.3 Level of Benefit.
3. Of all the potential Compliance Assistance tool elements, the two that increased the most from Year 2000 to 2003 were the Annual Agency/Shipyard Conference (a 21.1% increase) and National Shipyard Environmental Conference (a 22.2% increase).

Regional Averages Results

To discern if there were significant differences between the various geographic regions of shipbuilding and repair activities in the U.S. regarding environmental issues of concern, the survey results were sorted into various regional categories (as previously discussed in this report), and the results were tabulated and charted (Attached in Appendix 1). A review of these charts identifies several important regional trends and differences in the survey responses.

California and Hawaii Region:

¹ In actually, this tool was developed and made available to the Shipbuilding and Repair Industry Sector over five years by the Environmental Technology Panel of NSRP. That the industry is unaware of this fact is perhaps indicative of the low level of awareness that the majority of US shipyards have regarding the activities and products of the Environmental Technology Panel and the NSRP.

1. The Shipyard Operations and Processes that were considered to be of a High (>2.5) Level of Concern are:
 - a. Dry Abrasive Blasting, Out of Doors
 - b. Coating Application, Out of Doors
2. The Shipyard Facility Maintenance Support Services that were considered to be of a High (>2.5) Level of Concern are:
 - a. Facility Maintenance
 - b. Housekeeping
 - c. Hazardous Materials Management
 - d. Waste Management
 - e. Hazardous Waste Management
3. Compliance with Environmental Requirements that were considered to be of a High (2.5) Level of Concern are:
 - a. Waste Water Discharges to Surface Waters
 - b. Stormwater Discharges
 - c. NPDES Permitting – Point Sources
 - d. NPDES Permitting – Stormwater
 - e. Oil Discharges
 - f. Air Toxic Emissions
 - g. VOC Emissions
 - h. Hazardous Waste Management
 - i. Special Waste Management
 - j. Oil Spill Contingency Planning

Gulf Coast:

1. The Shipyard Operations and Processes that were considered to be of a High (>2.5) Level of Concern are:
 - a. Dry Abrasive Blasting, Out of Doors
 - b. Coating Application, Out of Doors
2. No Shipyard Facility Maintenance Support Services were considered to be of a High (>2.5) Level of Concern.

No Compliance with Environmental Requirements were considered to be of a High (>2.5) Level of Concern.

Great Lakes and Inland Waters Region:

Task Two Subtask Four

1. No Shipyard Operations and Processes were considered to be of a High (>2.5) Level of Concern.
2. Shipyard Facility Maintenance Support Services that were considered to be of a High (>2.5) Level of Concern are:
 - a. Hazardous Waste Management
3. Compliance with Environmental Requirements that were considered to be of a High (>2.5) Level of Concern are:
 - a. Waste Water Discharges to Surface Water
 - b. Title V Permits

New England and Mid-Atlantic Region:

1. The Shipyard Operations and Processes that were considered to be of a High (>2.5) Level of Concern are:
 - a. Coating Application, Out of Doors
2. Shipyard Facility Maintenance Support Services that were considered to be of a High (>2.5) Level of Concern are:
 - a. Hazardous Materials Management
 - b. Hazardous Waste Management
3. Compliance with Environmental Requirements that were considered to be of a High (>2.5) Level of Concern are:
 - a. NPDES Permitting – Point Sources
 - b. Oil Discharges
 - c. Title V Permits
 - d. Hazardous Waste Management

Southeastern Region:

1. The Shipyard Operations and Processes that were considered to be of a High (>2.5) Level of Concern are:
 - a. Coating Application, Out of Doors
2. Shipyard Facility Maintenance Support Services that were considered to be of a High (>2.5) Level of Concern are:
 - a. Hazardous Waste Management
3. Compliance with Environmental Requirements that were considered to be of a High (>2.5) Level of Concern are:
 - a. Waste Water Discharges to Surface Water
 - b. Stormwater Discharges

- c. On-site Waste Water Treatment
- d. NPDES Permitting – Point Sources
- e. NPDES Permitting – Stormwater
- f. Oil Discharges
- g. Title V Permits
- h. Shipyard NESHAP/MACT
- i. VOC Emissions’
- j. Hazardous Waste Management
- k. On-Site Reuse/Recycling
- l. Lead Abatement

Discussion

The survey results reveal several overall trends regarding environmental issues of concern in the US Shipbuilding and Repair Industry Sector. While a number of these trends have been recognized and given voice previously, this survey provided the means to quantify and document these matters.

Out of doors surface preparation in general, and dry abrasive blasting in the specific, together with the coating application process, are believed to be the shipyard processes that have the greatest potential to impact the environment. The management of wastes, including hazardous and special wastes, is also seen as having a significant potential impact.

Metal working processes, including welding, cutting and brazing, are becoming of increasing concern regarding their potential environmental impact. Like surface preparation and coating applications, these metal working processes often must be conducted out-of-doors, where pollutant emissions are more difficult to control.

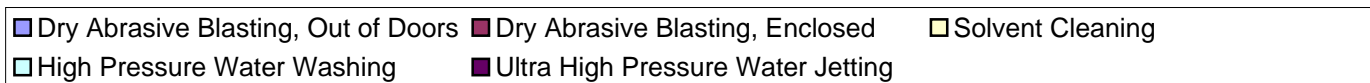
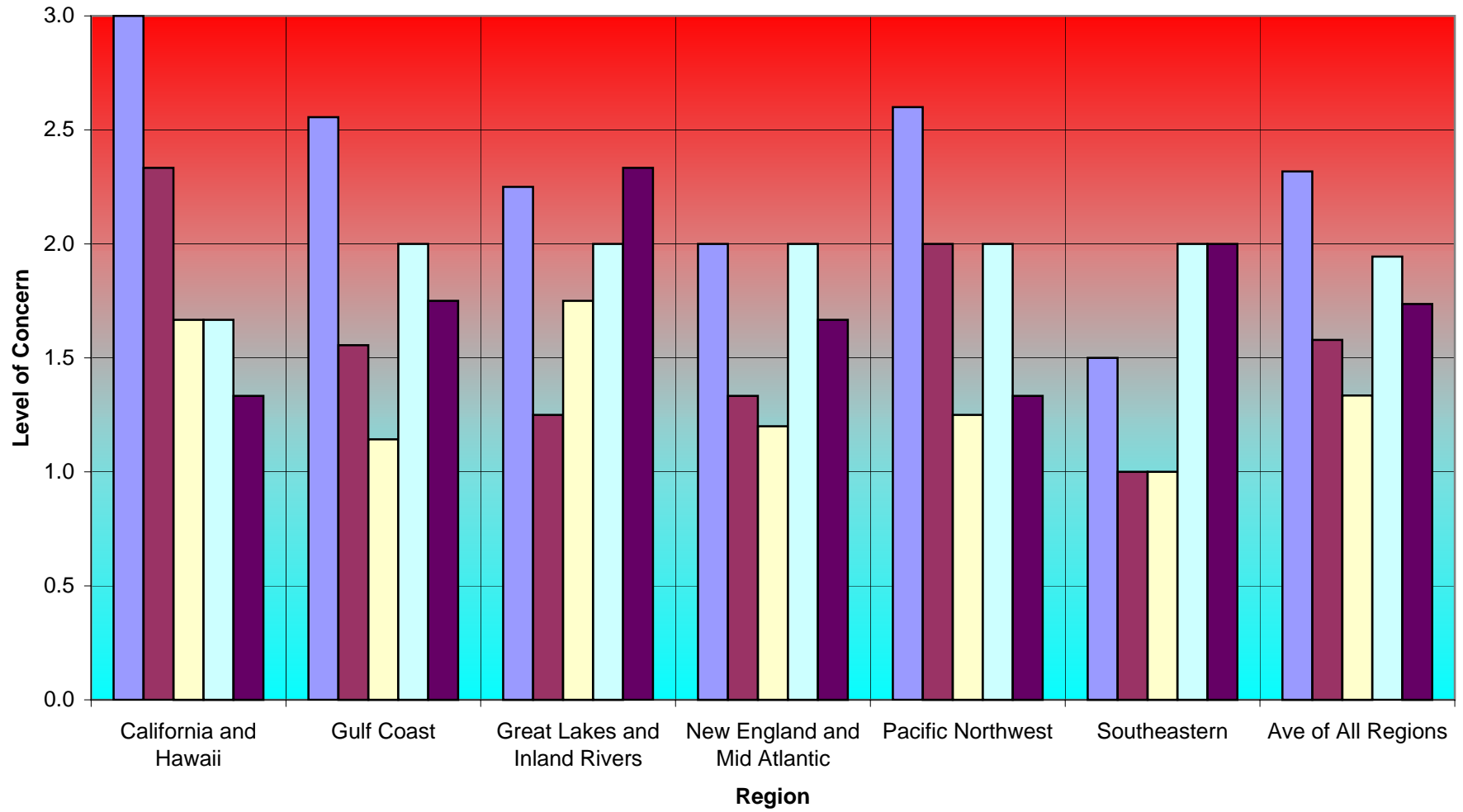
Most shipyards expressed a significant level of concern in being able to consistently meet environmental regulatory requirements. This was true for both relatively new requirements such as stormwater discharges, and old requirements, such as hazardous waste management. This appears to support the common belief by many shipyard personnel that many applicable regulatory schemes do not “fit” into how the shipyard must operate its business.

There exists some significant regional differences in the environmental concerns of shipyards. These differences are likely due to State and Regional variations in environmental program implementation and enforcement. This appears to support the claim of many shipyards that the environmental “playing field” is not level with regard to its requirements.

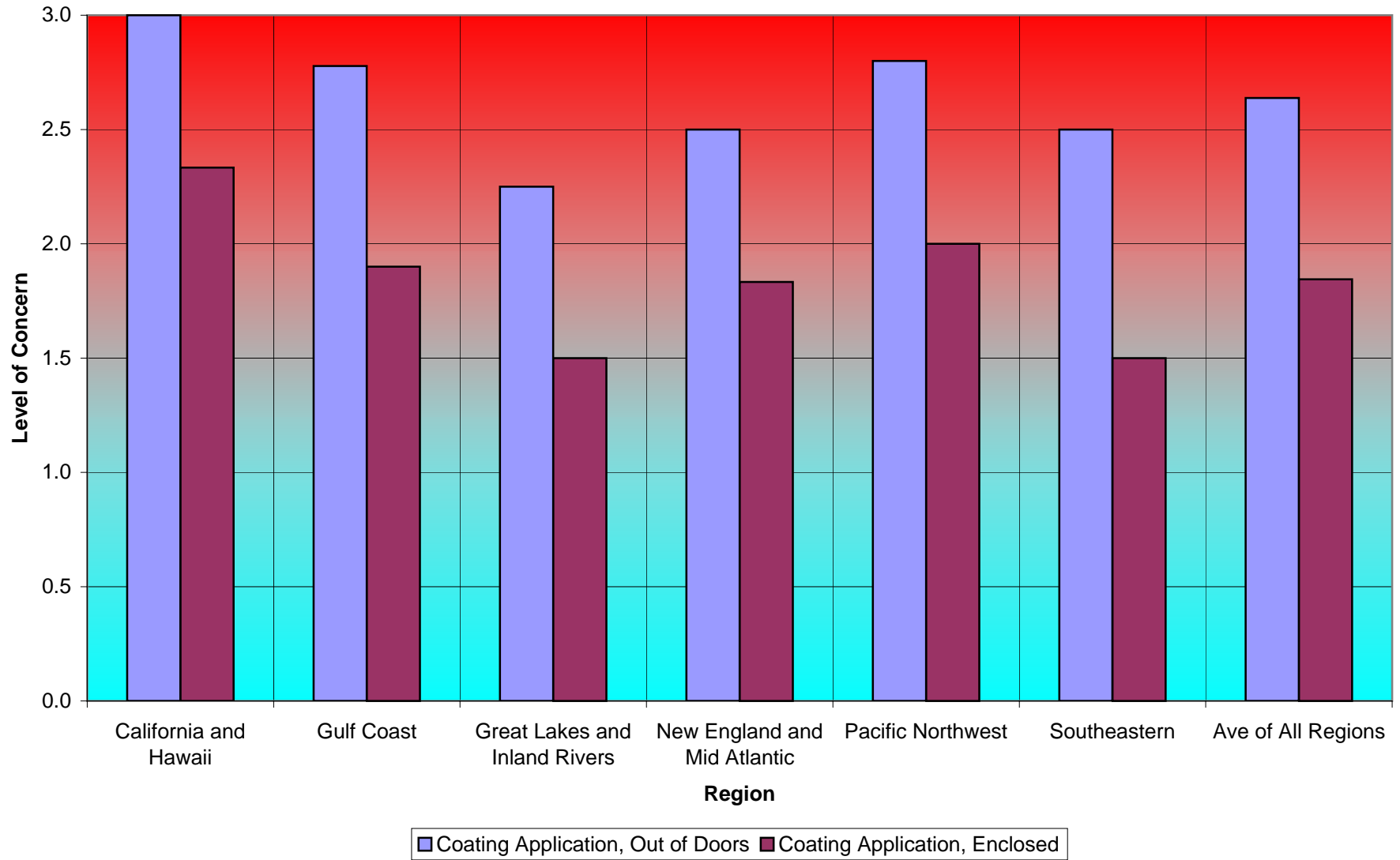
Finally, shipyards as a group believe that both agency and industry compliance assistance tools would provide some significant benefit in meeting the standards and protecting the environment.

Appendix 1

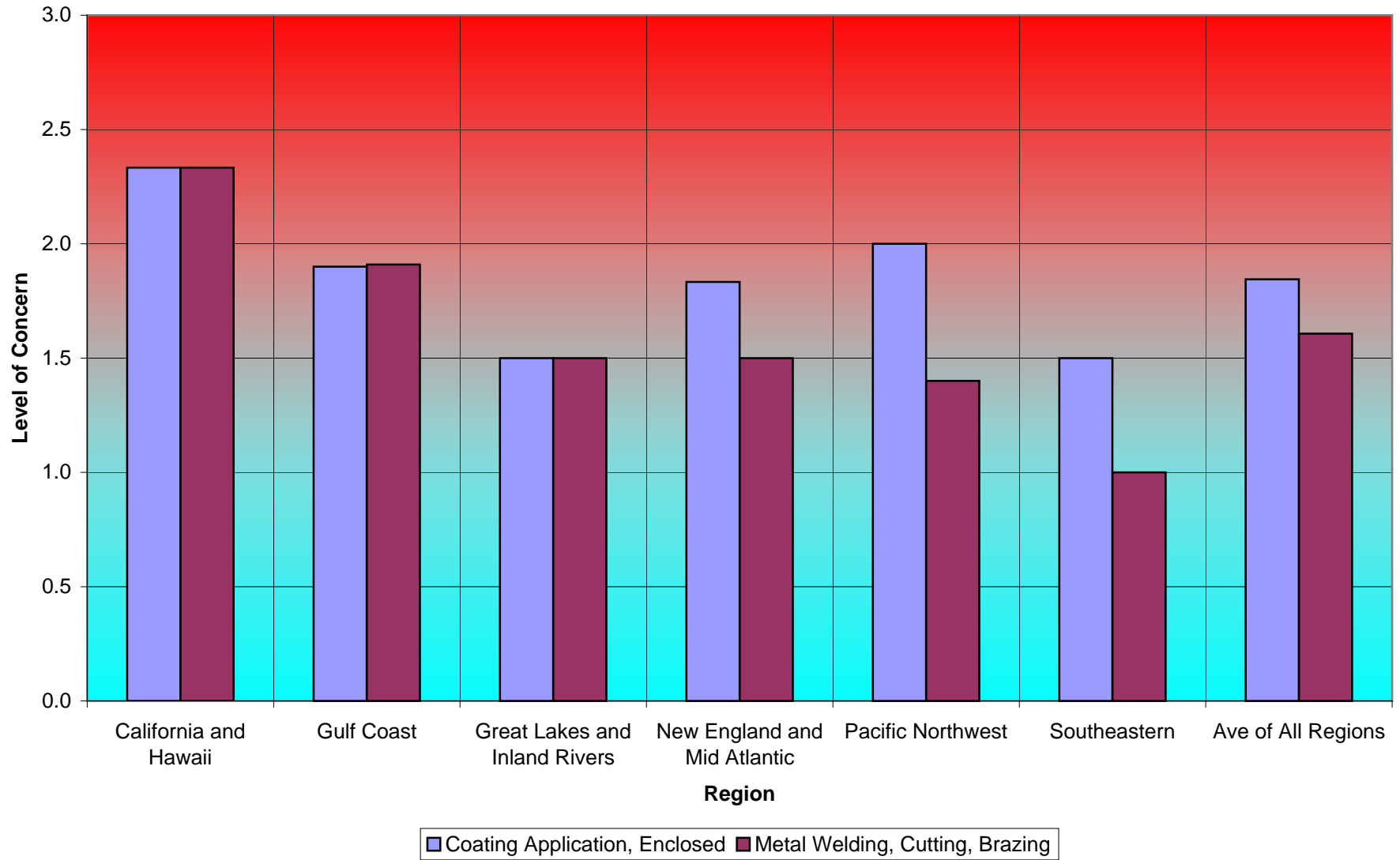
Surface Preparation



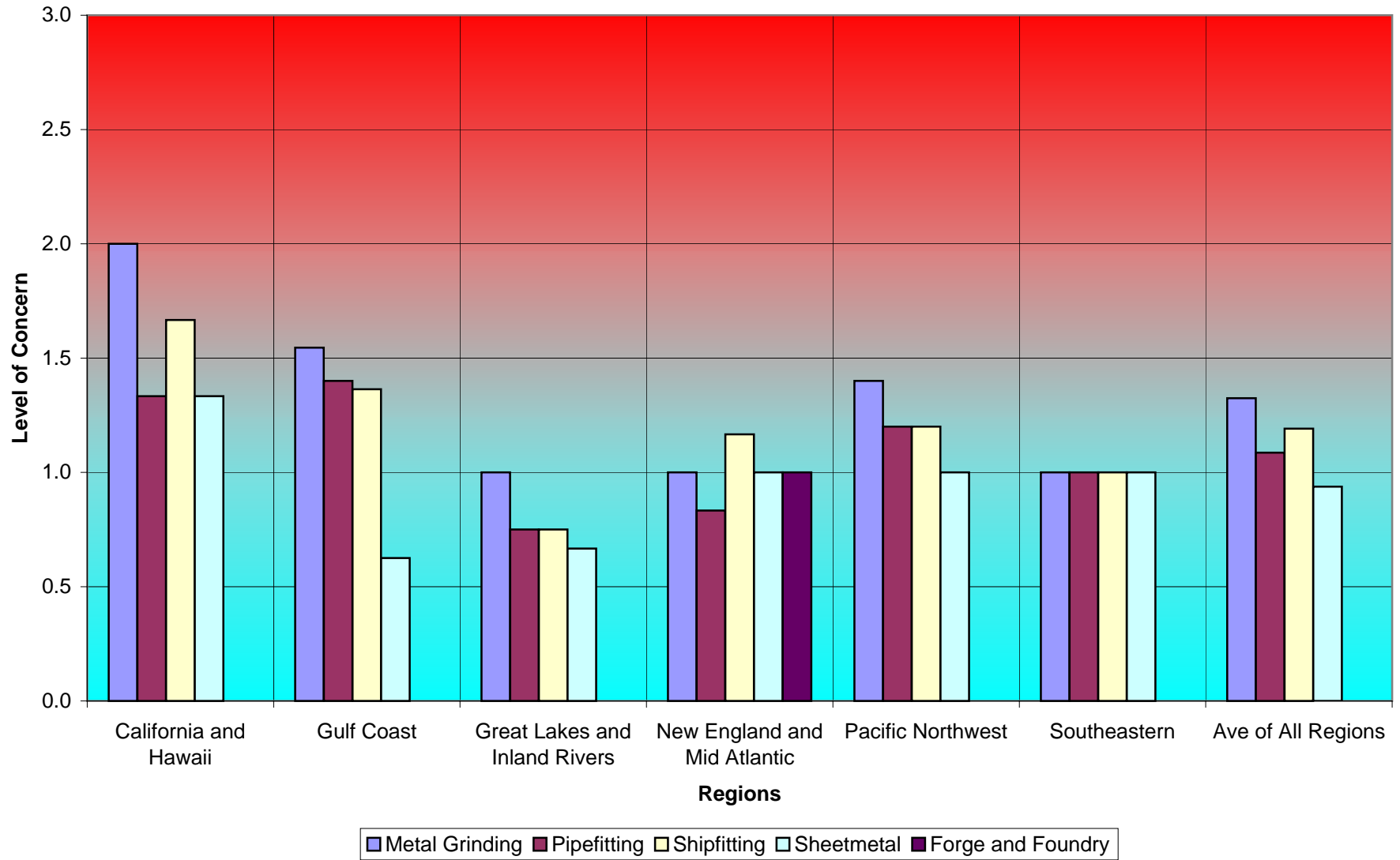
Coating Application



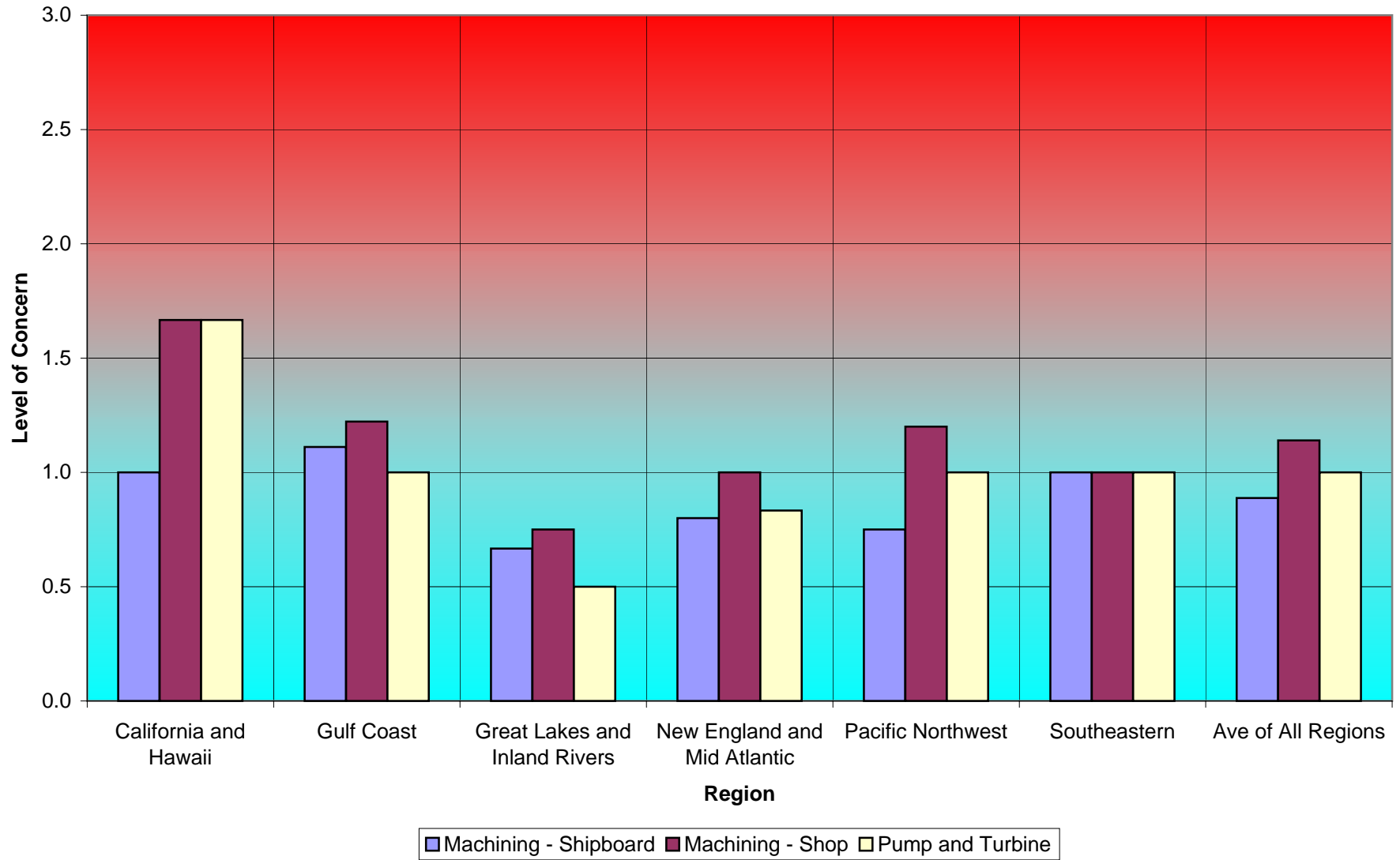
Metal Working



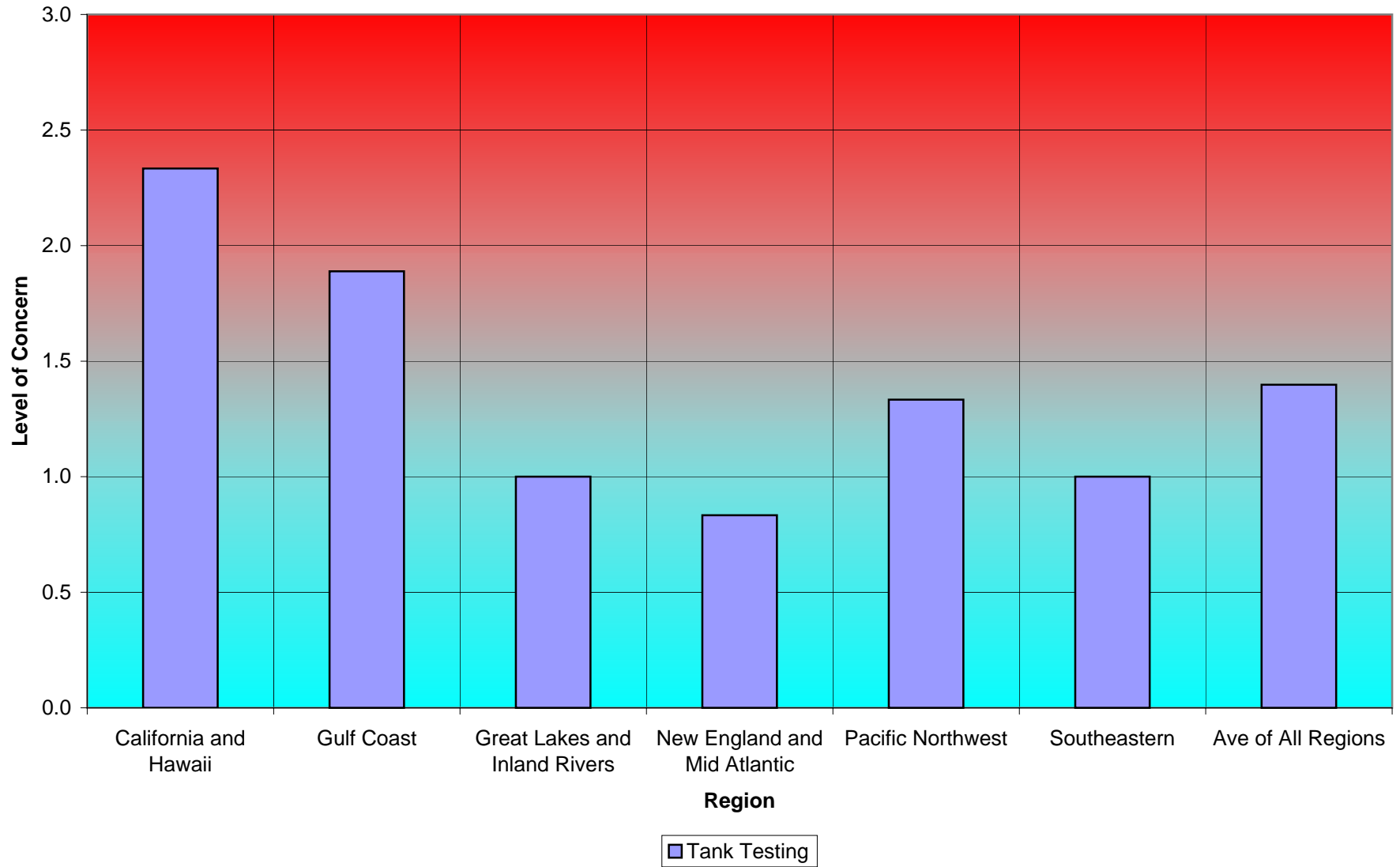
Metal Working



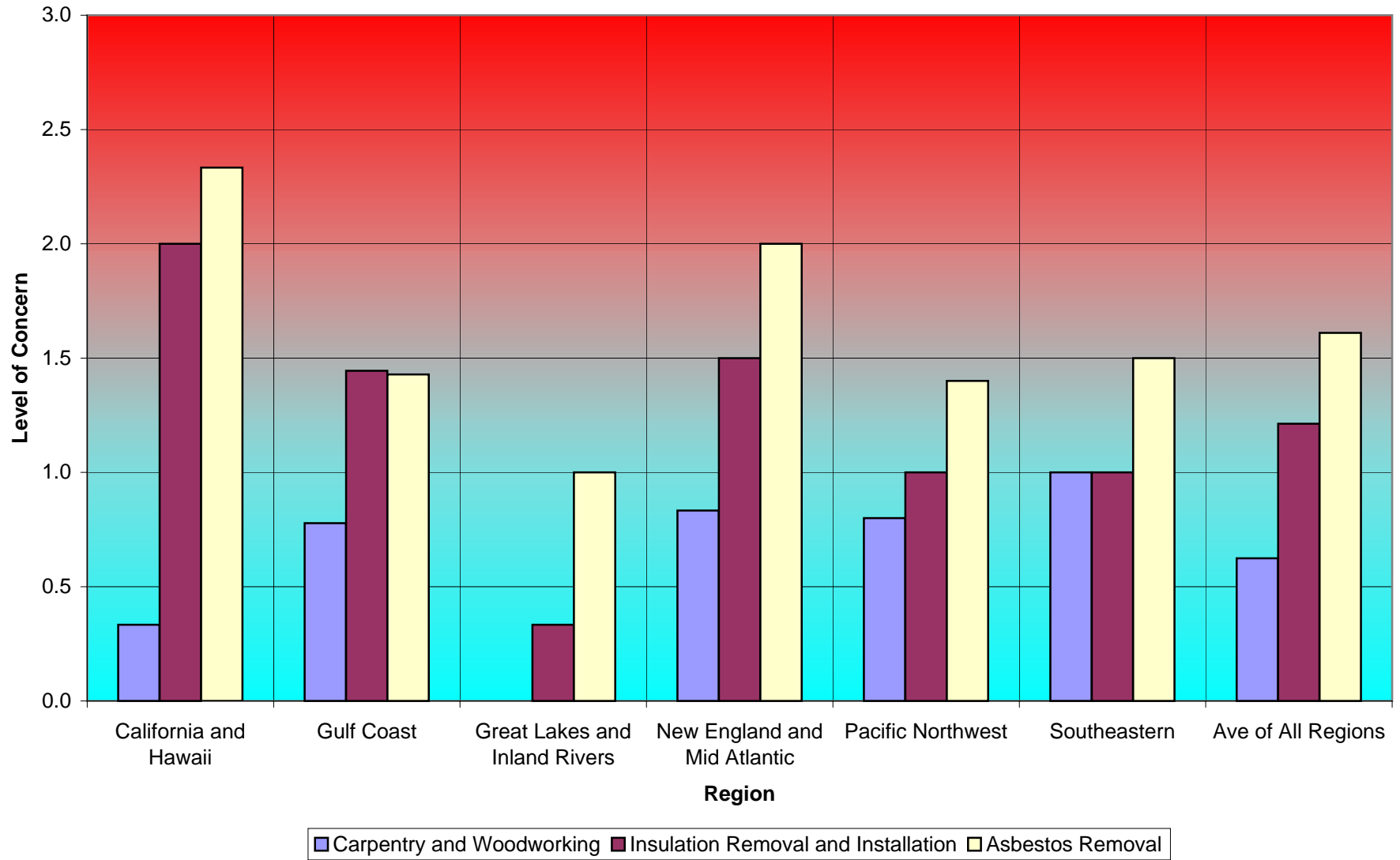
Machining



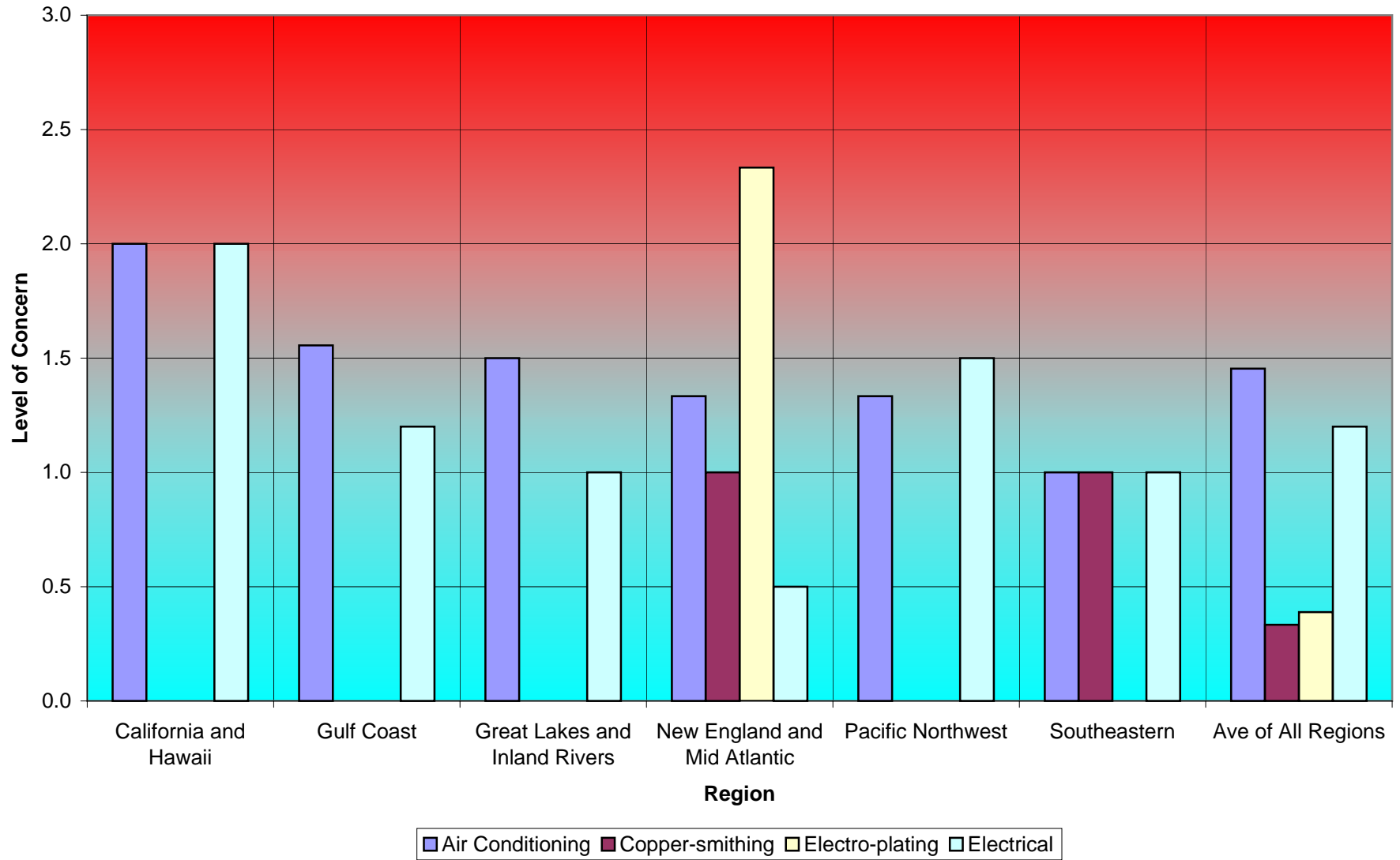
Tank Testing



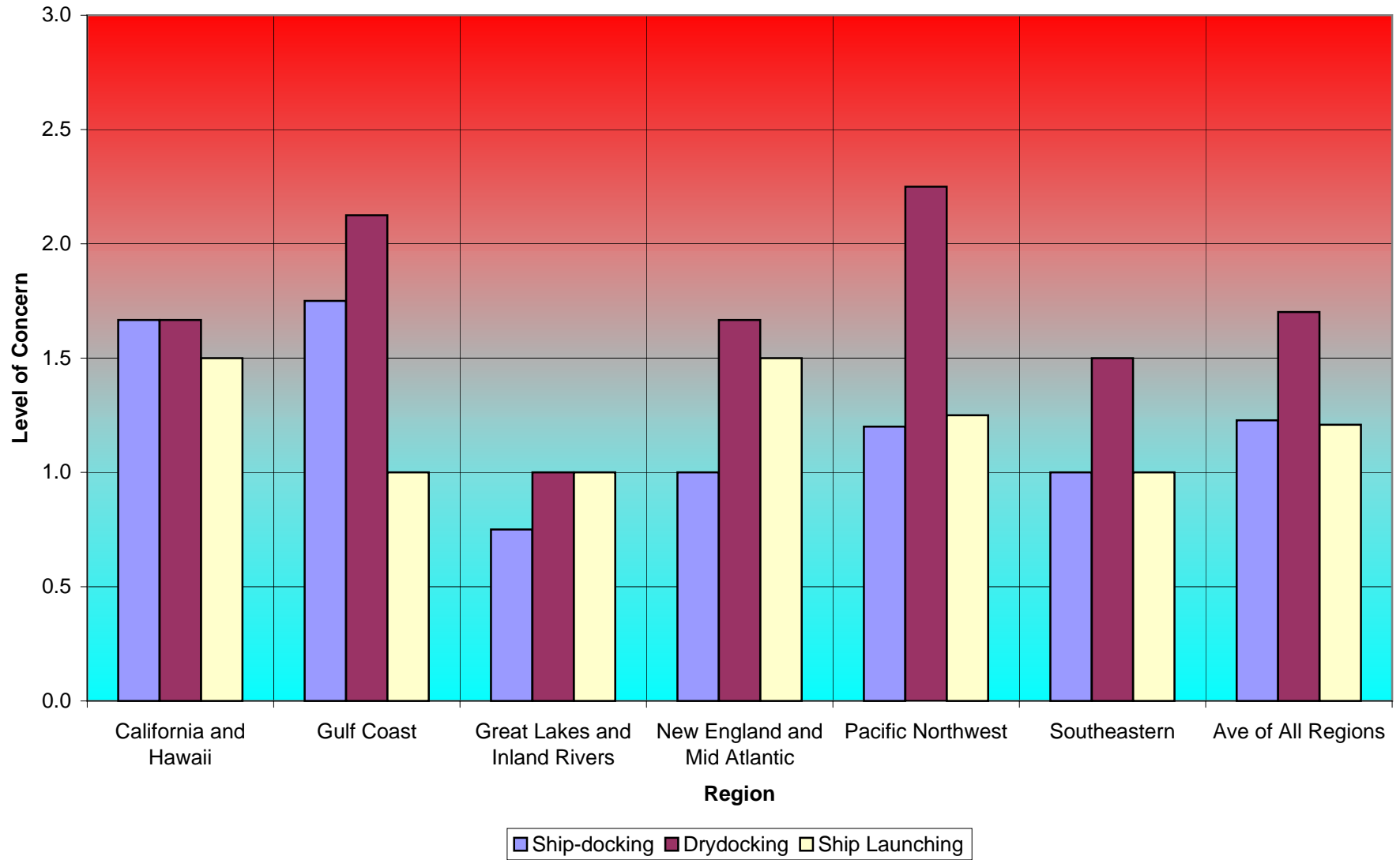
Carpentry and Insulation



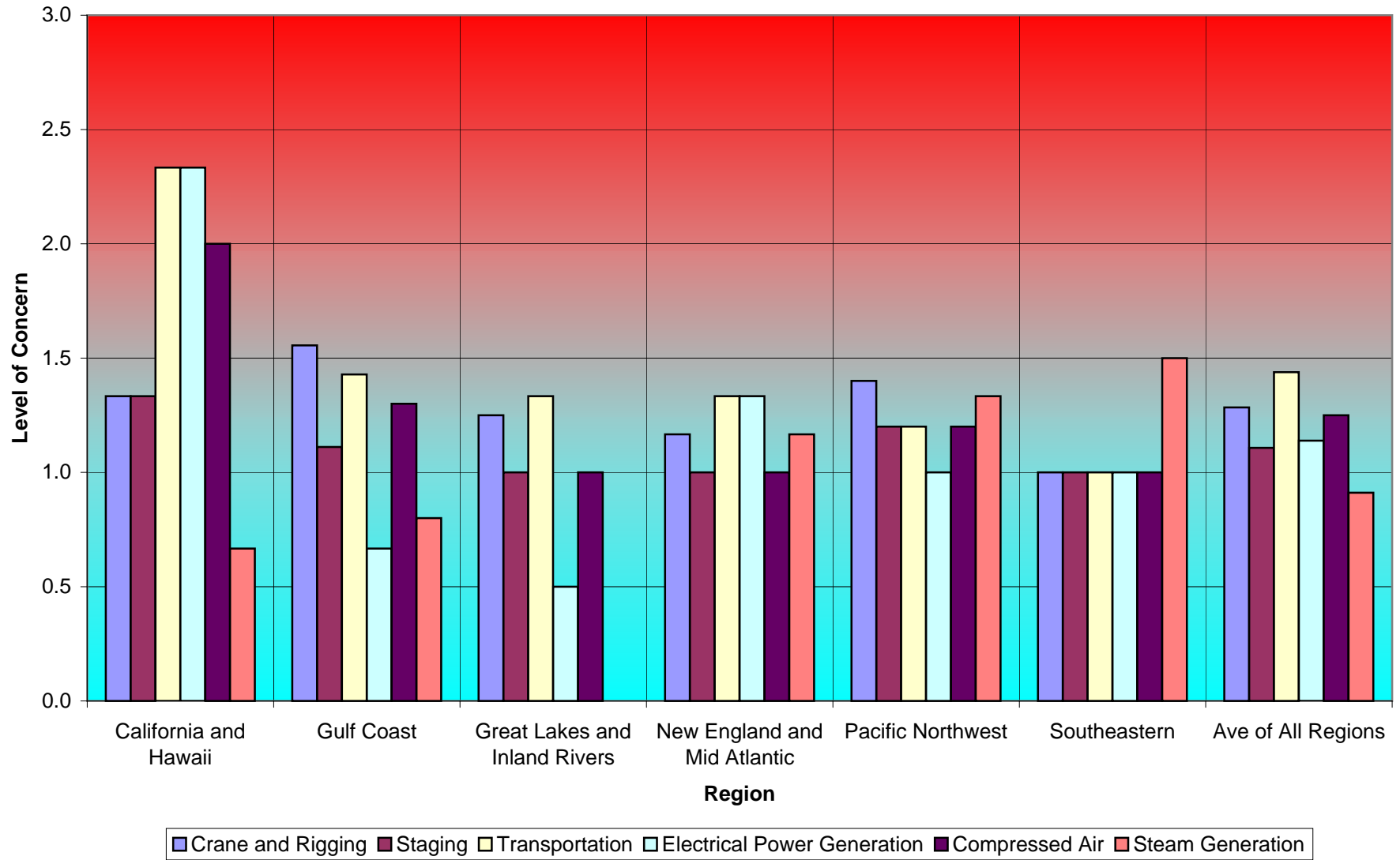
Shop Processes



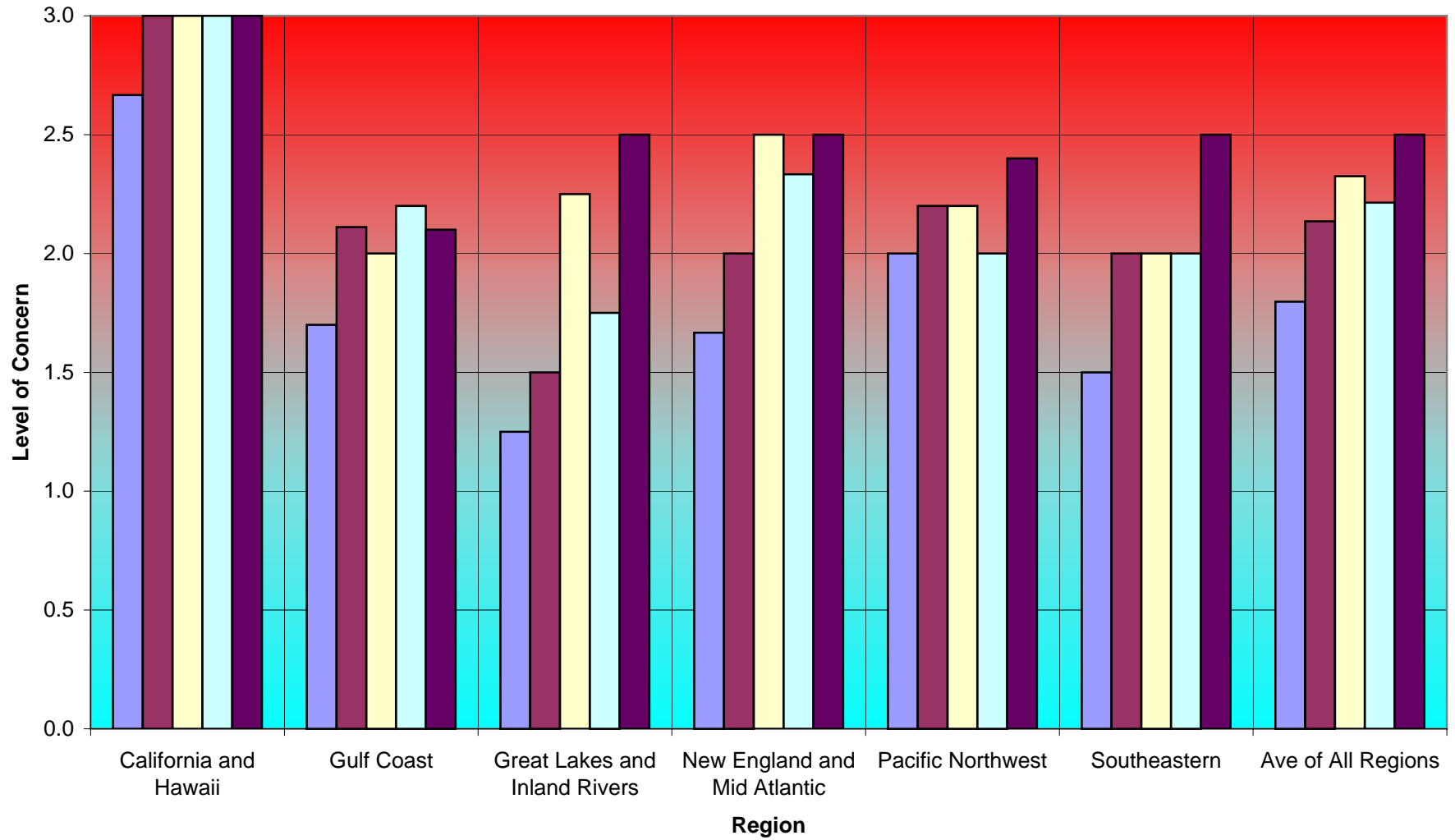
Ship Docking/Launching



Facility Production Support Services

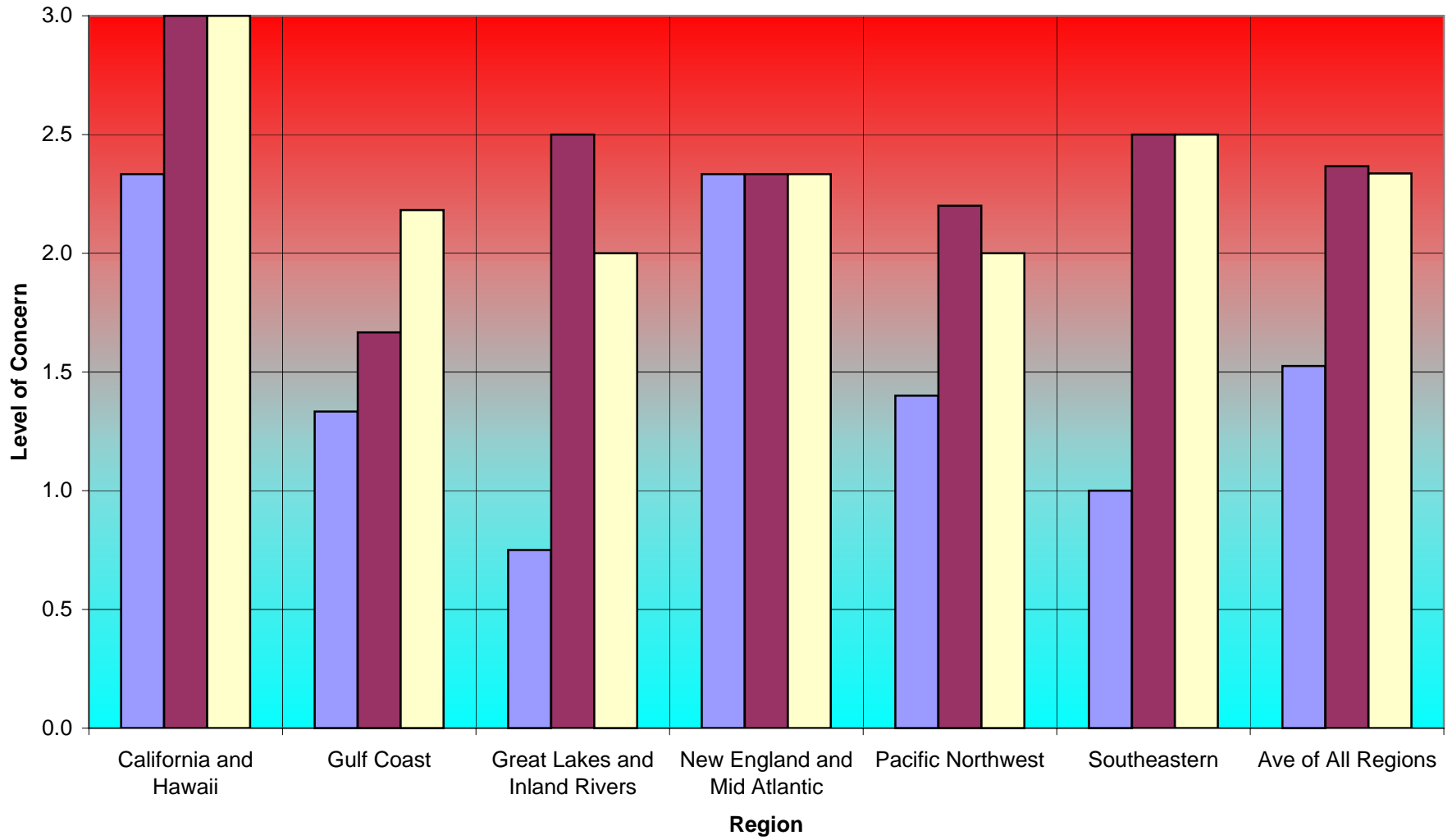


Facility Maintenance Support Services



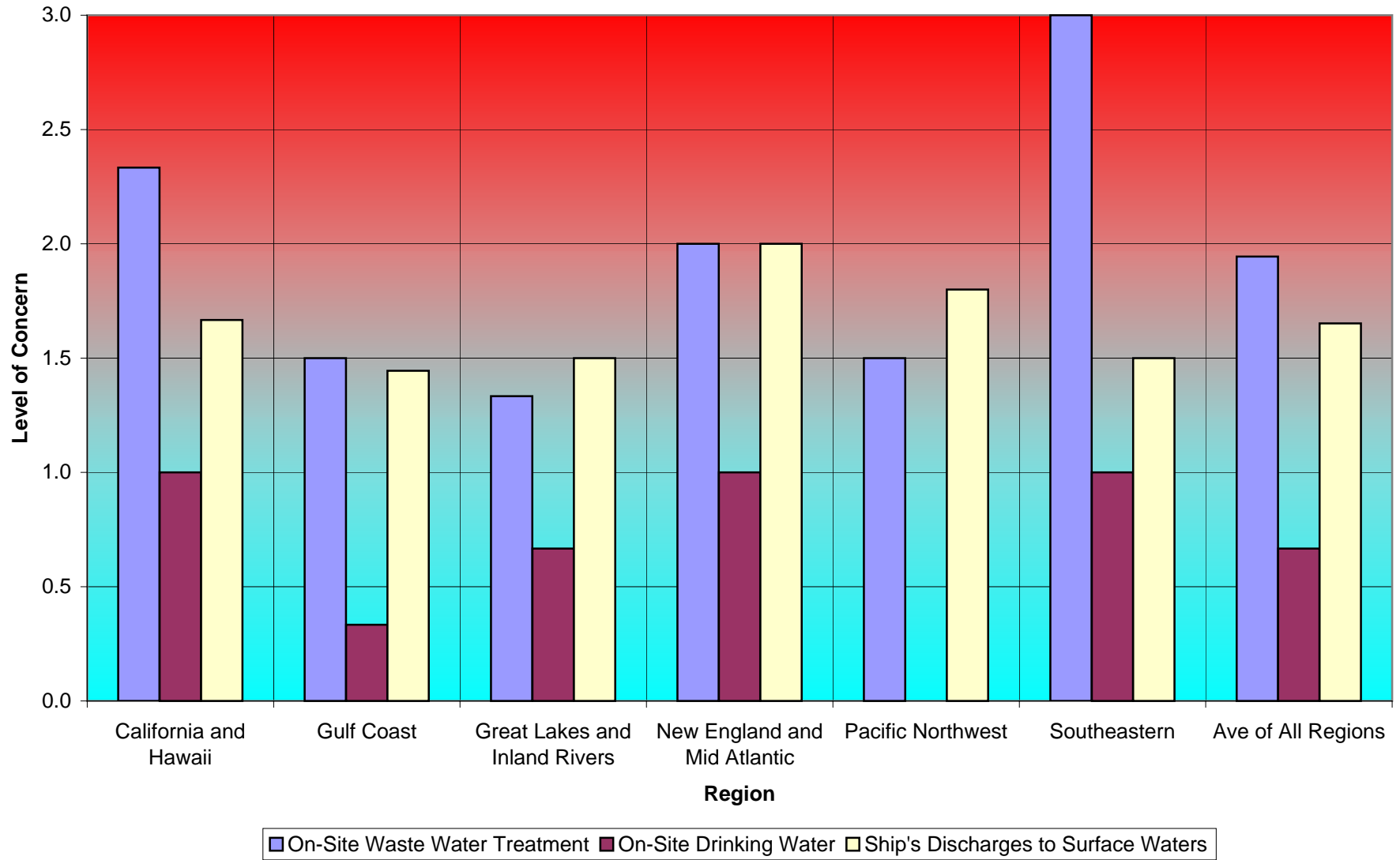
Facility Maintenance Housekeeping Hazardous Materials Management Waste Management Hazardous Waste Management

Compliance with Water Quality Requirements

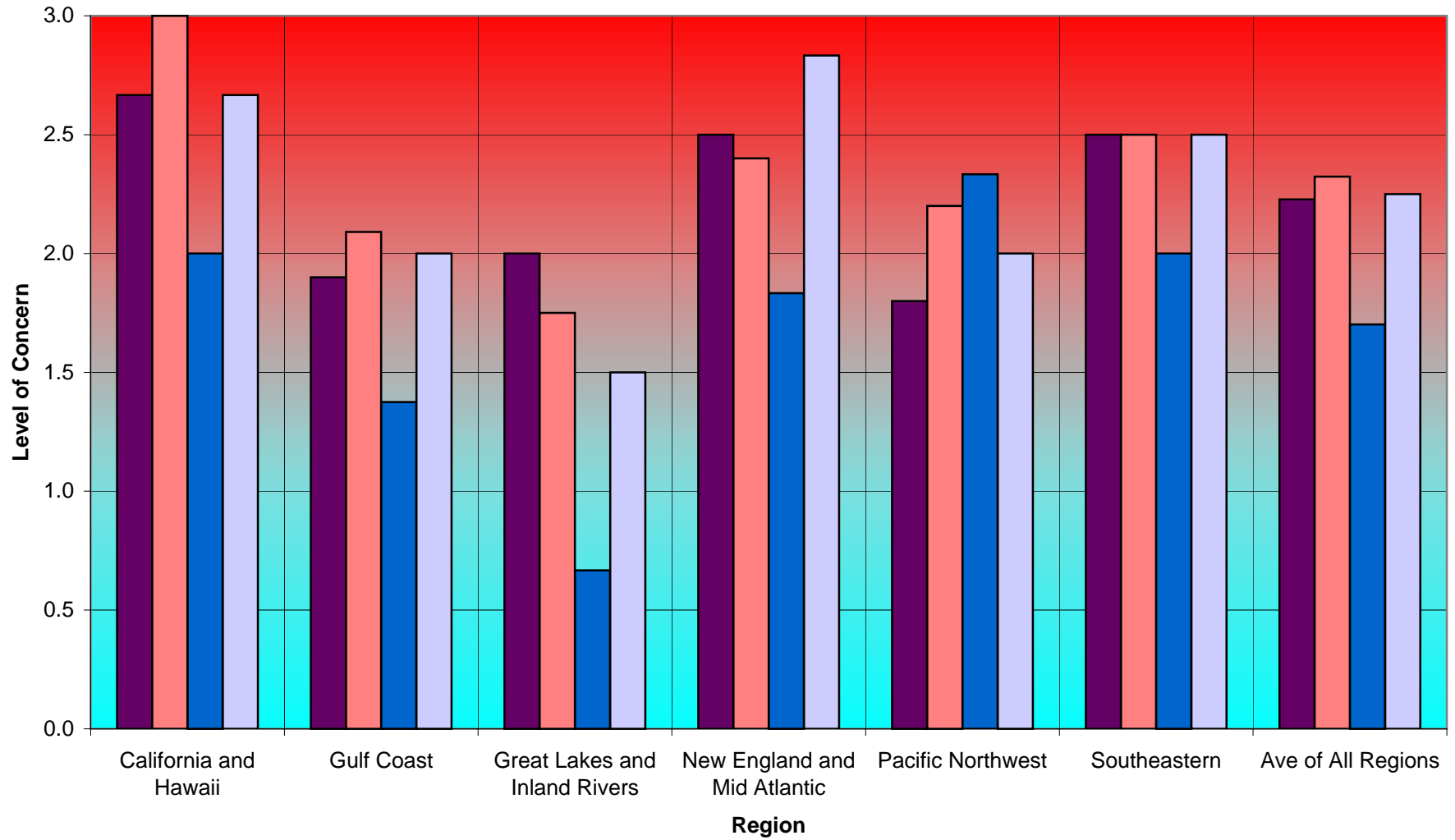


■ Waste Water Discharges to POTW ■ Waste Water Discharges to Surface Water □ Storm Water Discharges

Compliance with Water Quality Requirements

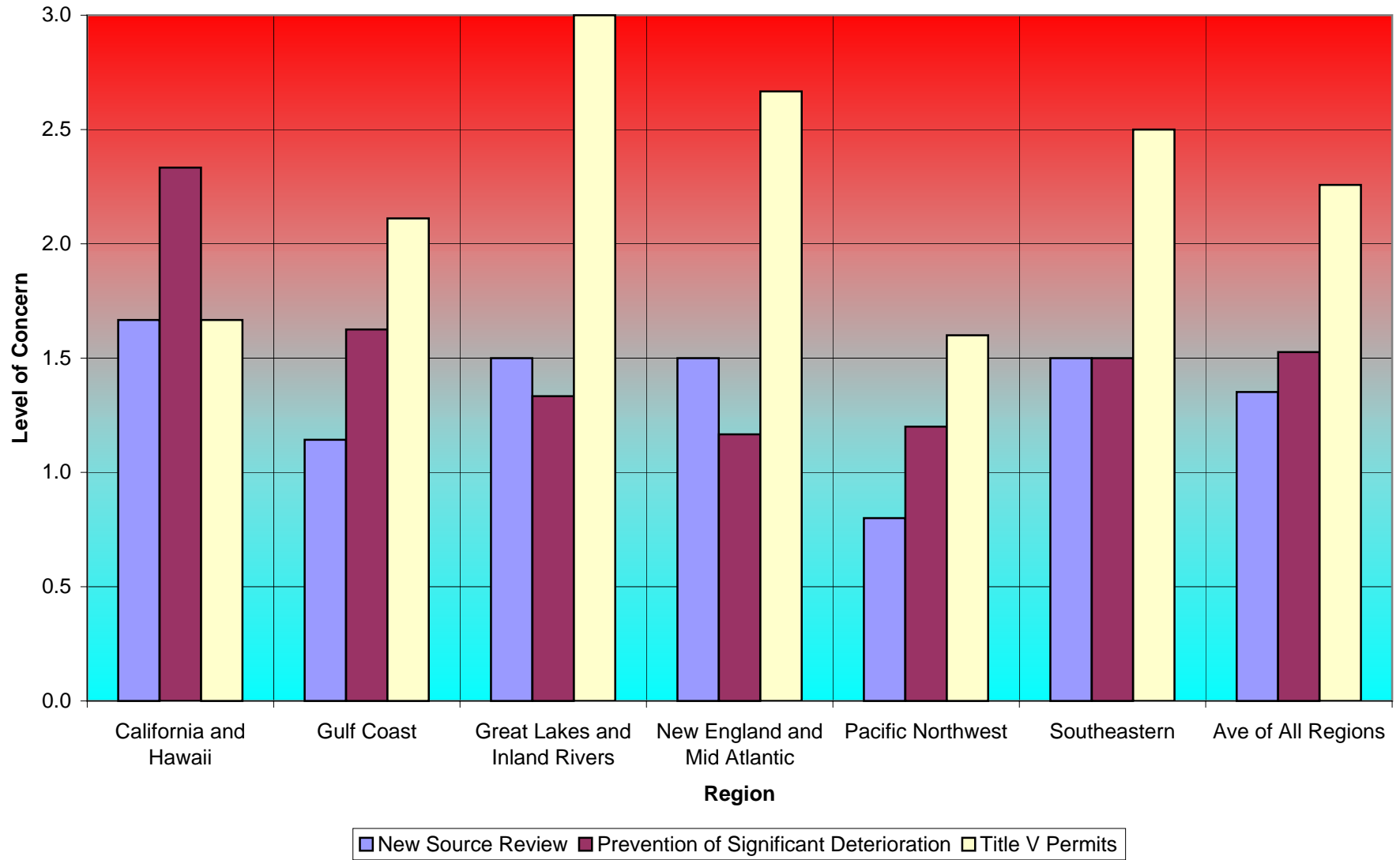


Compliance with Water Quality Requirements

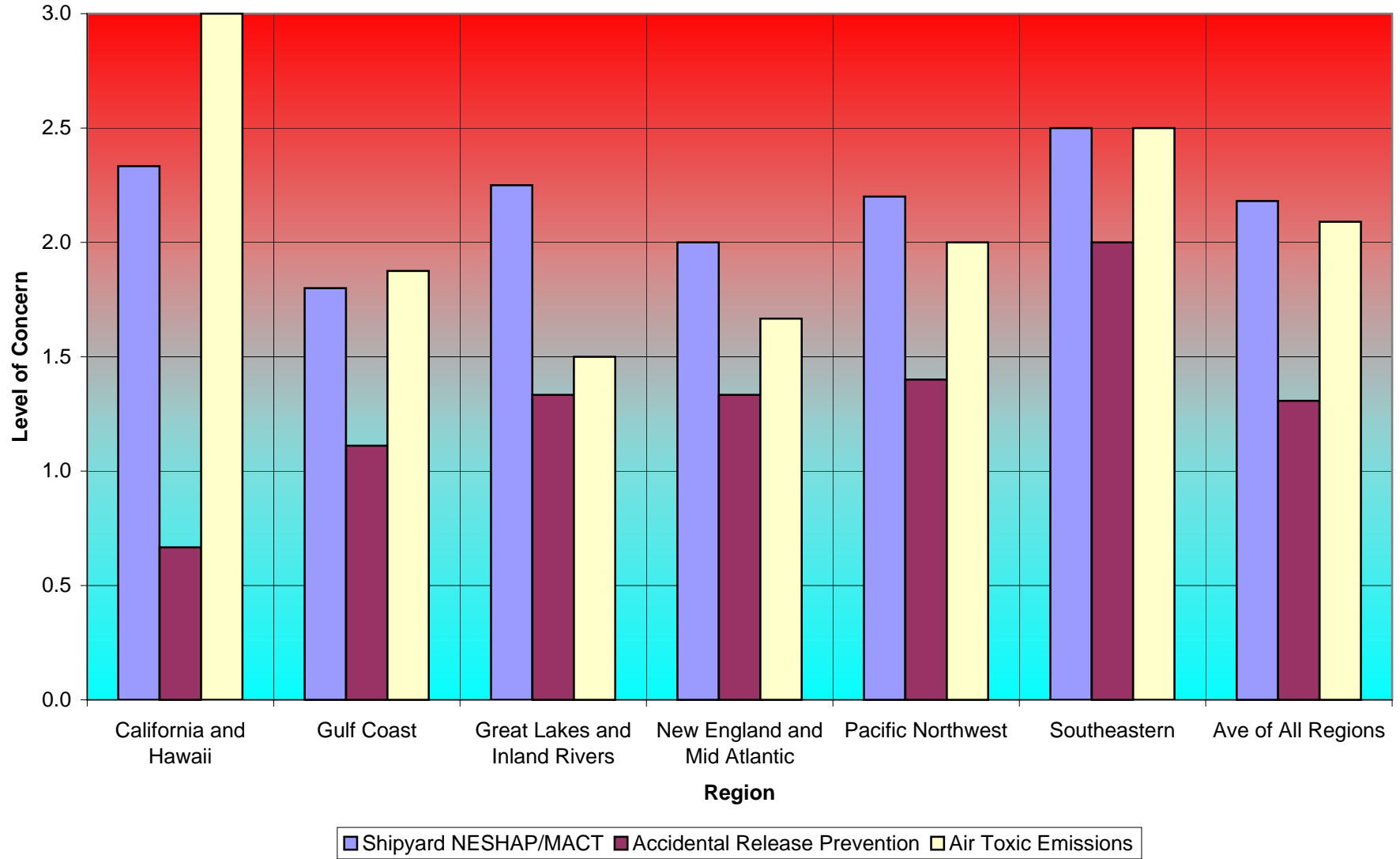


■ NPDES Permitting - Point Sources ■ NPDES Permitting - Stormwater ■ Dredge and Fill ■ Oil Discharges

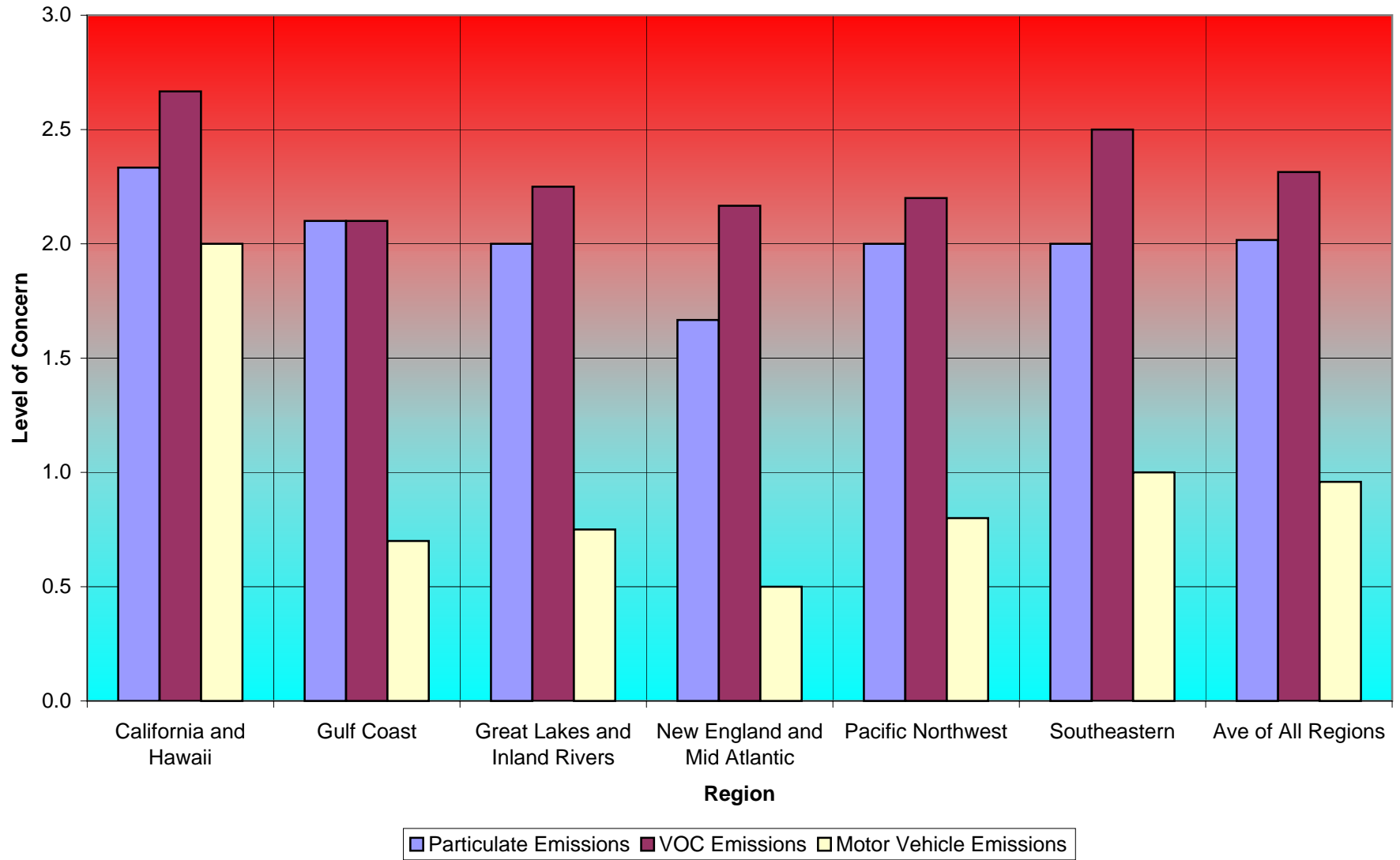
Compliance with Air Quality Requirements



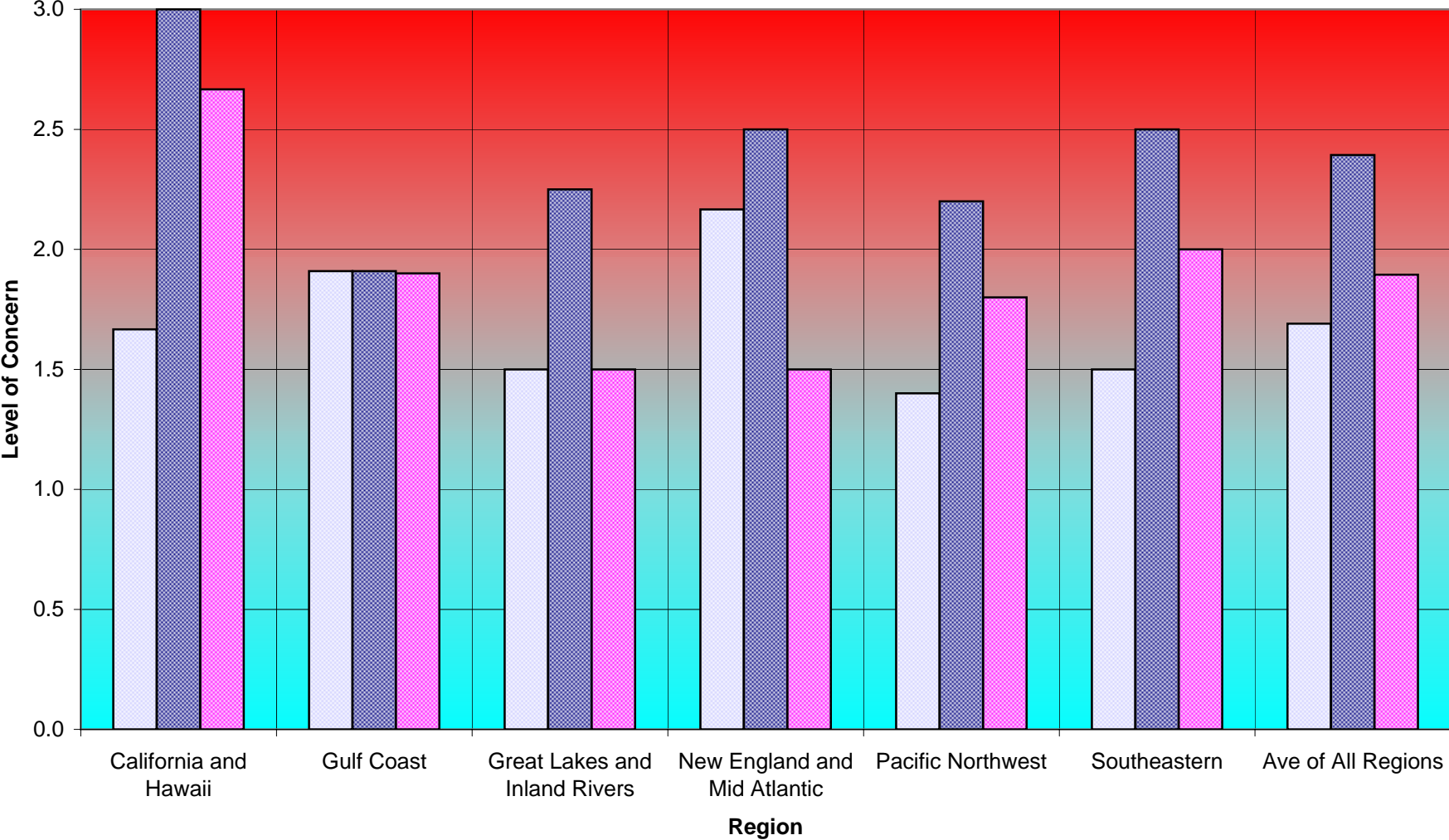
Compliance with Air Quality Requirements



Compliance with Air Quality Requirements

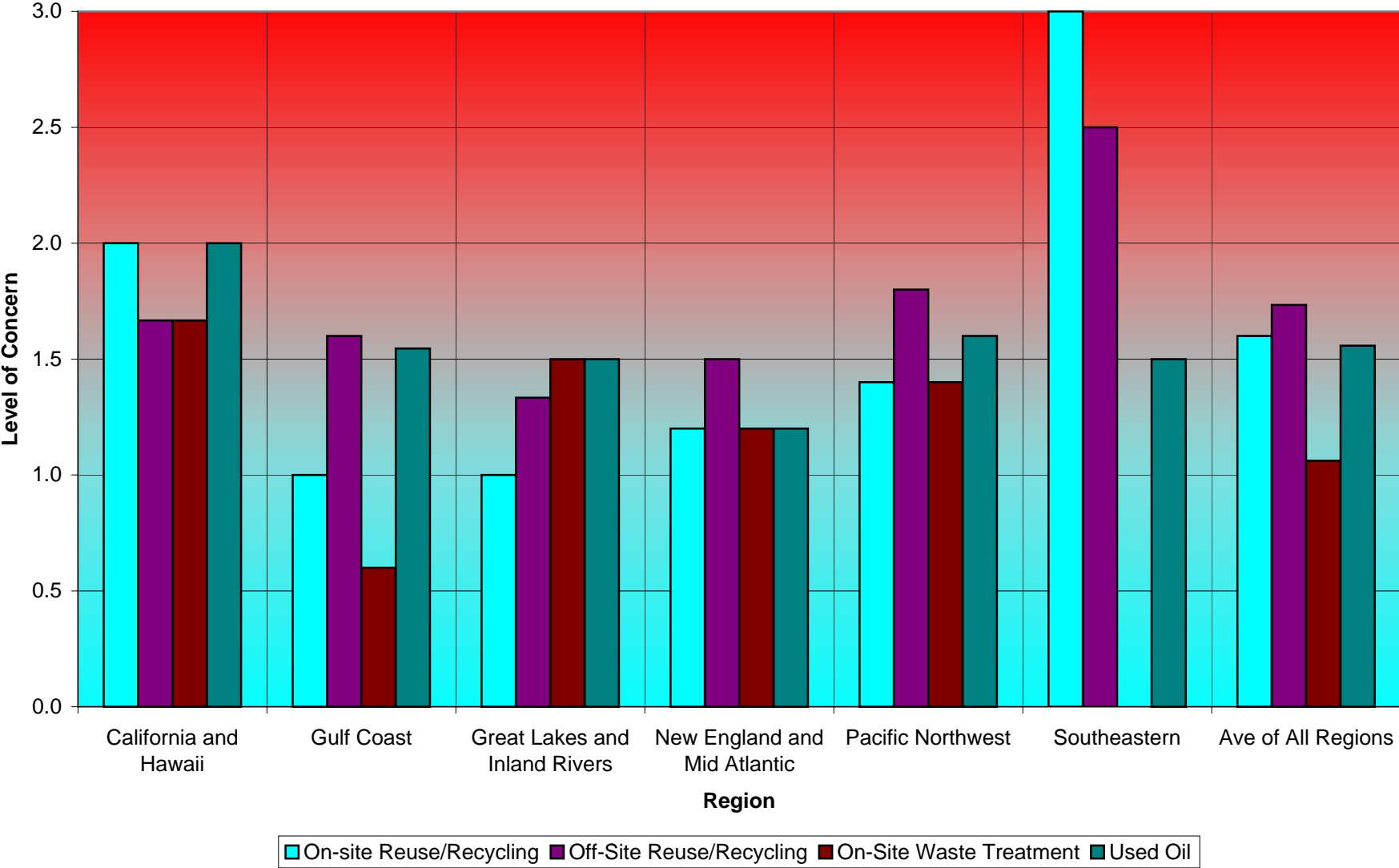


Compliance with Waste Management Requirements

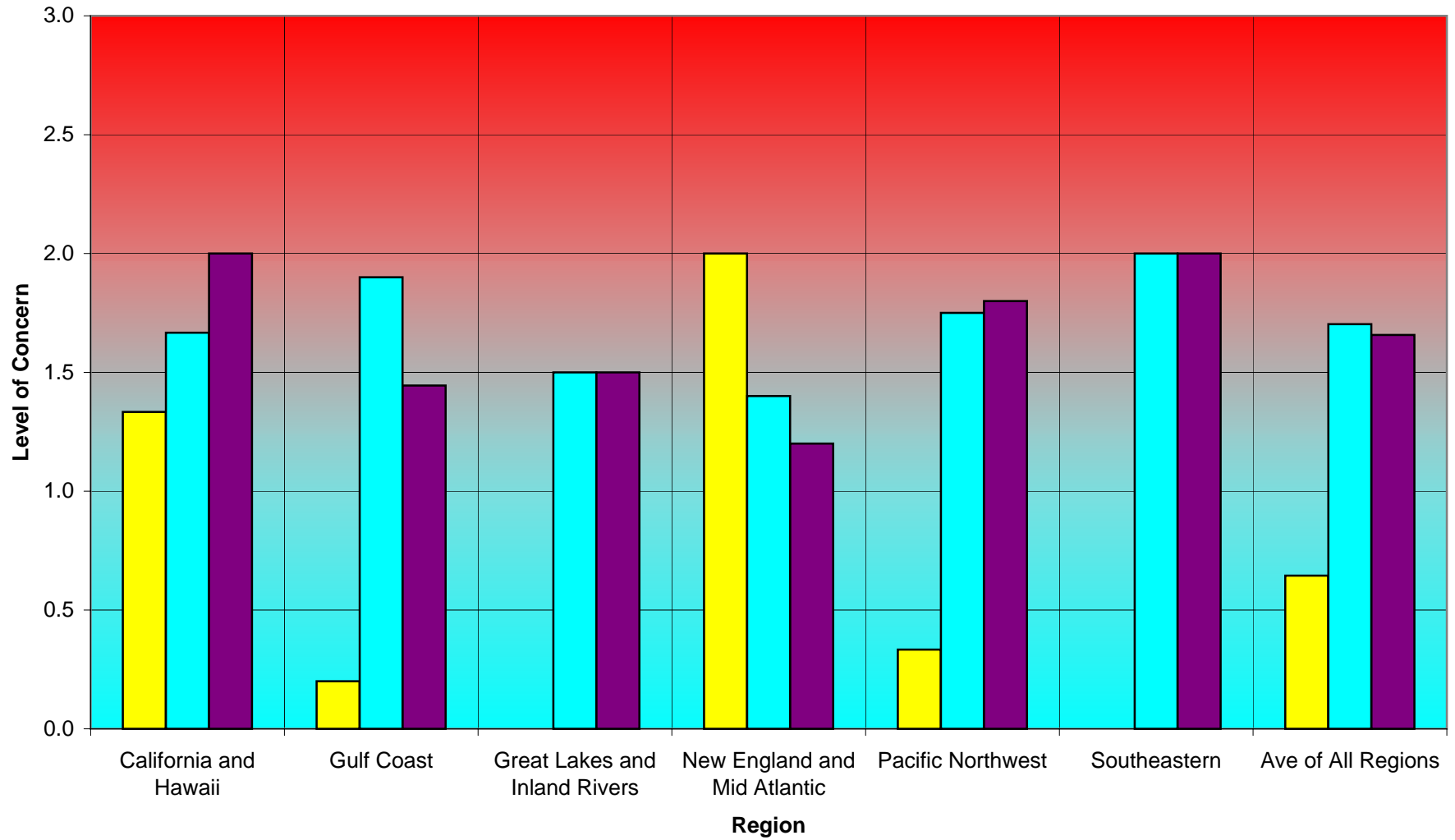


Legend: Solid Waste Management (light blue), Hazardous Waste Management (dark blue with grid), Special Waste Management (magenta)

Compliance with Waste Management Requirements

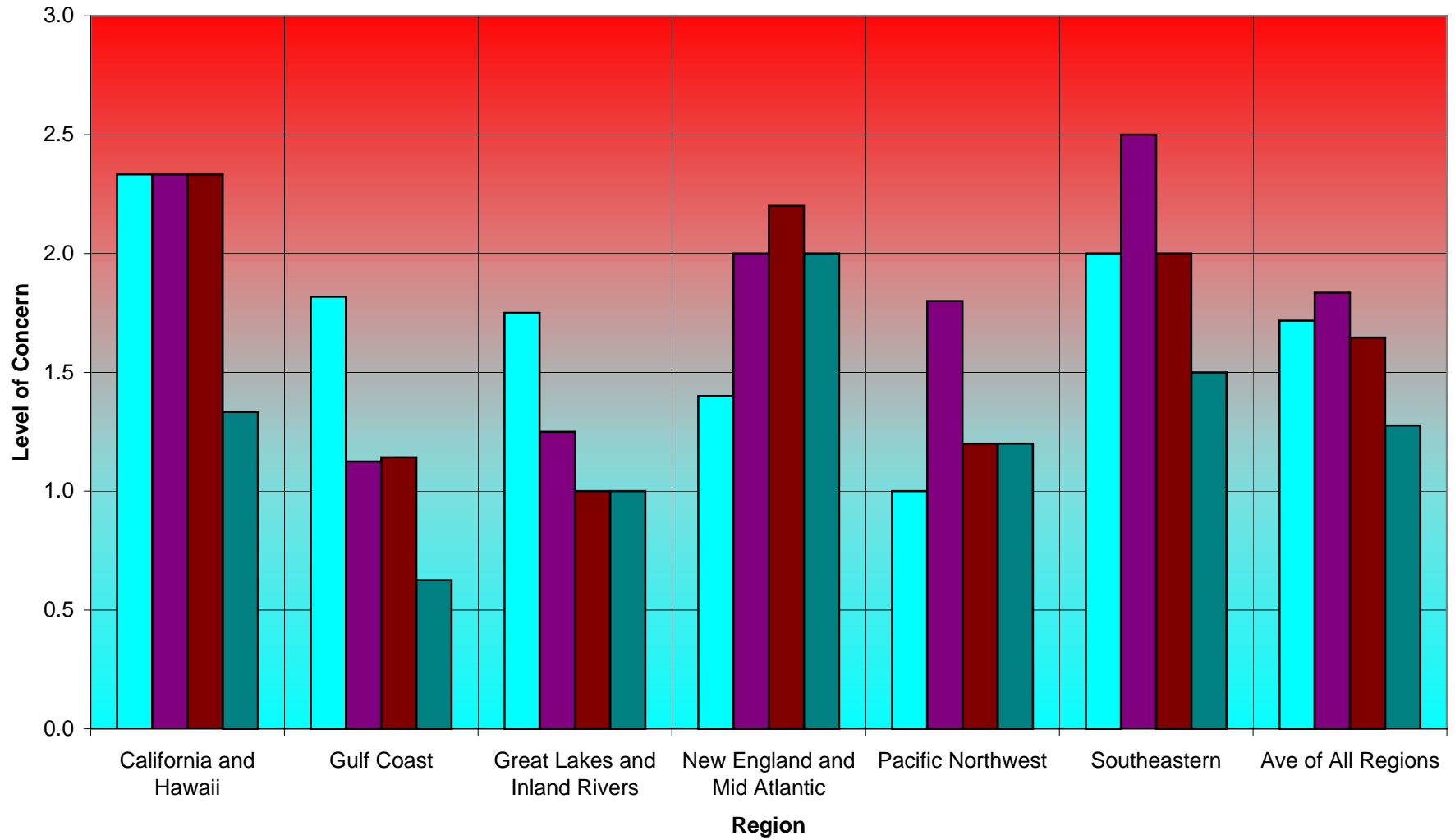


Compliance with Hazardous Materials Requirements



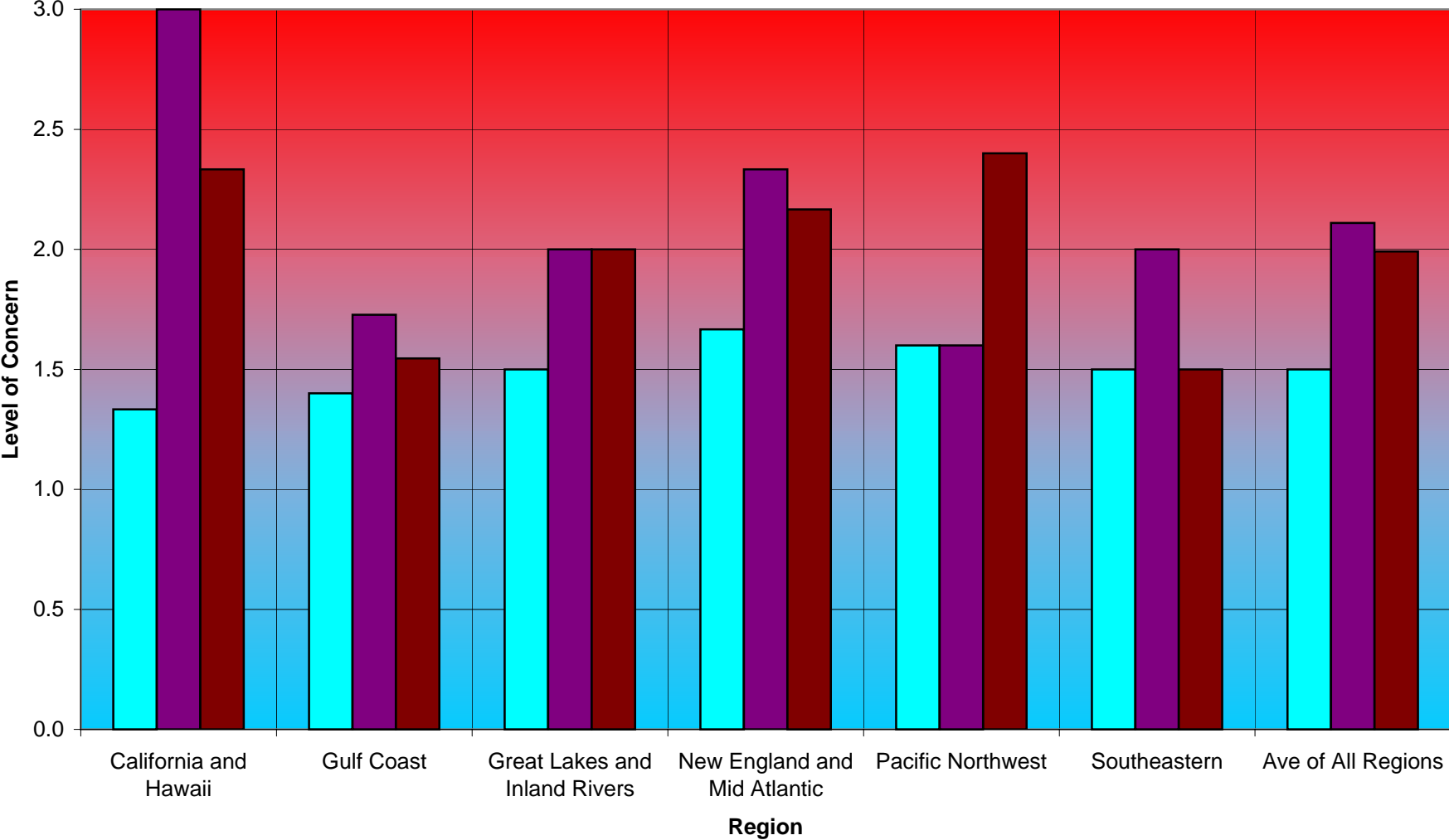
Legend: ■ Underground Storage Tanks ■ Aboveground Storage Tanks ■ Hazardous Materials Transportation

Compliance with Hazardous Materials Requirements



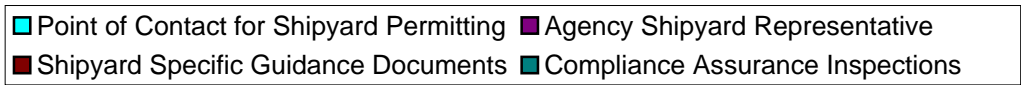
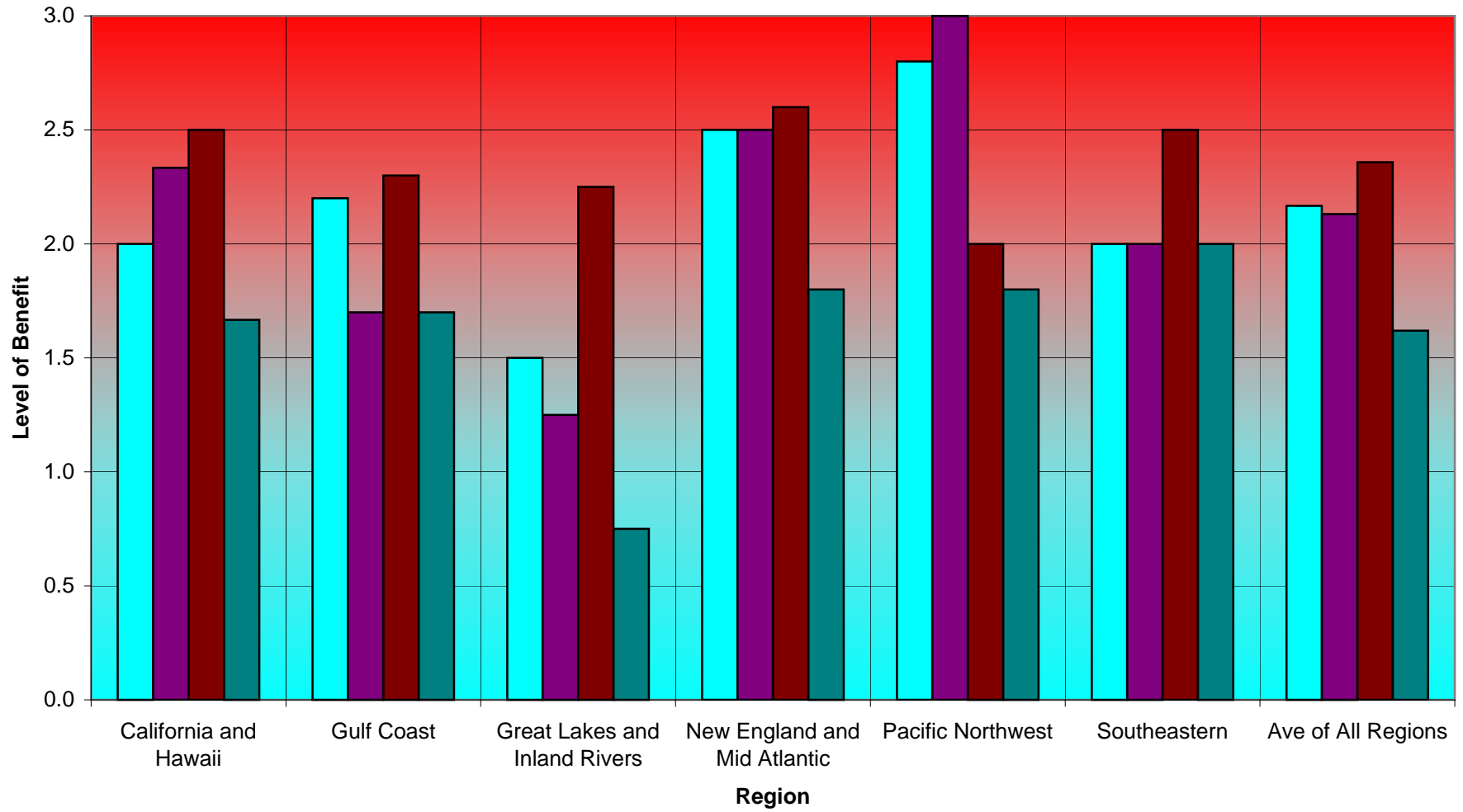
Worker-Right-To-Know Lead Abatement Asbestos Abatement PCB

Compliance with Contingency Planning Requirements

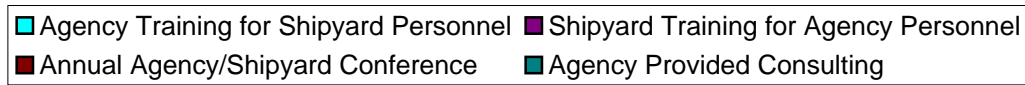
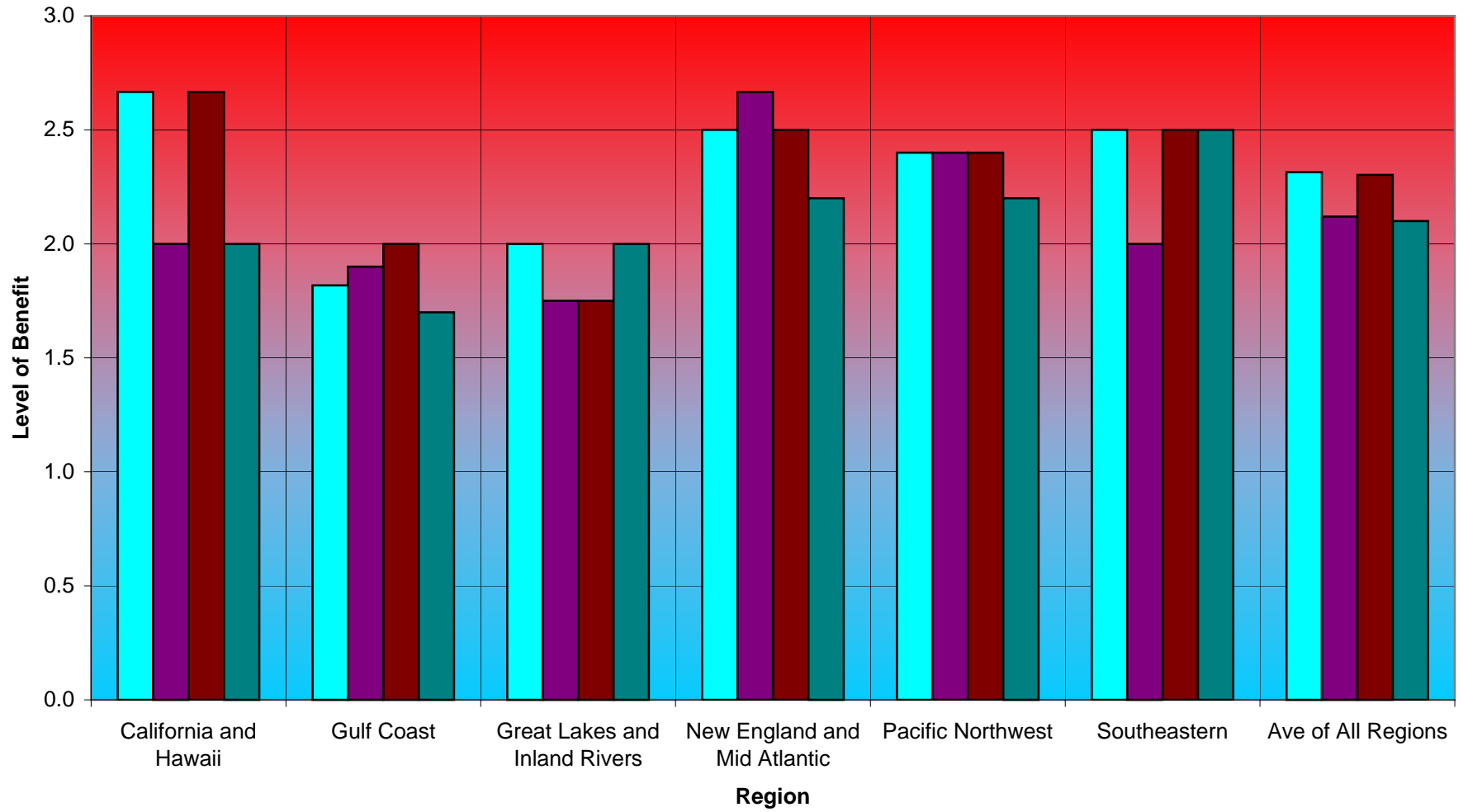


■ SARA Title III ■ Oil Spill Contingency Planning ■ Hazardous Materials Spills

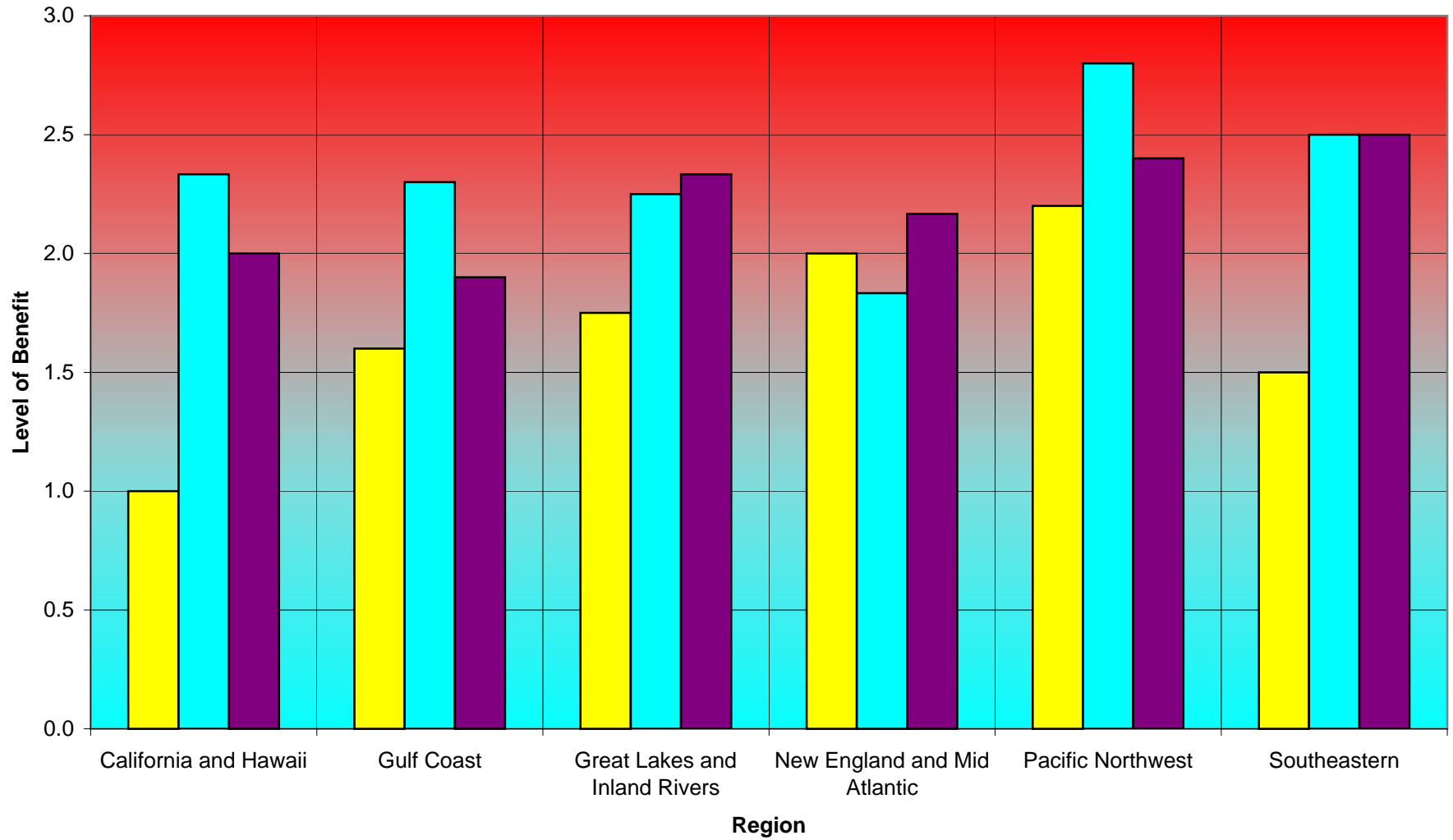
Agency Provided Assistance



Agency Provided Assistance

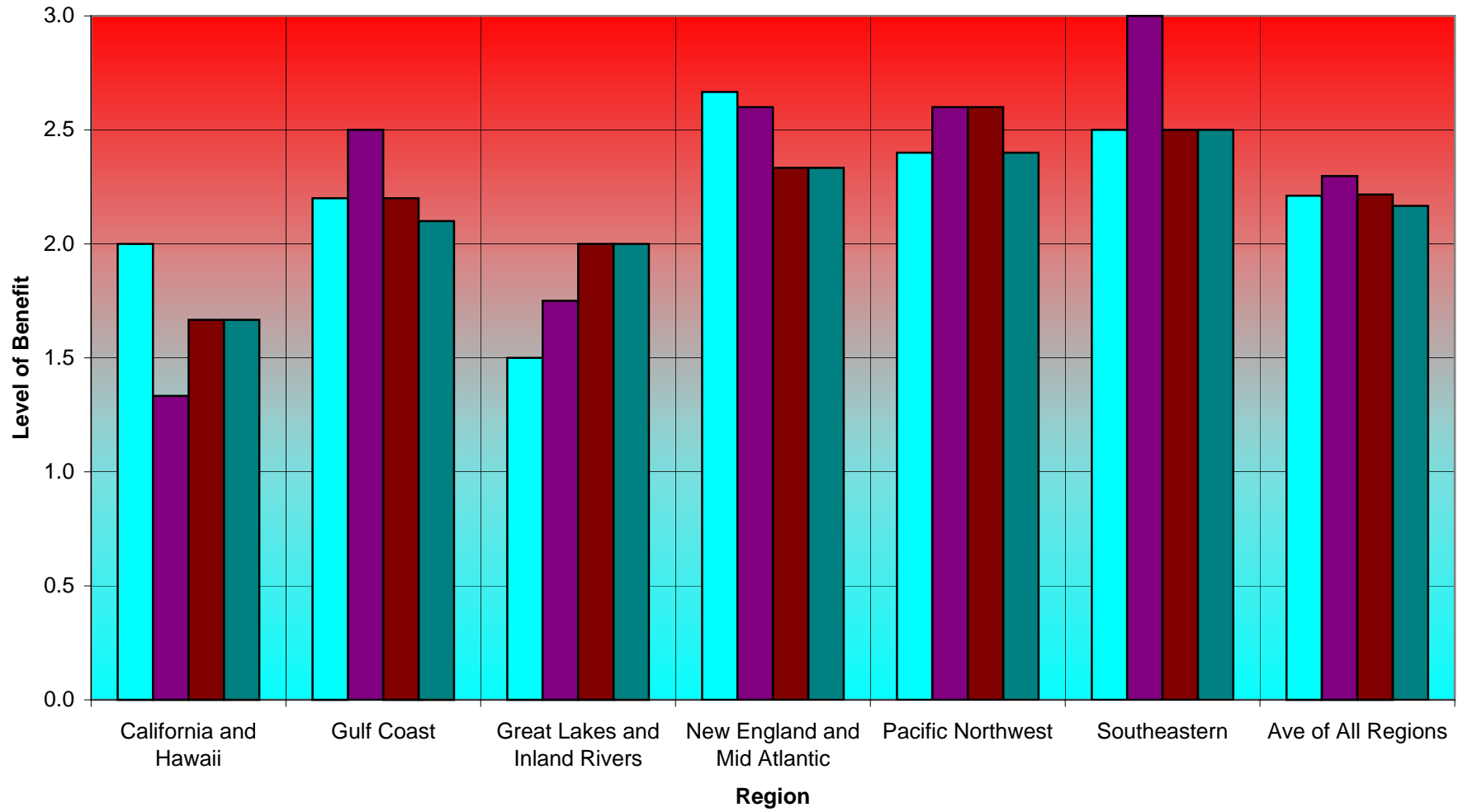


Industry Provided Assistance



■ Shipyard to Shipyard Mentoring Program ■ Shipyard Developed Training Programs ■ Shipyard Resource Sharing

Industry Provided Assistance



Appendix 2



National Shipbuilding Research Program Environmental Technology Panel

SHIPYARD ENVIRONMENTAL ISSUES AND IMPACTS OF CONCERN

The Environmental Technology Panel (“ETP”) of the National Shipbuilding Research Program (“NSRP”) is conducting a survey of 50 shipyard facilities in the United States to determine their environmental issues and impacts of concern. Dana M. Austin Environmental Consulting, Inc. (“AECI”) is conducting this study under contract to the NSRP. The purpose of this research is to identify and prioritize the environmental issues and impacts currently being focused on by shipyards on a national and regional basis. The results of this survey will be published at a later date in an NSRP report. Only the combined data results of the survey will be published. Any shipyard specific information will remain confidential. Any questions regarding this survey or NSRP project may be addressed to Mr. Dana Austin of AECI, at telephone number 904-287-1034.

This survey can be completed in less than 30 minutes.

Please complete and return this survey no later than one week after receipt.

Thank you for taking the time to prepare and return this survey. The results of this survey will be available from the NSRP as a published report in Mid-2003. Copies of this report can be downloaded from the NSRP documentation website at www.USAShipbuilding.com. Additional information regarding the NSRP and the Environmental Technology Panel can also be obtained at this site.

If this Survey was mailed to you, you may return the completed survey by mail using the enclosed self-addressed and stamped envelope, or by fax using the attached cover page at the end of the survey.

If this Survey was faxed to you, you may return the completed survey by fax using the attached cover page at the end of the survey.



National Shipbuilding Research Program Environmental Technology Panel

Contact, Facility and Primary Market Information

This section requests information regarding the contact, facility and primary market data.

<i><u>Contact Information</u></i>		
Name:	Job Title:	
Phone:	Fax:	
E-mail:		
<i><u>Facility Information</u></i>		
Company:		
Street Address:		
City:	State:	Zip Code:
Facility Size (acres):	Avg. Annual Employment:	
Type: <input type="checkbox"/> Public Shipyard <input type="checkbox"/> Private Shipyard <input type="checkbox"/> Other:		
Type of Operations: <input type="checkbox"/> Ship Repair <input type="checkbox"/> Ship Construction <input type="checkbox"/> Other:		
<i><u>Primary Market Information</u></i>		
Navy Ships (Surface Ships and Submarines)		
<input type="checkbox"/> Navy Ships New Construction <input type="checkbox"/> Navy Ships Repair		
Other Public Ships (Ferries, Research, and others)		
<input type="checkbox"/> Other Public Ships New Construction <input type="checkbox"/> Other Public Ships Repair		
Commercial Ships (Cargo, Tankers, and others)		
<input type="checkbox"/> Commercial Ships New Construction <input type="checkbox"/> Commercial Repair		
Fishing Vessels		
<input type="checkbox"/> Fishing Vessels New Construction <input type="checkbox"/> Fishing Vessel Repair		
Offshore rigs		
<input type="checkbox"/> Offshore Rigs New Construction <input type="checkbox"/> Offshore Rigs Repair		
Offshore Service Vessels		
<input type="checkbox"/> Offshore Service Vessels New Construction <input type="checkbox"/> Offshore Service Vessels Repair		
Barges (Ocean and inland water barges)		
<input type="checkbox"/> Barges New Construction <input type="checkbox"/> Barges Repair <input type="checkbox"/> Barges Cleaning/Gas Freeing		
Yachts and Pleasure Craft		
<input type="checkbox"/> Yachts and Pleasure Craft New Construction <input type="checkbox"/> Yachts and Pleasure Craft Repair		
Shipbreaking		
<input type="checkbox"/> Shipbreaking		
Other: _____		
<input type="checkbox"/> _____ <input type="checkbox"/> _____		
Other: _____		
<input type="checkbox"/> _____ <input type="checkbox"/> _____		



National Shipbuilding Research Program Environmental Technology Panel

Environmental Issues of Concern

Shipyards Operations and Processes

This section requests information about shipyard operations and processes that are of concern to your shipyard with respect to their actual or potential environmental impact. The following section contains a list of common shipyard production and facility operations and processes. If your facility performs operations or processes not listed below, please list these in the “Other” category at the end of end list.

Operation or Process	Level of Concern for Environmental Impact (check one)				
	None	Little	Moderate	High	N/A
Production Operations					
Dry Abrasive Blasting, Out-of-doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dry Abrasive Blasting, Enclosed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solvent Cleaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High Pressure Water Washing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ultra High Pressure Water Jetting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coatings Application, Out-of-doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coatings Application, Enclosed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal Welding, Cutting, Brazing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal Grinding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pipefitting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipfitting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sheetmetal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forge and Foundry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Machining – Shipboard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Machining – Shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pump and Turbine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tank Testing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carpentry and Woodworking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation Removal and Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asbestos Removal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Conditioning and Refrigeration Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coppersmithing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electroplating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electrical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Shipyards production operation or process about which we are most concerned regarding its potential or actual environmental impact is:					
Our primary reason(s) for concern regarding this Shipyards production operation or process is:					



National Shipbuilding Research Program Environmental Technology Panel

Facility Operations	None	Little	Moderate	High	N/A
Ship Docking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ship Drydocking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ship Launching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crane and Rigging Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Staging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electrical Power Generation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compressed Air	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steam Generation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facility Maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Housekeeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Materials Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Shipyard facility operation or process about which we are most concerned regarding its potential or actual environmental impact is:					
Our primary reason(s) for concern regarding this Shipyard facility operation or process is:					

Shipyard Environmental Compliance

This section requests information regarding the areas of environmental compliance that are of concern to your shipyard with regard to your ability to meet, and stay within, the compliance standards. The following section contains a list of environmental compliance subject areas to which shipyards are commonly subject. If there are compliance subject areas of concern to your facility that are not listed, please add them to the "Other" category at the end of the list.

Environmental Subject Area	Level of Concern in Meeting Standards (check one)				
Water	None	Little	Moderate	High	N/A
Waste Water Discharges to POTW	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waste Water Discharges to Surface Waters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm Water Discharges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-Site Waste Water Treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-Site Drinking Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ship's Discharges to Surface Waters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NPDES Permitting-Point Sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NPDES Permitting-Stormwater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



National Shipbuilding Research Program Environmental Technology Panel

Dredge and Fill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil Discharges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Shipyard Water Compliance issue about which we are most concerned is:					
Our primary reason(s) for concern regarding this Water Compliance issue is:					
Air	None	Little	Moderate	High	N/A
New Source Review	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prevention of Significant Deterioration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Title V Permits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipyard NESHAP/MACT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accidental Release Prevention (Title III)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Toxic Emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Particulate Emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VOC Emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motor Vehicle Emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acid Rain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ozone Depletion (CFC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Shipyard Air Compliance issue about which we are most concerned is:					
Our primary reason(s) for concern regarding this Air Compliance issue is:					
Waste	None	Little	Moderate	High	N/A
Solid Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Waste Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special Wastes (such as spent abrasive)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-Site Reuse/Recycling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off-Site Reuse/Recycling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-Site Waste Treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Used Oil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



National Shipbuilding Research Program Environmental Technology Panel

Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Shipyard Waste Compliance issue about which we are most concerned is:					
Our primary reason(s) for concern regarding this Waste Compliance issue is:					
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Materials	None	Little	Moderate	High	N/A
Underground Storage Tanks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Above Ground Storage Tanks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Materials Transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Worker-Right-To-Know	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead Abatement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asbestos Abatement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Shipyard Hazardous Materials Compliance issue about which we are most concerned is:					
Our primary reason(s) for concern regarding this Hazardous Materials Compliance issue is:					
Emergency Planning	None	Little	Moderate	High	N/A
SARA Title III	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil Spill Contingency Planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Material Spills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Shipyard Emergency Planning issue about which we are most concerned is:					
Our primary reason(s) for concern regarding this Emergency Planning Compliance issue is:					



National Shipbuilding Research Program Environmental Technology Panel

Compliance Assistance Tools

The following section requests information regarding the types of environmental compliance assistance tools your shipyard would find to be beneficial, if they were available. If there are additional compliance assistance tools you believe would be beneficial, please add them to the “Other” category at the end of the list.

Compliance Assistance	Benefit of Compliance Assistance Tools (check one)				
Agency Tools	None	Little	Moderate	High	N/A
Point of Contact for Shipyard Permitting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agency Shipyard Representative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipyard Specific Guideline Documents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compliance Assurance Inspections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agency Training for Shipyard Personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipyard Training Agency Personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annual Agency/Shipyard Conference	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agency Provided Consulting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Compliance Assistance Tool that would be most beneficial to this facility at this time is:					
The primary reason(s) that this Compliance Assistance Tool would be beneficial is:					
Industry Assistance Tools	None	Little	Moderate	High	N/A
Shipyard to Shipyard Mentoring Program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipyard Developed Training Programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipyard Resource Sharing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National Shipyard Environmental Conference	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regional Shipyard Environmental Conference	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry Prepared Guidance Documents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry Point of Contact for Environ. Issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Industry Assistance Tool that would be most beneficial to this facility at this time is:					
The primary reason(s) that this Industry Assistance Tool would be beneficial is:					

Panel Outreach Project

Task Three: Subtask 1 Deliverable:

**Develop Environmental Technology
Panel Strategic Plan**

Environmental Technology Panel Strategic Plan

Problem Statement: Membership and participation in ETP meetings and activities has declined substantially over the past four years. If the ETP is going to continue to be viable NSRP Panel, participation must be increased to at least a minimum level to support ETP meetings and activities.

Current State

- ❖ The original focus of the SP-1 Panel was management of the Panel funded projects. Meeting Content typically consisted of:
 - SP-1 Project Reports
 - Regulatory updates
 - Manufacturer/Vendor presentation
 - Trade Group updates
 - Environmental Agency presentations

- ❖ The Key Primary and Secondary Benefits of Participation in SP-1 meetings and activities were:
 - **Primary Benefits**
 - *Shipyards Environmental Manager*
 - Proposing projects for funding that would meet an immediate or long term need of the participant's job responsibility in their facility.
 - *Shipyards*
 - NSRP funded research and development applicable to specific shipyard facility
 - *Vendors and Distributors*
 - Present product/service information to potential customers.
 - Develop personal relationships/friendships with industry representatives.
 - Develop sales leads and contacts.
 - *Affiliated Organizations*
 - Input regarding shipyard environmental issues from primary sources (Shipyards Environmental Managers)
 - Information regarding shipyard operations and processes
 - **Secondary Benefits**
 - *Shipyards Environmental Manager*
 - Professional Development
 - ◆ Continuing education
 - Networking Opportunities
 - ◆ Shipyards Environmental Managers
 - ◆ Academic Researchers
 - ◆ Professional Services
 - ◆ Environmental Technology Manufacturers
 - *Shipyards*
 - Improved Environmental Management department efficiency (Better, smarter employees)

- Prediction of future trends in environmental issues (“getting ahead of the curve”).
- National technical organization to speak for the industry .
- Input to Shipyard CEO/Presidents on critical environmental issues to make better business decisions.
- *Vendors and Distributors*
 - (No real Secondary Benefits)
- *Affiliated Organizations*
 - (No real Secondary Benefits)

Problem Impact Statement

The change in the Panel project funding policy has resulted in the reduction of the overall project authority by the ETP. The ETP now has no direct authority over NSRP funding for environmental projects, and must compete with the other NSRP panels for limited Panel specific projects. Accordingly, the Primary Benefits for the Shipyard Environmental Manager and the Shipyard to participate in ETP meetings and activities has been eliminated. When the key Primary Benefits were eliminated, participation by Shipyard Environmental Managers and their supporting Shipyards declined to below critical levels. Declining participation by shipyard environmental personnel has resulted in the reduction and/or elimination of the Primary Benefits of the Vendors and Distributors, and Affiliated Organizations, as these benefits are directly related to contact with the Shipyard Environmental Managers.

As overall participation declined, secondary benefits were also reduced, thereby resulting in an even lower motivation for participation by shipyard environmental personnel.

Potential Solutions

There appear to be two general answers in reversing the decline in participation levels, only one of which may be a viable solution. They are:

- 1) Revert the NSRP panel project funding model back to its previous arrangement; or
- 2) Change the ETP focus from Panel Project Management to Professional Development and Networking.

Alternative 1 above does not appear to be viable from the perspective of the ETP, as this option is beyond the overall authority of the ETP to implement. In order for this “reversal” to take place, the authority and support of the Executive Control Board would be required. It is unlikely that the ECB would support this solution given that the ECB instituted the present system in an effort to resolve other problems and inefficiencies of the NSRP Panel structure.

Alternative 2 above is viable in that it can be implemented given the authority and resources of the ETP. ETP has the authority to change the focus of its meetings and activities so that there is a corresponding shift in the key Primary and Secondary Benefits for participation of its membership. Additionally the Panel has the necessary

organizational and financial resources to successfully implement a shift in focus from Project Management to a Professional Development/Networking organization.

Strategic Planning

The shift in the ETP focus from Project Management to Professional Development/Networking (“PD/N”) will require the implementation of multiple strategic elements over a period of approximately one year. This task is simplified by the fact that successful models for Professional Development/Networking organizations¹ are widely available and can be easily adopted for use with the ETP.

The two key elements of successful PD/N organizations are content and logistics. The administrative structure of the PD/N must be able to provide both elements in a competent and consistent manner in order to create the organization, and to allow participants of the organization to realize the key benefits necessary for membership involvement. Each of these elements is outlined in detail below.

❖ ETP Content

- Relevant to the professional responsibilities of the primary participants.
 - Comprehensive in scope relative to the environmental life cycle of ships and vessels
 - Timely in relationship to important environmental issues affecting the shipbuilding and repair industry sector.
- Structured to provide a comprehensive learning opportunity.
 - Product environmental life cycle
- Delivered in a manner that facilitates comprehension and learning.
 - Training format

❖ ETP Meeting Logistics

- **Standardize the Meeting Design**
 - Meeting Theme Content
 - Presentation Materials
 - ◆ Content Manual
 - Hard copy of Meeting information
 - Take home electronic copy
 - ◆ Content Slides
 - Take home electronic copy
 - ETP Meeting
 - Panel Update - Chair
 - Project Updates – Project Manager(s)
 - Project Brainstorming – Vice Chair
 - Other Presentations/regulatory updates
 - Networking Opportunities
 - Local Area Shipyard tour
 - Recreational Opportunities

¹ Including the NSRP Panel’s parent organization, the Society of Naval Architects and Marine Engineers.

- Other
- **Standardize the Meetings Dates**
 - Annual
 - 2nd Month of each quarter
 - ◆ February
 - ◆ May
 - ◆ August
 - ◆ November
 - Month
 - 2nd week of the month
 - Days
 - Tuesday, Wednesday, Thursday
 - Content
 - Tuesday – Meeting Theme Presentation
 - Wednesday - Panel meeting/additional presentations
 - Thursday – Networking Opportunities
- **Standardize the Meeting Locations**
 - Winter meeting - February
 - ◆ Gulf Coast Region
 - Spring Meeting – May
 - ◆ Southeastern Region
 - Summer Meeting - August
 - ◆ Pacific Northwest Region, or
 - ◆ New England Region
 - Fall Meeting – November
 - ◆ Great Lakes/Inland Waters Region
- **Standardize the Meeting Communications**
 - Notification of meetings and events
 - E-mail Announcements
 - ◆ Ongoing up to meeting date
 - Flyer/Mailers
 - ◆ Direct Mail Campaign
 - Fax reminders
 - ◆ Two faxes before the meeting
 - Input from participants
 - Primary Targets survey
 - ◆ Annually
 - ◆ Mailing
 - Meeting Participants
 - ◆ Each Meeting
 - ◆ Handouts
 - Input from Steering Committee
 - ◆ Meeting Content
 - ◆ Meeting Locations

❖ ETP Marketing Effort

- Participation targets
 - Maintain participation target contact database
 - Shipyard yard facilities
 - Subject Matter Experts
- ETP Content branding
 - Make ETP a recognizable “brand” of Professional Organizations to enhance image and credibility.

Implementation of Strategic Plan

The ETP Strategic Plan will be implemented in three phases over a period of one year. The results of each implementation step will be evaluated, and appropriate corrections will be instituted. The specific steps in each phase of the Plan are as follows:

- Core Implementation Phase
 - Purpose: Test rollout of core Plan elements, obtain basic cost data and measure of success metrics.
 - Develop content theme for ETP Winter 2003 Meeting.
 - Obtain subject matter expert for ETP Winter 2003 Meeting to produce and deliver content.
 - Develop ETP Winter Business meeting content and networking opportunities.
 - Prepare ETP Winter Meeting announcement for posting on NSRP Web site, and printing of mailers.
 - Update ETP Contact database with minimum list of 500 primary and secondary target contacts.
 - Implement abbreviated Communication Plan to notify primary and secondary targets of ETP Winter meeting.
 - Measure of Success Metrics: Success of the Core Implementation will be determined by the percent change in meeting attendance at the ETP Winter meeting versus the average attendance at ETP Meetings from 1996 – 2002.
- Full Implementation Phase
 - Purpose: Test roll out of full Plan elements, obtain full cost data and measure of success metrics.
 - Present Strategic Plan to ETP Steering Committee members at March 2003 meeting. Receive input from Steering Committee members and incorporate comments into Strategic Plan.
 - Develop content theme for ETP Summer 2003 Meeting.
 - Obtain subject matter expert for ETP Summer 2003 Meeting to produce and deliver content.

- Develop ETP Summer Business meeting content and networking opportunities.
 - Prepare ETP Summer Meeting announcement for posting on NSRP Web site and printing of mailers.
 - Update ETP Contact database with minimum list of 650 primary and secondary target contacts.
 - Implement Full Communication Plan in order to notify primary and secondary targets of ETP Winter meeting.
 - Measure of Success Metrics: Success of the Full Implementation Phase will be determined by the percent change in meeting attendance at the Winter/Spring/Summer meetings versus the average attendance at ETP Meetings from 1996 – 2002.
- On-going Implementation Phase
 - Purpose: On-going roll out of full Plan elements and measure of success metrics.
 - Present Strategic Plan to ETP Steering Committee members at May 2003 meeting. Receive input from Steering Committee members and incorporate comments into Strategic Plan.
 - Develop content theme for ETP Fall 2003 Meeting.
 - Obtain subject matter expert for ETP Fall 2003 Meeting to produce and deliver content.
 - Develop ETP Fall Business meeting content and networking opportunities.
 - Prepare ETP Fall Meeting announcement for posting on NSRP Web site and printing of mailers.
 - Update ETP Contact database with minimum list of 800 primary and secondary target contacts.
 - Implement Full Communication Plan to notify primary and secondary targets of ETP Fall meeting.
 - Metrics: Success of the On-going Implementation Phase will be determined by the percent change in meeting attendance at the 2003 meetings versus the average attendance at ETP Meetings from 1996 – 2002.

Summary

Participation by shipyard representatives and associated subject matter experts in the meetings and activities of the Environmental Technology Panel can be improved and maintained by shifting the Panel focus from Project Management to Content/Professional Development. This will entail a significant and on-going effort to locate and identify potential ETP participants and make them aware of the C/PD and Networking

opportunities, using a standardized communications protocol. It is envisioned that over a period of one year, a national pool of approximately 2,000 shipyard and subject matter participants can be developed. This would consist of approximately 500 shipyard contacts and 1,500 subject matter experts. Content subject and meeting location will be the primary drivers for participation in ETP meeting. After the full implementation phase is achieved, it is predicted that the average annual attendance at the ETP meetings will range from 75 to 100 persons.

Bath Iron Works

A GENERAL DYNAMICS COMPANY

Engineering Report

March 14, 2003

Shipyard Environmental Regulations Database Development Project

Prepared For:

**National Shipbuilding Research Program (NSRP)
Environmental Technology Panel, SP-1**

Prepared By:

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Distribution is authorized for U.S. Shipyards and NSRP ASE representatives.

National Shipbuilding Research Program (NSRP) Shipyards Environmental Regulations Database Development Project

Executive Summary

The purpose of the Shipyards Environmental Regulations Database Development Project is to assess the level of interest of NSRP members in a searchable Environmental Laws and Regulations Database that would be accessible through a standard internet browser, and to establish a first-year ROM cost to NSRP for development and use of the database.

This proposed NSRP Environmental Laws and Regulations Database would be built upon a similar database developed previously by General Dynamics-Bath Iron Works (BIW) and General Dynamics-Electric Boat (EB) to support environmental compliance of LPD-17, the US Navy's next class of amphibious assault ship. This is a cost effective approach since the bulk of the database and user interface concept already exist. The first-year ROM cost to NSRP would cover updating the existing Laws and Regulations Oracle database to reflect changes in environmental law over the last year or so, development of an NSRP internet-accessible interface to replace the existing General Dynamics intranet interface, and incorporation of user-tracking functions that would assist NSRP in determining if continued access to the data would be of interest to NSRP members.

Based upon conversations with personnel at NSRP member shipyards and feedback from a presentation on database capabilities given at the NSRP Winter Environmental Technology Panel Meeting in St. Petersburg, FL, on February 12, 2003, there appears to be a high level of interest among NSRP members in a searchable, web-accessible Environmental Laws and Regulations Database. The first-year ROM cost to NSRP for development, implementation, access, and usage-tracking of the database would be approximately \$83.5K.

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APPENDIX A: List of Acronyms

APPENDIX B: Slideshow presentation entitled “Shipbuilding Environmental Laws and Regulations Database” given to NSRP “Shipyard Environmental Legal and Litigation Issues and Environmental Panel Meeting” on February 12, 2003, St. Petersburg, FL

1 Introduction

Current Department of Defense (DoD) directives require the integration of environmental considerations into the systems engineering process that is used to define, design and build ships. As a result, naval designers are now required to develop ships that will be environmentally sound throughout their entire life cycle. This life cycle includes concept exploration, design, construction, operation, and disposal phases. Many of the environmental requirements addressed during a ship's life cycle phases are based upon environmental laws and regulations that must be followed regardless of which yard actually designs and builds the ship.

NSRP's mission is to manage and focus national shipbuilding research and development funding on technologies that will reduce the cost of warships to the US Navy and will establish US international shipbuilding competitiveness. This report reviews an existing technology that could be easily modified to allow all US shipyards to more efficiently access and interpret environmental requirements, thereby contributing to NSRP's mission.

This report is broken down into several sections, as follows:

Section 2, Assessment of Applicable Environmental Regulations provides a general discussion of environmental regulations, including international, federal, & state/local regulations, as well as Presidential Executive Orders & DoD/Navy directives.

Section 3, Environmental Regulations Usage by Shipyards Personnel covers access to and interpretation of applicable environmental regulation information by those tasked with "ashore" compliance (the shipyard facilities group) and "afloat" compliance (the shipyard design group).

Section 4, BIW/EB Environmental Regulations Database presents an example of an existing user-friendly technology that allows both experienced environmental professionals and those unfamiliar with environmental regulations to search for and access applicable data.

Section 5, Representative Graphical User Interface (GUI) for NSRP Environmental Regulations Database is a description of a modified database built upon existing technology, described in Section 4, that could be made available for NSRP use.

Section 6, First-Year ROM Cost covers the cost for a web-based, searchable NSRP Environmental Laws and Regulations database.

Section 7, Conclusion is a summary of the material presented.

2 Assessment of Applicable Environmental Regulations

Environmental requirements applicable to US shipyards performing commercial or government work generally fall into one of the categories listed below:

- Federal Laws & Regulations
- State/Local Regulations
- Presidential Executive Orders
- Department of Defense/Navy Directives
- International Regulations

A description of each is given below.

Federal Laws & Regulations

A bill is a document proposed by a member of Congress that, if approved, becomes a law. The new law becomes an act following presidential approval. Some of the better-known acts relating to the environment are the *Clean Air Act*, the *Clean Water Act*, the *Safe Drinking Water Act*, and the *National Environmental Protection Act (NEPA)*.

Laws often do not include all the details that allow them to be put into practice. Therefore, Congress authorizes the Environmental Protection Agency (EPA) and other government agencies to create regulations that set specific rules about what is and is not legal. For example, a regulation issued by EPA to implement the *Clean Air Act* might state what levels of a particular pollutant are safe, tell industries how much of the pollutant may legally be emitted into the air, and establish penalties for non-compliance.

Examples of Federal Regulations that impact US shipbuilding interests include:

- 40 CFR 130, *EPA Requirements for Water Quality Planning and Management*,
- 32 CFR 775, *Department of the Navy Procedures for Implementing the National Environmental Policy Act (NEPA)*, and
- 33 CFR 155, *Oil or Hazardous Material Pollution Prevention Regulations for Vessels*.

Another type of Federal Regulation that deserves mention is the Uniform National Discharge Standards (UNDS). UNDS is an effort by the DoD, EPA, and the U.S. Coast Guard (USCG) to enhance the environmental protection of US harbors and coastal areas by developing national standards for controlling discharges from Armed Forces vessels. UNDS is still in the regulatory development process, and has yet to be approved.

State/Local Regulations

Often compliance with Federal environmental regulations is implemented through directives and regulations at the State level. State regulations are required to be at least as restrictive as the Federal laws and regulations they implement. An example of a state or local regulation would be limiting not just what can be discharged into a river (the *Clean Water Act* addresses this), but placing limits on the temperature of the discharge. State and local regulations, since they apply only to ship construction and repair at yards located within a particular geographical region, are not common to all US shipyards.

Presidential Executive Orders

Presidential Executive Orders direct Federal agencies to comply with various federal laws and regulations, and may provide specific guidance for implementing the law or regulation's requirements. An example would be Executive Order 12114, dated 1/4/79, *Environmental Effects Abroad of Major Federal Actions*, which directs Federal agencies to establish internal procedures to consider the significant effects of their actions on the environment outside the United States, its territories and possessions.

Department of Defense/Navy Directives

Department of Defense and Navy directives address how acquisition programs and activities implement the requirements of laws, regulations, and presidential orders. Examples include DoD 5000.2-R, *Mandatory Procedures for Major Defense Acquisition Programs*, which states that all programs, regardless of acquisition category (ACAT), shall conduct environmental analysis in accordance with applicable federal, state, interstate, and local environmental laws and regulations, and Secretary of the Navy Instruction (SECNAVINST) 5000.2B, *Implementation of Mandatory Procedures...*, which provides additional guidance on implementing NEPA within Department of the Navy (DoN) acquisition programs.

International Regulations

As late as the 1950s, each shipping nation had its own system of maritime laws and regulations. Standards and requirements in these laws varied considerably, or were even contradictory. The result was a situation that was detrimental to shipping safety at the international level.

Since then the vast majority of seafaring nations have agreed to international regulations, which include treaties, protocols, and agreements. The International Maritime Organization (IMO) has facilitated most of these regulations.

Examples of international regulations include:

- The London Dumping Convention
- Prevention of Air Pollution From Ships, Including Fuel Oil Quality (IMO)
- Regulations for the Prevention of Oil Pollution From Ships At Sea (MARPOL Annex I)

The trend is for the number of environmental laws and regulations applicable to US shipbuilding to increase. This applies to shipyards engaged in either commercial or Department of Defense work. A future focus of environmental compliance mandated at the federal level deals with the National Environmental Compliance Act (NEPA), which requires both Program Managers and Shipyards Facilities Compliance personnel to make better decisions by focusing on the ultimate effects of proposed actions. This is accomplished by taking a "design up front" attitude to pollution prevention instead of using more traditional "end-of-pipe" pollution control measures.

The environmental laws and regulations mentioned above generally define a requirement, but do not define how to achieve that requirement. Therefore, regulations are not a discriminator for ship designers competing for the same contract since generally all competitors are bound by the same regulations. The solution that most effectively meets the requirements, however, is a discriminator in assessing a ship's design.

3 Environmental Regulations Usage by Shipyards Personnel

Environmental Regulations usage by shipyard personnel varies according to the type of work done by each yard. For example, yards that do just construction and repair have different usage patterns than yards that perform design and construction/repair. In preparing this report, personnel from both types of yards were contacted to determine environmental regulations usage. A listing of the yards contacted, as well as the type of work they perform, is given below:

- 2 West Coast Yards
 - Cascade General* (construction/repair)
 - NASSCO* (design AND construction/repair)
 - 4 East Coast Yards
 - BIW* (design AND construction/repair)
 - EB* (design AND construction/repair)
 - Newport News* (design AND construction/repair)
 - Norfolk Naval Shipyard (construction/repair)
 - 2 Gulf Coast Yards
 - Bender* (design AND construction/repair)
 - International Ship Repair (construction/repair)
- [* denotes NSRP member company]

Shipyards performing both design work and construction/repair activities on a particular class of ship for the US Navy have two main users of environmental laws and regulations – the Facilities Staff and Design Staff. These can be seen in the center box in Figure 1 below.

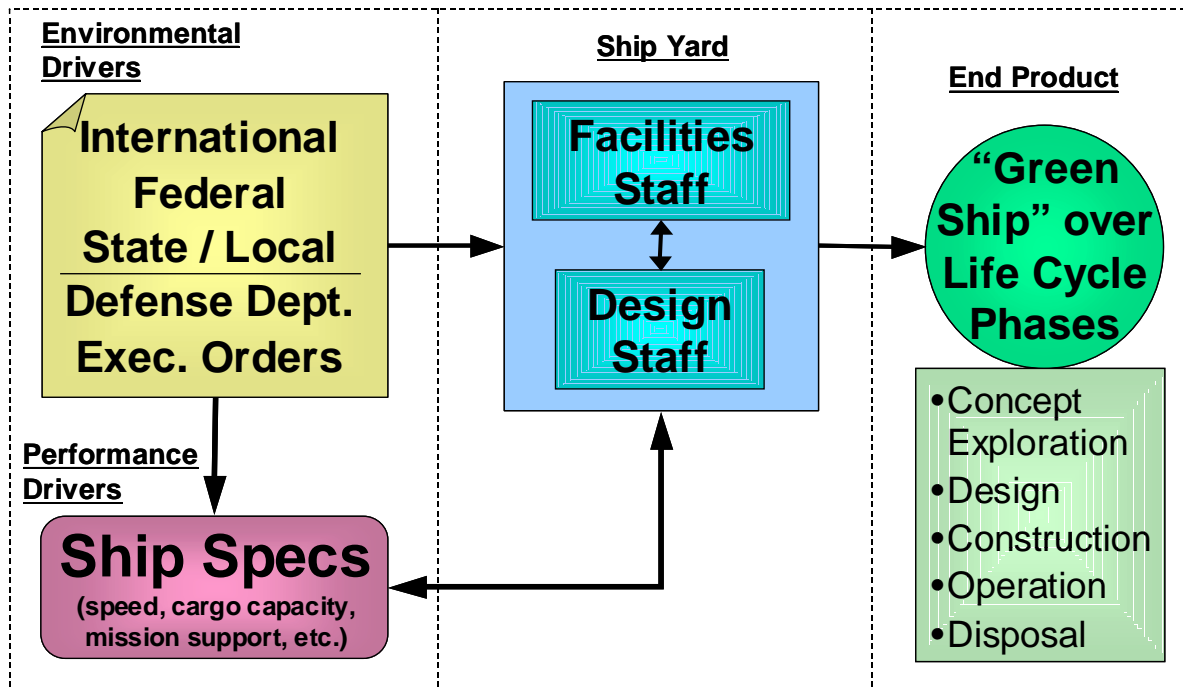


Figure 1 – Environmental Regulations Usage by Shipyards Personnel

The Facilities Staff traditionally addresses “Environmental Compliance Ashore.” Generally this staff has a mature system in place to insure environmental compliance during ship construction and repair, and is well aware of applicable laws, regulations, and permitted discharges. The size of the staff is dependent upon size of yard, and may range from one person that works environmental issues part-time with the assistance on an outside environmental consultant, to a staff of several employees that work full-time exclusively on environmental issues. The impact of lapses in environmental compliance by the Facilities Staff can be immediate, long-term, and expensive.

The Design Staff is required to address “Environmental Compliance Afloat.” Generally, however, the Design Staff is more experienced in designing ships to meet operational performance requirements rather than environmental compliance requirements. This paradigm is undergoing a shift, as Department of Defense regulations require the integration of environmental considerations into the systems engineering process regardless of the acquisition category of the project. Still, the support systems and infrastructure that assist the Design Staff in meeting their environmental requirements are not as mature as what is in place for the Facilities Staff to meet their own requirements.

These groups must work together to create an end product (see the right hand box in the figure) that is environmentally sound over its entire life cycle. This life cycle covers the ship from “cradle to grave” and encompasses concept exploration, design, construction, operation, and disposal phases. The double-ended arrow between the Facilities Staff and the Design Staff represents the required communication between the two groups necessary to achieve an environmentally sound ship.

Environmental Drivers for environmental compliance (see the left hand box in the figure) act both directly and indirectly on the shipyard. The Facilities Staff reacts primarily to direct State/Local requirements and some Federal requirements that are applicable during the construction phase. The Design Staff reacts primarily to International, Federal, and Defense Department requirements and Executive Orders applicable during the operation phase that are passed down through ship specifications as environmental requirements. The double-ended arrow between Ship Specs and Design Staff in the Figure represents another paradigm shift in that current Navy defense acquisition programs do not necessarily supply ship specs to designers, but may require that the Design Staff generate their own ship specs. This can be an issue if the Design Staff is expected to generate ship specifications for an environmentally sound ship with only limited knowledge of and limited access to applicable environmental laws and regulations.

4 BIW/EB Environmental Regulations Database

During 2001 and 2002, BIW and EB collaborated on a project that addressed LPD-17 environmental compliance. A subset of the data developed for that project included a searchable database of 344 environmental laws and regulations that included Federal Laws & Regulations (including UNDS), Presidential Executive Orders, Department of Defense/Navy Directives, and International Regulations.

Each law or regulation is entered as a record in an Oracle database. The fields in the database include the following:

- 1) Title of the Law or Regulation
- 2) Overview, consisting of a relatively short summary of the regulation's scope and applicability, and a link (if available) allowing the user to view the complete text of the regulation
- 3) Regulation Type, such as Department of Defense Instruction, Executive Order, Federal Law, Federal Regulation, International Law, etc.
- 4) Modified Date, representing the last date on which that particular database record was changed
- 5) Discharge Product, identifying any of 43 different types of discharges covered by the regulation
- 6) Medium of any discharges addressed by the regulation, including Air, Solid, Water, Hazardous Waste, or Other
- 7) Regions of the world where the regulation is applicable
- 8) Lifecycle Phases for which the regulation is applicable
- 9) Two fields that mapped to LPD-17's work breakdown structure title and number

The database is searchable by any of these fields.

Screen shots and other information on the BIW/EB database are presented in Appendix B, pages 18 through 36, and illustrate the type of searches that can be performed, typical search outputs, and examples of the kind of details available for each of the 344 laws and regulations contained in the database.

The existing database currently contains no information on state/local environmental laws and regulations. This data can be added, however, given the open design of the Oracle database. For example, a state requirement that might affect the shipbuilding process could be added as a record with the geographic area of applicability entered in the "Region" field, and "Construction" entered in the "Lifecycle Phase" field.

5 Representative NSRP Environmental Laws and Regulations Database

The BIW-EB Environmental Regulations Database discussed in the previous section demonstrates a technology that can assist NSRP in reducing the cost of warships to the US Navy and in establishing US international shipbuilding competitiveness. With slight modifications, the BIW-EB database could be modified to provide the Design Staff at other shipyards with a basic knowledge of the laws and regulations that drive environmental requirements, assist Facilities Staffs by educating others about environmental issues, and facilitate communication between Design and Facilities Staffs. The NSRP version of the database, if funded, would be accessed via the internet over a standard web browser.

Users would be required to submit their name, password, password hint, company name, and an email address in order to register through an automated process for search privileges and account creation. The registration process would occur without webmaster intervention, as would the automated means for users to retrieve forgotten passwords using the password hint function. Information submitted by registered users would enable automatic tracking of those users and generate data with respect to:

- Tracking of total “hits” to the web site
- Tracking of quantity of visits by individual users
- Tracking of quantity of total user searches

This user data would be crucial in enabling NSRP to make an informed decision regarding future funding for the database.

Screen shots and other information on the NSRP version of the database are presented in Appendix B, pages 37 through 41, and show that the database laws and regulations search functionality would remain the same as in the BIW-EB database. Access would be allowed to anyone with an internet connection and email address willing to complete the registration process, not just NSRP members.

6 First-Year ROM Cost

The first-year ROM cost for the Shipyards Environmental Regulations Database Development Project includes costs associated with the following activities:

- 1) Update Environmental Laws and Regulations Database
- 2) Create NSRP User Interface
- 3) Implement User-Tracking Functions
- 4) Project Management

Labor and Material Costs are broken down as follows:

Labor Costs	\$79.3 K
<u>Material Costs</u>	<u>+ \$4.2 K</u>
Total Costs	\$83.5 K

Assumptions:

- 1) Environmental Laws and Regulations Database to remain on secure server at General Dynamics-Electric Boat

7 Conclusion

The US Department of Defense (DoD) now requires defense acquisition programs to not just comply with applicable environmental regulations, but to integrate environmental considerations into the systems engineering process from a life-cycle perspective. This life-cycle perspective includes concept exploration, design, construction, operation, and disposal phases, and requires integration of environmental compliance efforts by both the Facilities Staff and Design Staff at NSRP member shipyards.

Shipyards that perform commercial or government work are faced with the task of accessing and interpreting environmental regulation information. Technology currently exists that would allow US shipyards to share the cost of accessing and interpreting much of this information residing at the international and federal level. This report demonstrates the capabilities and functionality of one tool that uses existing technology to put selected environmental regulations data in the hands of those that require it, and provides a representation of a possible NSRP user interface that could perform a similar function and be accessed via the internet by all US shipyards.

The proposed NSRP database would be based upon applicable international and federal environmental laws and regulations information that currently resides in an Oracle database developed by Bath Iron Works (BIW) and Electric Boat (EB) to support environmental compliance of the US Navy's LPD-17 class of amphibious assault ships. This database may be provided to NSRP but must be updated to reflect recent changes in environmental law, and a graphical user interface must be developed to allow internet web access. The expandable design of the database allows for inclusion of state/local environmental laws and regulations at a future date, if required.

Based upon conversations with personnel at NSRP member shipyards and feedback from a presentation on database capabilities given at the NSRP Winter Environmental Technology Panel Meeting in St. Petersburg, FL, on February 12, 2003, there appears to be a high level of interest among NSRP members in a searchable, web-accessible Environmental Laws and Regulations Database. The first-year ROM cost to NSRP for development, implementation, access, and usage-tracking of the database would be approximately \$83.5K.

APPENDIX A:

List of Acronyms

List of Acronyms

ACAT	Acquisition Category
BIW	Bath Iron Works, a division of General Dynamics
CFR	Code of Federal Regulations
DoD	Department of Defense
DoN	Department of the Navy
EB	Electric Boat, a division of General Dynamics
EPA	Environmental Protection Agency
GUI	Graphical User Interface
IMO	International Maritime Organization
LPD	Landing Platform Dock
MARPOL	International Convention for the Prevention of Pollution from Ships
NASSCO	National Steel and Shipbuilding Company, a division of General Dynamics
NEPA	National Environmental Policy Act
NSRP	National Shipbuilding Research Program
ROM	Rough Order of Magnitude
SECNAVINST	Secretary of the Navy Instruction
UNDS	Uniform National Discharge Standards
US	United States
USCG	United States Coast Guard

APPENDIX B:

Slideshow presentation entitled “Shipbuilding Environmental Laws and Regulations Database” given to NSRP “Shipyard Environmental Legal and Litigation Issues and Environmental Panel Meeting” on February 12, 2003, St. Petersburg, FL

Bath Iron Works

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Shipbuilding Environmental Laws and Regulations Database

NSRP Winter Environmental Technology Panel Meeting
St. Petersburg, FL

George McKinney, P.E.

February 12, 2003

Discussion Topics



- Environmental Database Project – Status & Background
- Assessment of Applicable Environmental Regulations
- Environmental Regulations Usage by Shipyard Personnel
- BIW/EB Environmental Regulations Database
- NSRP Environmental Regulations Database (proposed)
- Summary and Conclusions
- Questions

Environmental Database Project



Determine NSRP level of interest in access to a searchable Environmental Laws & Regulations Database accessible through a standard internet browser.

Develop a representative graphical user interface for the NSRP version of the database.

Provide ROM first year cost for:

- Updating an existing database, building & maintaining the NSRP version of the database
- Tracking database usage
- Reporting back to NSRP

Project Status



● Project Tasks

No:	Description:	Status:
1	Assessment of Applicable Laws/Regulations at Selected US Shipyard Facilities	100%
2	Evaluation / Identification of Potential Database Users	100%
3	Develop Representative Graphical User Interface	100%
4	Presentation of Findings and Prepare Final Report	70%

● Project Deliverables

No:	Description:	Status:
1	Monthly Progress Reports	Done
2	Representation of Graphical User Interface	Done
3	Presentation, Final Report	Working

Project Background

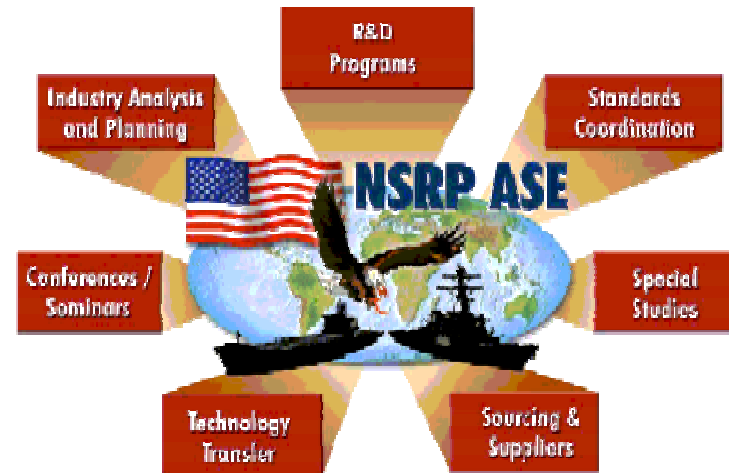


● NSRP VISION STATEMENT

- Industry that “continues to be characterized by customer satisfaction, safety, quality, environmental compliance...”

● NSRP MISSION STATEMENT

- Funding “... technologies that will reduce the cost of warships to the U.S. navy and will establish U.S. international competitiveness.”



Environmental Laws and Regulations Database supports NSRP goals

LPD-17 Environmental Compliance



- Bath Iron Works teamed with Electric Boat to address Dept. of Defense / Navy environmental requirements
 - International
 - Federal
 - Department of Defense
 - State - Uniform National Discharge Standards (UNDS) only



BIW / EB Work Split



BIW

Ship Subsystems

- Description
- Diagram Number
- General Materials
- Operational Discharges



EB

Laws & Regulations

- Title
- Overview
- Region
- Life Cycle Phase
- Operational Discharges



Operational Discharges (Common Link)

- Air
- Water
- Solids
- “Haz”
- “Other”



**Laws & Regulations
Interactive Analysis Tool**

Subsystems / Regulations Database



- Not Rocket Science – just a Database
- Discriminator in a Competitive, Performance-Based, Award Fee Environment
 - Depth of Systems Analysis
 - Verification of Environmental Requirements Compliance
 - Tool for Ship Designers and End-Users



Regulations Database ONLY



- Still Not Rocket Science – just a Database
- Regulations are NOT a Discriminator

How individual shipyards address the Regulations are Discriminators, not the Regulations themselves.



Commonality with Respect to US Shipyards



- Many (not all) Environmental Laws and Regulations
- Invoked Requirements
- Duplicated Efforts to Retrieve & Assess Pertinent Data
- Design Agent Development of Ship Specifications

NSRP VISION:

“environmental compliance...”

NSRP MISSION:

“reduce...cost...”

“establish international competitiveness...”



Advantages of an Environmental Laws Database for NSRP Use

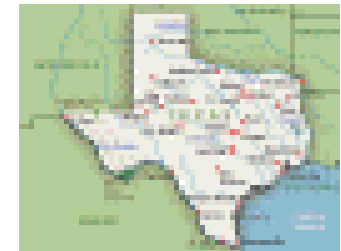
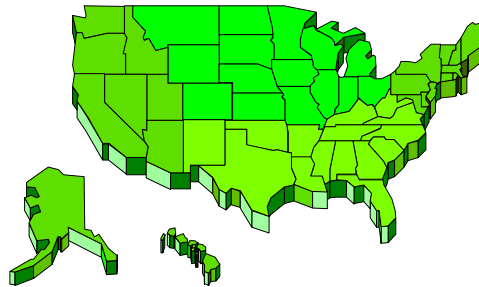
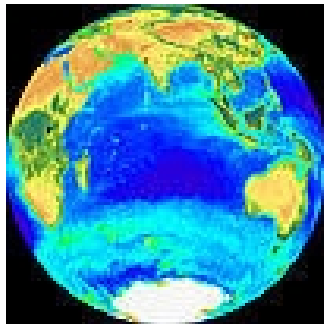


- Industry-wide tool
- Less expensive than each yard purchasing & maintaining hard copies
- Allows US yards to collectively become more efficient
- Does not limit creativity in design
- With the right interface and access, has the potential to increase environmental awareness and general knowledge for MANY employees

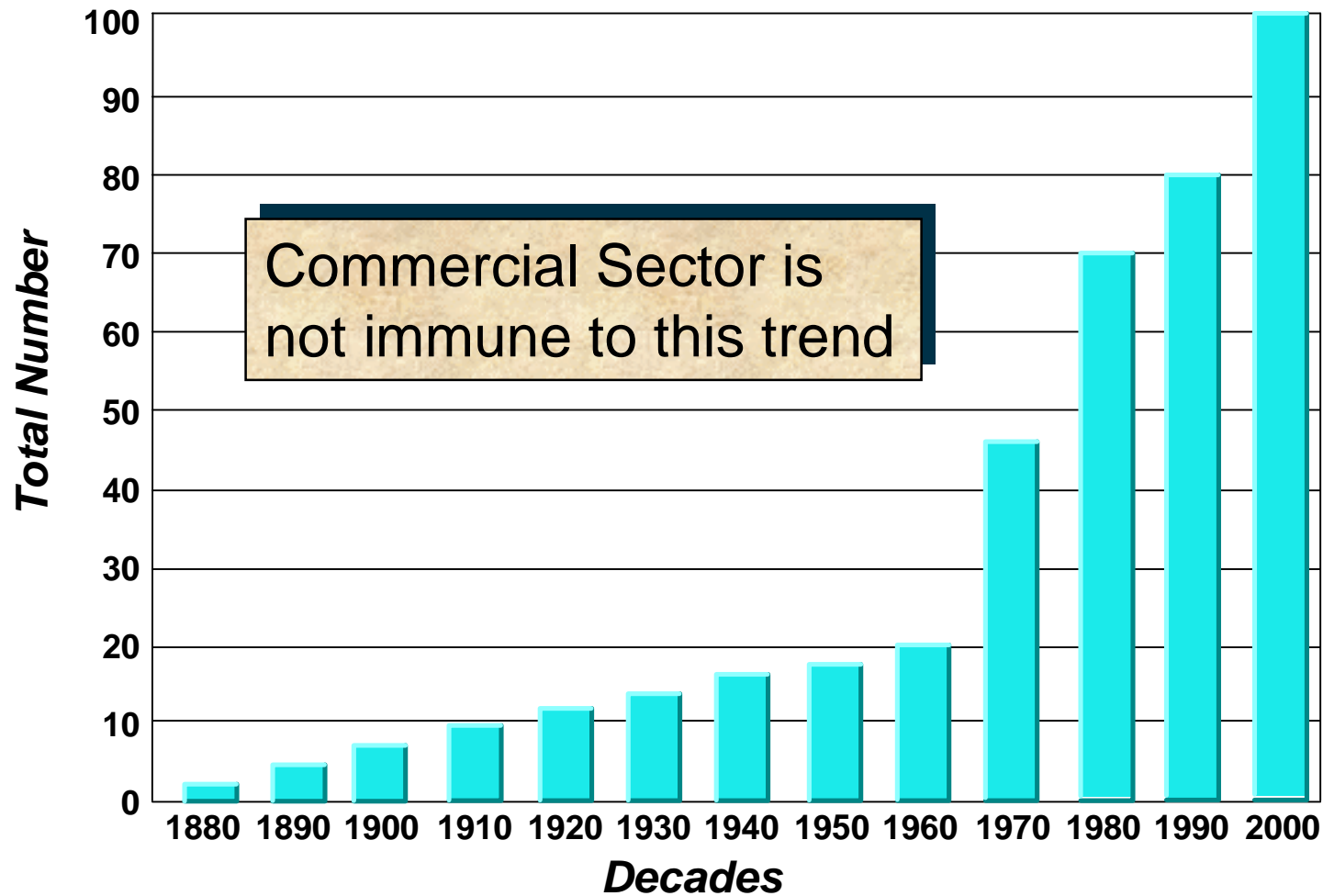
Assessment of Applicable Environmental Regulations



- International Regulations
- Federal Laws & Regulations
- State/Local Regulations
- Presidential Executive Orders
- Department of Defense/Navy Directives



Growth of Environmental Laws Affecting DoD Installations



Future Focus



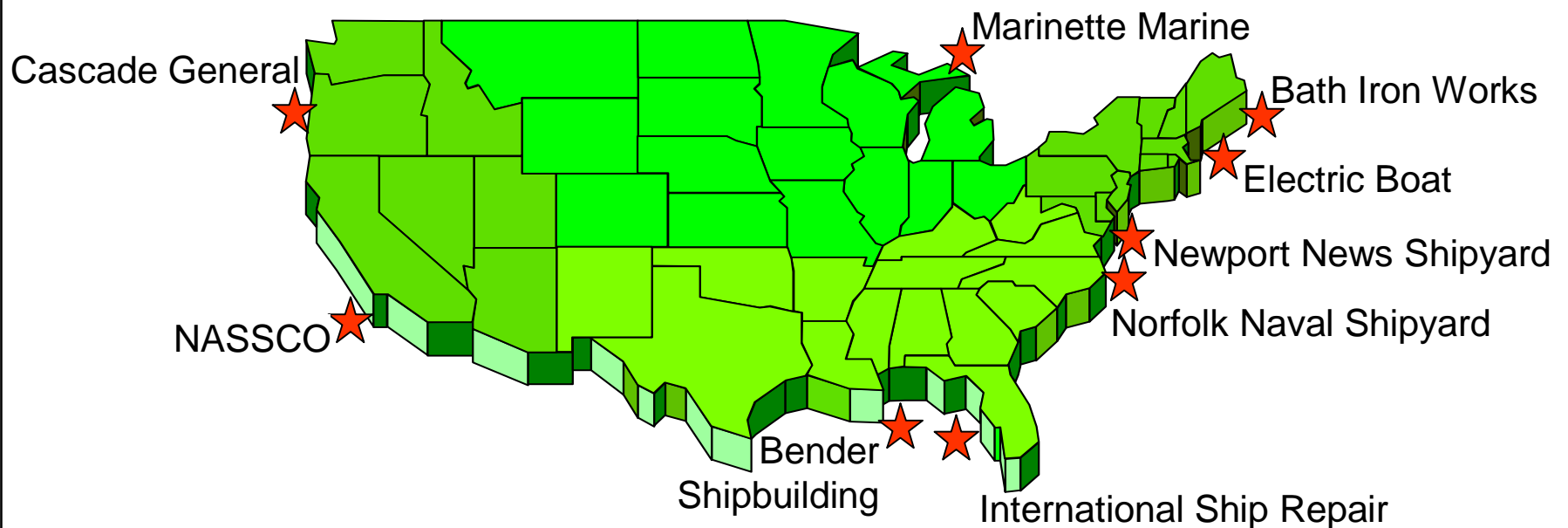
- National Environmental Policy Act (NEPA) compliance:
 - Consider Effects of Proposed Action
 - Better Decisions, not Better Documents
- Redefine Environmental Focus from Traditional “End-of-Pipe” Controls
- “Design Up Front” for Pollution Prevention

Environmental Laws and Regulations Database supports this focus

Environmental Regulations Usage by Shipyard Personnel



- Discussed environmental regulations usage with:
 - Facilities Groups
 - Design Groups



Environmental Regulations Usage by Shipyard Personnel



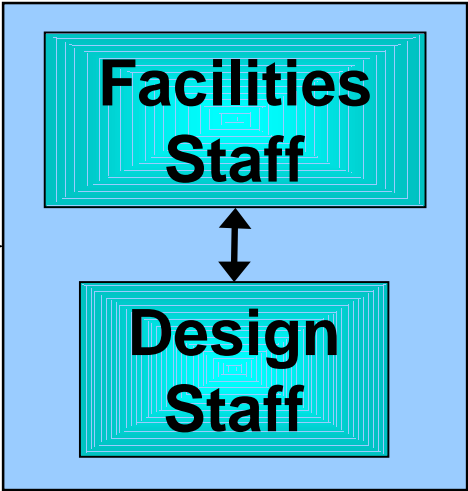
Environmental Drivers

International
Federal
State / Local
Defense Dept.
Exec. Orders

Performance Drivers

Ship Specs
(speed, cargo capacity,
mission support, etc.)

Ship Yard



End Product

“Green Ship” over Life Cycle Phases

- Concept Exploration
- Design
- Construction
- Operation
- Disposal

Environmental Regulations Usage by Shipyard Personnel



- Facilities Staff:
 - Intimately acquainted with the importance of environmental compliance
 - Have tools, knowledge, & procedures in-place NOW
- Design Staff:
 - Very aware of the importance of environmental compliance
 - Want to be knowledgeable, more efficient & self-sufficient

How Can the System be Improved?

Provide design staff with a tool that gives them a basic knowledge of environmental requirements

BIW/EB Environmental Regulations Database



- Demonstrates a technology that can help NSRP meet goals.
- Provides design staff with basic knowledge of environmental requirements
- Assists Facilities Group by educating others about environmental issues
- Facilitates communication between Facilities and Design Staffs


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LPD ship systems were evaluated to identify ESOH concerns and operation discharges. Over 340 Federal and International laws, regulations and treaties, Executive Orders, and Department of Defense (DOD) and SECNAV Directives and Instructions were reviewed and evaluated. Information about those regulatory drivers that impact the ship's systems and operations throughout its life cycle has been incorporated into the database.

Select a Region



Use of this database can enhance operational and programmatic ESOH management decisions concerning ship operations that are faced by the Commanding Officer or the Program Office.

Advanced System Search

Advanced Regulation Search

System or Regulation Based Search

- Advanced System Search
- Advanced Regulation Search

Reports

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<input checked="" type="checkbox"/>	<input type="radio"/>	REGULATION TYPE	is	INTERNATIONAL
<input type="checkbox"/>	<input type="radio"/>	MODIFIED DATE	after	MM/DD/YYYY MM/DD/YYYY
		DISCHARGE PRODUCT	is	ALL
		MEDIUM	is	ALL
		REGION	is	<div style="border: 2px solid red; padding: 5px;"> ALL ALL ANTARCTIC BALTIC SEA BLACK SEA CONTIGUOUS ZONE FEDERAL GULF OF MEXICO INTERNATIONAL WATERS MEDITERRANEAN SEA NORTH SEA PERSIAN GULF PROHIBITED ZONE RED SEA SPECIAL AREA TERRITORIAL SEA USA </div>
		LIFECYCLE PHASE	is	
		ESWBS NUMBER	is	
		ESWBS TITLE	contains	<input type="text"/>

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		Reset Search		
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		REGION	is	ALL
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<input checked="" type="checkbox"/>	<input type="radio"/>	REGULATION TYPE	is	ALL
<input type="checkbox"/>	<input type="radio"/>	MODIFIED DATE	after	<input type="text"/> <input type="text"/>
		DISCHARGE PRODUCT	is	ALL
		MEDIUM	is	ALL
		REGION	is	ALL
		LIFECYCLE PHASE	is	ALL
		ESWBS NUMBER	is	ALL
		ESWBS TITLE	contains	<input type="text"/>

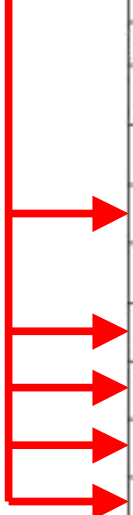
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Set these criteria to "ALL" for broadest search




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Matches 1 through 20 of 344

Next 20 Matches

DETAILS	TITLE	REGULATION TYPE
Details	Act To Prevent Pollution From Ships, 33 U.S.C. 1901 et seq.	
Details	Alternative Motor Fuels Act of 1988 (AMFA)	
Details	American Indian Religious Freedom Act (AIRFA)	
Details	Antiquities Act of 1906, 16 U.S.C. 431 et seq.	
Details	Archaeological Resources Protection Act of 1979 (ARPA), 16 U.S.C. 470aa et seq.	
Details	Bald Eagle Protection Act, 16 U.S.C 668 et seq.	
Details	Clean Air Act (CAA), 42 U.S.C. 7401 et seq.	
Details	Clean Vessels Act, 33 U.S.C. 1322	
Details	Coastal Barriers Resources Act, 16 U.S.C. 3501 et seq.	FL
Details	Coastal Zone Management Act of 1972 (CZMA), 16 U.S.C. 1451 et seq.	FL
Details	Community Environmental Response Facilitation Act (CERFA), 42 U.S.C. 9601 note, 9620.	FL
Details	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 et seq.	FL
Details	Conservation Programs on Military Installations (Sikes Act), 16 U.S.C. 670(a) et seq.	FL
Details	Convention On the Prevention of Marine Pollution By Dumping Of Wastes And Other Matter, 1972 (The London Dumping Convention)	INTERNATIONAL
Details	Defense Appropriations Act of 1991.	FL
Details	Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), 42 U.S.C. 11001 et seq.	FL
Details	Endangered Species Act of 1973 (ESA), 16 U.S.C. 1531 et seq.	FL
Details	Energy Policy Act of 1992 (EPACT)	FL
Details	Federal Antideficiency Act, 31 U.S.C. 1341 et seq.	FL
Details	Federal Facility Compliance Act of 1992 (FFCA), 42 U.S.C. 6901 note, 6908.	FL

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Act To Prevent Pollution From Ships, 33 U.S.C.


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Attribute	Value
TITLE	Act To Prevent Pollution From Ships, 33 U.S.C. 1901 et seq
OVERVIEW	<p>The Act to Prevent Pollution from Ships (APPS) as originally enacted implemented Protocols I and II, and Annexes I and II, of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL). Annex I of MARPOL establishes requirements to prevent the discharge of oil except in accordance with specific conditions. Annex II provisions cover the discharge of noxious liquid substances. (Annex III, which addresses the prevention of pollution by harmful substances carried by sea in packaged forms, or in freight containers, portable tanks or road and rail wagons, is implemented by the hazardous material transportation acts, 49 U.S.C. "5101 et seq., inter alia.)</p> <p>APPS applies to all U.S. flag ships anywhere in the world and to all foreign flag vessels operating in the navigable waters of the United States or while at a port or terminal under the jurisdiction of the United States. The oil and noxious liquid substance provisions apply only to seagoing ships. The regulations implementing Annex I and Annex II of MARPOL limit discharges of oil and noxious substances, establish report requirements for discharges, and establish specific requirements for monitoring equipment and record keeping aboard vessels. In particular, the regulations require that vessels covered by APPS and MARPOL keep Oil Record Books in which all discharges, disposal and transfers of oil are kept.</p> <p>Internet Address: http://www4.law.cornell.edu/uscode/33/1901.html ody</p>
REGULATION TYPE	FL
MODIFIED DATE	03/21/2002
DISCHARGE PRODUCT	MEDIUM
OILY WASTES/LUBRICANTS	WATER
HYDRAULIC OIL	WATER
DECK RUNOFF	WATER
BILGEWATER/OWS DISCHARGE	WATER
MOTOR GASOLINE COMPENSATING DISCHARGE	WATER
WELL DECK DISCHARGES	WATER
REGION	
GULF OF MEXICO	
MEDITERRANEAN SEA	

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Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL). Annex I of MARPOL establishes requirements to prevent the discharge of oil except in accordance with specific conditions. Annex II provisions cover the discharge of noxious liquid substances. (Annex III, which addresses the prevention of pollution by harmful substances carried by sea in packaged forms, or in freight containers, portable tanks or road and rail wagons, is implemented by the hazardous material transportation acts, 49 U.S.C. "5101 et seq., inter alia.)

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Internet Address: <http://www4.law.cornell.edu/uscode/33/1901.html> ody*

REGULATION TYPE	FL
MODIFIED DATE	03/21/2002

DISCHARGE PRODUCT	MEDIUM
OILY WASTES/LUBRICANTS	WATER
HYDRAULIC OIL	WATER
DECK RUNOFF	WATER
BILGEWATER/OWS DISCHARGE	WATER
MOTOR GASOLINE COMPENSATING DISCHARGE	WATER
WELL DECK DISCHARGES	WATER

REGION
GULF OF MEXICO
MEDITERRANEAN SEA
NORTH SEA
BALTIC SEA
BLACK SEA
RED SEA
PERSIAN GULF
ANTARCTIC
SPECIAL AREA
PROHIBITED ZONE
CONTIGUOUS ZONE
TERRITORIAL SEA
INTERNATIONAL WATERS
USA

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Sec. 1901. - Definitions

(a)

Unless the context indicates otherwise, as used in this chapter -

- (1) "Antarctica" means the area south of 60 degrees south latitude;
- (2) "Antarctic Protocol" means the Protocol on Environmental Protection to the Antarctic Treaty, signed October 4, 1991, in Madrid, and all annexes thereto, and includes any future amendments thereto which have entered into force;
- (3) "MARPOL Protocol" means the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, and includes the Convention;
- (4) "Convention" means the International Convention for the Prevention of Pollution from Ships, 1973, including Protocols I and II and Annexes I, II, and V thereto, including any modification or amendments to the Convention, Protocols, or Annexes which have entered into force for the United States.

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[Parallel authorities \(CFR\)](#)
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Select "MEDICAL WASTES"

View	Sort By	Attribute	Query Type	Value
<input checked="" type="checkbox"/>	<input type="radio"/>	TITLE	contains	<input type="text"/>
		OVERVIEW	contains	<input type="text"/>
<input checked="" type="checkbox"/>	<input type="radio"/>	REGULATION TYPE	is	ALL
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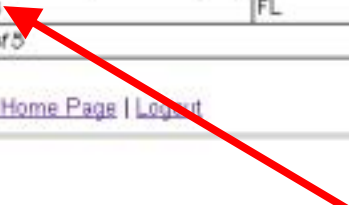

Matches 1 through 5 of 5		
DETAILS	TITLE	REGULATION TYPE
Details	Marine Protection, Research, and Sanctuaries Act, 33 U.S.C. 1401.	FL
Details	NAVMEDCOMINST 5360.1 of 17 September 1987, Decedent Affairs Manual	NAVMED
Details	OPNAV P-45-113-3-99, Afloat Medical Waste Management Guide	OPNAV
Details	OPNAVINST 5090.1B, Environmental And Natural Resources Program Manual[haz]	OPNAVINST
Details	33USC38, Dumping of Medical Waste by Public Vessels	FL

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33 USC 38, Dumping of Medical Waste by Public Vessels

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Attribute	Value		
TITLE	33USC38, Dumping of Medical Waste by Public Vessels		
OVERVIEW	<p>After 6 months after November 18, 1968, no public vessel shall dispose of potentially infectious medical waste into ocean waters unless -</p> <p>(1)</p> <p>(A) the health or safety of individuals on board the vessel is threatened; or</p> <p>(B) during time of war or a declared national emergency;</p> <p>(2) the waste is disposed of beyond 50 nautical miles from the nearest land; and</p> <p>(3)</p> <p>(A) in the case of a public vessel which is not a submersible, the waste is sterilized, properly packaged, and sufficiently weighted to prevent the waste from coming ashore after disposal; and</p> <p>(B) in the case of a public vessel which is a submersible, the waste is properly packaged and sufficiently weighted to prevent the waste from coming ashore after disposal</p> <p>Internet Address: http://www4.law.cornell.edu/uscode/33/ch38.html</p>		
REGULATION TYPE	FL		
MODIFIED DATE	03/22/2002		
DISCHARGE PRODUCT MEDIUM	<table border="1"> <tr> <td>MEDICAL WASTES</td> <td>HAZ</td> </tr> </table>	MEDICAL WASTES	HAZ
MEDICAL WASTES	HAZ		
LIFECYCLE PHASE	<table border="1"> <tr> <td>OPERATIONAL</td> </tr> </table>	OPERATIONAL	
OPERATIONAL			

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Search all Overviews for "AFFF" (Aqueous Foam Filming Foam)

		Reset Search		
View	Sort By	Attribute	Query Type	Value
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<input type="checkbox"/>	<input type="radio"/>	MEDIUM	is	ALL
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Matches 1 through 2 of 2		
DETAILS	TITLE	REGULATION TYPE
Details	Uniform National Discharge Standards (UNDS) - Aqueous Film Forming Foam (AFFF)	FL
Details	Uniform National Discharge Standards (UNDS) - Firemain Systems	FL





Matches 1 through 2 of 2

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UNDS - AFFF

UNDS - Firemain Systems

BIW/EB Environmental Regulations Database



- Technology is available now.
- Allows non-environmental personnel access to basic OR detailed information.
- Powerful search capability.
- Intuitive – easy to use.
- Desktop access for all users.
- Requires periodic reviews and updates of Laws & Regulations data.
- No state data in current database (only UNDS), but may be added at a later date.

Representative NSRP Environmental Regulations Database



- Based upon database fields used in BIW / EB database
 - No ship system data
 - Internet access via standard web browser
-
- IF FUNDED, an Environmental Database for NSRP can be created using existing technology
 - Following slides represent a proposed Graphical User Interface (GUI) for an NSRP database



NSRP MISSION

Manage and focus national shipbuilding research and development funding on technologies that will reduce the cost of warships to the US Navy and will establish US international shipbuilding competitiveness. NSRP also provides a collaborative forum to improve business and acquisition processes.

Go to: [NSRP Home Page](#)

You are visitor number:

18,236

to this site.

Acrobat Reader is required to view the Environmental Laws Report.



National Shipbuilding and Research Program (NSRP) Environmental Laws and Regulations Database

This database contains information on International and United States Environmental Laws and Regulations related specifically to marine and naval interests. Access to this information is provided for a limited time by the NSRP Environmental Technology Panel, SP-1. If this site has been of assistance to you, and you want to insure continued web access to information on this site, please [LET US KNOW](#).

If you are new to this site, please [REGISTER for DATABASE ACCESS](#) – it's FREE.

Your e-mail address will be used for tracking web usage of the database ONLY, and will NOT be released to third parties.

E-mail Address:	<input type="text"/>
Password:	<input type="password"/>
LOGIN	
Forgot your password? NO PROBLEM!!	Change your password. NO PROBLEM!!
REGISTER for DATABASE ACCESS (FREE)	



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To register for NSRP Environmental Laws & Regulations Database use, fill out all the information below:

E-mail Address:	<input type="text"/>
Password:	<input type="password"/>
Confirm Password:	<input type="password"/>
Password Hint **:	<input type="text"/>
First Name:	<input type="text"/>
Last Name:	<input type="text"/>
Company Name:	<input type="text"/>
Terms of Use:	<input type="text" value="Terms of Use - Disclaimer"/>
Do you agree to the Terms of Use? <input checked="" type="radio"/> Agree <input type="radio"/> Disagree	

** Password Hint can be sent to your e-mail address if you forget your password.

SUBMIT DATA

CLEAR FORM



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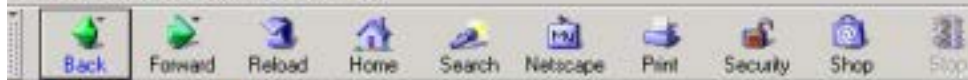
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		OVERVIEW	contains	<input type="text"/>
<input checked="" type="checkbox"/>	<input type="radio"/>	REGULATION TYPE	is	ALL
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		DISCHARGE PRODUCT	is	ALL
		MEDIUM	is	ALL
		REGION	is	ALL
		LIFECYCLE PHASE	is	ALL
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DETAILS	TITLE	REGULATION TYPE
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Details	NAVMEDCOMINST 5360.1 of 17 September 1987, Decedent Affairs Manual	NAVMED
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Details	OPNAVINST 5090.1B, Environmental And Natural Resources Program Manual[haz]	OPNAVINST
Details	33USC38, Dumping of Medical Waste by Public Vessels	FL

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ROM Cost Data for First Year



- Update Laws & Regulations Database
- Create NRSP interface, implement user tracking functions
- Project Management, Reporting to NSRP

Labor Costs:	\$79.3K
Material Costs:	+ \$4.2K
Total Costs:	\$83.5K

- Assumptions:
 - Database remains on secure server at Electric Boat

Summary and Conclusions



NSRP Version of Database

- Supports Vision and Mission of NSRP
- Technology & Database Content Currently Exists
- Allows non-environmental personnel access to basic OR detailed information
- Tracks Usage
 - Identifies Number of Visits per User
 - Number of Total Site visits
 - Number of Total Searches
- Affordable
- Expandable to include State Laws & Regulations