Portsmouth Harbor Marine Firefighting Contingency Plan

NEEDS ASSESSMENT and RECOMMENDATIONS REPORT

JUNE 1988

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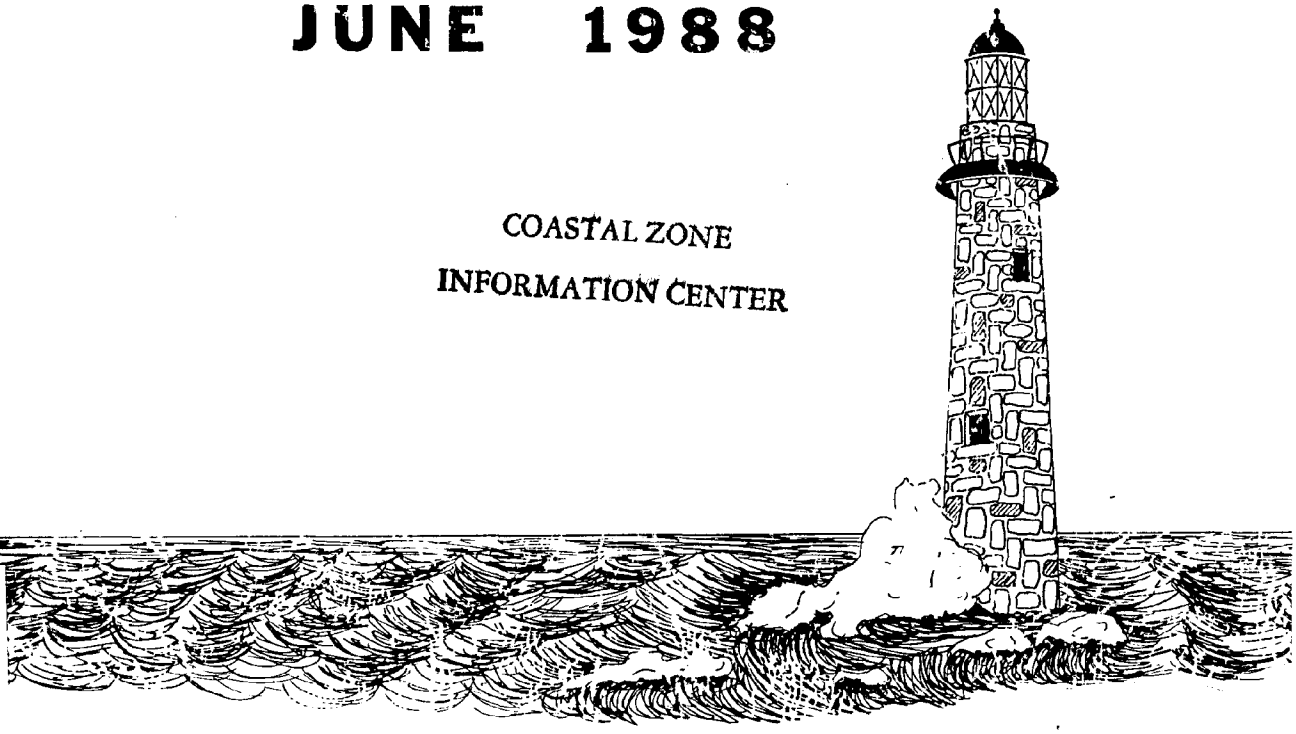

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PORTSMOUTH HARBOR MARINE FIREFIGHTING

CONTINGENCY PLAN

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JUNE 1988

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PORTSMOUTH HARBOR MARINE FIREFIGHTING

CONTINGENCY PLAN

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ACRONYMS AND ABBREVIATIONS
for
Portsmouth Harbor Marine Firefighting Contingency Plan

AFFF	Aqueous Film Forming Foam
CFR	Code of Federal Regulations (US)
CG	Coast Guard (US)
CO	Commanding Officer
CO2	Carbon Dioxide
COTP	Captain of the Port (USCG)
CP	Command Post
DFSP	Defense Fuel Supply Point
DOD	Department of Defense (US)
EOC	Emergency Operating Center
FAA	Federal Aviation Administration
FHA	Fire Hazard Assessment
GPM	Gallons Per Minute
HAZMAT	Hazardous Materials
IC	Incident Command, Incident Commander
IFO	Incident Field Office (Seabrook)
ISC	International Shore Connection
LPG	Liquified Petroleum Gas
MARAD	Maritime Administration (US)
Medi-Vac	Medical Evacuation
MOU	Memorandum of Understanding
MSC	Military Sealift Command
MSD	Marine Safety Detachment (USCG)
MSO	Marine Safety Office (USCG)
NFPA	National Fire Protection Association
NHCD	New Hampshire Civil Defense
NHPA	New Hampshire Port Authority
NHWSPCC	New Hampshire Water Supply & Pollution Control Commission
NRC	Nuclear Regulatory Commission
NRT	National Response Team
NTSB	National Transportation Safety Board
OCMI	Officer in Charge, Marine Inspection (USCG)
OEM	Office of Emergency Management (NH)
OSC	On Scene Coordinator (Federal)
PAFB	Pease Air Force Base
PHMFCP	Portsmouth Harbor Marine Firefighting Contingency Plan
PNSY	Portsmouth Naval Shipyard
POP-VOP	Port of Portsmouth - Vessel Orientation Program
PSNH	Public Service Company of New Hampshire
R & R	Roles & Responsibilities
REMIS	Regional Emergency Medical Information System
SAR	Search and Rescue
SCBA	Self-Contained Breathing Apparatus
SOP	Standard Operating Procedure
TFRs	Temporary Flight Restrictions
USCG	United States Coast Guard
VOP	Vessel Orientation Program

PORTSMOUTH HARBOR MARINE FIREFIGHTING

CONTINGENCY PLAN

NEEDS ASSESSMENT AND RECOMMENDATIONS REPORT

The New Hampshire Port Authority with the participation of the New Hampshire Office of State Planning has sought to prevent and mitigate the consequences of minor and major marine fires. This has occurred through the development of a Marine Firefighting Contingency Plan('Plan') for the protection of the Port of Portsmouth and Piscataqua River. As a component of this 'Plan', this 'Needs Assessment and Recommendations Report' identifies needs of a marine firefighting program for Portsmouth Harbor, and, recommends actions to take for the protection of Portsmouth Harbor.

Report Structure

The report has been structured in three parts.

Part I - Summary of Recommendations. This contains a brief description of the Recommendation categories and lists the recommendations.

Part II- Discussion of Recommendations. This contains information about the recommendations and contains resource information for implementation.

Part III-Appendix. This contains:

A. Findings of the Fire Hazard Assessment (FHA) workshops of March 16th and March 17th, 1988.
B. Roles and Responsibilities excerpted from existing plans used for the project.
C. Memorandum of Understanding: USCG Example
D. Memorandum of Understanding: Seattle Fire Department and the US Navy.
E. MARITECH Facility Checklist.
F. USCG Waterfront Facility Survey Guidelines.
G. National Response Team(NRT) Level Guidelines.

Methodology

Qualitative methods have been used as the most efficient and cost effective approach to identifying needs and determining recommendations for this report. The methods have been selected due to the scope of the project, available information, time frame, and participation by knowledgeable agencies. Qualitative identification by responsible and knowledgeable parties is a standard and generally accepted approach to valid problem identification. Technical Hazard Assessments and quantitative information are also used in problem identification. This type of information usually requires large periods of time to collect and analyze. Documents of a quantitative nature submitted to the project have been referenced when applicable.

Two techniques which rely on judgment and opinion are termed 'The Delphi Method', developed in the 1940s and 'Subjective probabilty methods'. These were used to identify the needs and problems described during the Fire Hazard Assessment workshops. Essentially, two premises underlie the Delphi method. "The first is that persons who are highly knowledgeable in a particular field make the most plausible forecasts. Secondly, it is believed that the combined knowledge of several persons is at least as good as that of one person." according to 'Fundamentals of Forecasting'. 'Subjective probability methods' are generally used in forecasting. Such methods were used to determine the likelihood of the occurrence of a particular incident for Portsmouth Harbor. Recommendations regarding such events are interspersed in this report.

Needs

A number of 'Needs' were identified by participating agencies during the Fire Hazard Assessment Workshops. The needs have been qualified by one or more agencies who are familiar or very familiar with fire, incident response, or Portsmouth Harbor and maritime operations and issues. Other problems were ascertained through various meetings and workshops, information requests and tours. The Marine Firefighting Contingency Plan 'Needs' of Portsmouth Harbor, and indirect and direct fire hazards have been grouped into eight areas of concern:

1. **Roles, Responsibilities, Jurisdictions**
2. **Portsmouth Harbor Marine Environment**
3. **Vessel Issues**
4. **Terminal/Facility Issues**
5. **Equipment and Resources**
6. **Marina Issues**
7. **Personnel Issues**
8. **National Defense Areas**

Recommendations

The recommendations in this report have focused on reasonable expense, cost effectiveness, the involved agencies and capability to implement a recommendation, and implementation time. Recommendations range from simple actions, to further investigation, to exploring purchase of costly items. The recommended actions which address the Needs have been grouped into nine areas of:

1. **Policy**
2. **Planning**
3. **Roles and Responsibilities**
4. **Marine Firefighting Operations**
5. **Training**
6. **Resources**
7. **Communications**
8. **Environmental Issues**
9. **Funding**

Equipping the Port of Portsmouth with various forms of marine fire protection should be considered a cost effective action. Real port costs in the area of marine firefighting have been documented through marine fire disasters which resulted in loss of life and millions of dollars to unprepared ports. However, the Port of Portsmouth's state of readiness for a minor or major marine fire has improved since the onset of this project. This is due to several factors including completion of project components and the project design and development.

Portsmouth Harbor Marine Firefighting Contingency Plan

Among the several activities of the Portsmouth Harbor Marine Firefighting Contingency Plan project, salient actions have served to:

1. Increase the awareness of consequences of minor and major marine fires

2. Help primary response agencies to more effectively react by:

   a. defining jurisdictions more clearly
   b. defining Incident Command and On Scene Coordinator more clearly
   c. making available marine firefighting classroom training to one hundred fifty trainees from municipal, state, USCG, Navy, Air Force and private agencies: 8 Hour Certification by Texas A M.
   d. providing the Portsmouth Harbor Marine Firefighting Training Manual
   e. providing the Port Of Portsmouth Vessel Orientation Program (POP-VOP) Part I and Part II.
   f. providing twenty-nine agencies the opportunity to describe port fire hazards and state recommendations
   g. providing a state-of-the-art Portsmouth Harbor Marine Firefighting Contingency Plan Operation Manual

3. Resolve various issues of concern to agencies.

4. Broaden the agency information base by organizing tours of facilities in New Hampshire and Portland, Maine.

PART ONE

Recommendation Summary

Part One contains a brief description of the Recommendation categories and lists the recommendations.

1.0 POLICY

Problems and solutions which affect the port at large have been grouped under Policy recommendations. The items may be addressed by or applied to the port community or a single agency. Policy formulation is recommended because policy is generally a course of action or plan which an organization takes to accomplish a purpose. A number of problems can be handled more expeditiously and appropriately through Policy.

Policy Recommendations include:

1. Establish a Marine Fire Safety Agency/Council.
2. Develop Port safety standards, requirements, Standard Operating Procedure(SOP), and Memorandum of Understanding(MOU) for waterborne operations, offshore defense areas and vessels.
3. Develop Port safety standards, requirements, Standard Operating Procedure(SOP), and Memorandum of Understanding(MOU) for waterfront terminals, marinas and defense areas.
4. Develop an information Brochure on Port Safety.
5. Affix Safety Placards with fire procedures.
6. Establish a USCG Marine Safety Detachment (MSD) for Portsmouth Harbor.
7. Develop strategies and Policy on lift bridge emergency operating procedures.

2.0 PLANNING

Marine firefighting goals and objectives for the protection of Portsmouth Harbor are designed, developed and implemented through Planning. Planning is recommended because of the need to structure short and long term actions.

Planning Recommendations include:

1. Develop Pre-fire plans for vessels, terminals and waterfront facilities. (Vessels include Homeported, Regular Visitors and Visiting.)

2. Conduct Vessel and Facility Inspections and Surveys.

3. Establish Vessel and Facility Operation Guidelines.

4. Develop Port Emergency Planning Procedures. Security, Sabotage, Pollution, HAZMAT, Casualty, Evacuation.

5. Conduct Marine Fire Prevention, Safety Inspections and Surveys to check for compliance with guidelines. Develop enforcement procedures. Accompany USCG on vessel and facility surveys and inspections.

6. Establish quantity and cost estimates of incident supplies and needs.

7. Establish arrangements for purchasing large amounts of supplies, specialized equipment.

8. Establish transportation network to bring in the resources listed in Recommendation Number 6. This may include MOU with Pease Air Force Base.

9. Conduct exercises and drills for:
   -Hands-on
   -Notification scheme
   -Continue annual drafting exercise

3.0 ROLES AND RESPONSIBILITIES

The delineation of Roles and Responsibilities is important to the proper assignment of specific tasks to Incident Command personnel, hands-on firefighters and other response agencies. Development of Roles and Responsibilities is recommended because of the need to qualify jurisdiction and authority, assume command, assign tasks, to minimize confusion and avoid uncertainty.

Roles and Responsibilities Recommendations include:

1. Use the extracted Roles and Responsibilities from existing plans to develop tasks for inclusion in the Operation Manual. (See Appendix B)

2. Apply organizational behavior and human resource development to the development process of Roles and Responsibilities.

4.0 MARINE FIREFIGHTING OPERATIONS

The effectiveness of marine firefighting operations is largely related to organization and pre-fire planning. Marine Firefighting Operations are recommended because of the need to continually develop and implement operations policy.

Marine Firefighting Operations Recommendations include:

1. Further development and expansion of the Operation Manual to include consent for Notification charts; completion of Jurisdiction Grid; staging areas; Emergency Operating Centers; Inventory; directions; Pre-fire Plans; definitions.

2. Obtain consent of the parties/MOU.

3. Establish Response Levels.

a. Small Vessel: Less than 65 feet. Does not normally pose a threat to the harbor or facility unless berthed within populated marina. Notification calls: Jurisdictional Municipal Fire Department and United States Coast Guard Station Portsmouth Harbor.

b. Level One: Minor vessel fire which can be quickly controlled and extinguished by on scene personnel and jurisdictional firefighters. Notification calls: Level One: Alert to selected agencies.

c. Level Two: Vessel fire which cannot be quickly controlled and extinguished by on scene resources, and jurisdictional fire department. Establish Command Post. Notification calls: Level Two: All agencies, Specify requests for assistance.

d. Level Three: Major marine fire necessitating use of specialized resources and equipment which may not be immediately available in the seacoast area. Notification calls: Request for mutual aid. Implementation of the 'Piscataqua River Marine Disaster Plan'; Notification to large suppliers of immediate 'Supply Plan' implementation, Implementation of Port Safety Standard Operating Procedure or Port Emergency Planning Procedure.

5.0 TRAINING

Training has been called the 'cornerstone of an effective response'. The training program which was used to introduce marine firefighting to Portsmouth Harbor was adjusted to a diverse group of trainees. Marine firefighting training is recommended because it is an ongoing need and a regular program should be established. Tactics and strategies differ from landbased training.

Training Recommendations include:

1. Define goals and objectives:

-training levels
-correlate training with role and responsibility
-evaluate effectiveness
-cross training

2. Define target trainees:

-municipal firefighters
-federal firefighters
-facility personnel
-homeported vessel personnel
-related discipline personnel
-command personnel
-other response agency personnel

3. Establish program components:

-levels and standards
-subject matter
-specialized training for officers
-safety training
-fire orientation for dockside and facility personnel
-coordinate with other agencies
-arrange yearly training with USCG
-accompany USCG on inspections
-exercises

6.0 RESOURCES

Having supplies available to be drawn upon when needed, gives an advantageous ability to deal more effectively and safely with a situation. Resources are recommended because currently available local resources need to be increased and the port needs to be prepared for a major marine incident.

Resource Recommendations include:

1. Adequate Water Supplies
2. Specialized Equipment for Each Fire Department
3. Specialized Resources for Combined Multi-Agency Use (Mutual Aid Cache)
4. Large Supplies/Resources Availability Plan
5. Casualty Documentation Reports: obtain and distribute USCG Form 2692, particularly for Portsmouth Harbor incidents. Obtain and distribute National Transportation Safety Board (NTSB) reports, others as applicable.
6. Computerize Mutual Aid inventory onto a database.
7. Conduct Fireboat Feasibility Study for the port and area.
8. Conduct Multi-purpose/Mixed Use Vessel Study for the port and area.

7.0 COMMUNICATIONS

Effective communication systems are necessary for reliable transmission and reception of vital information. Communications recommendations are necessary because the port needs to develop communications plans and procure equipment.

Communications Recommendations include:

1. Finalize Operation Manual Notification Scheme and conduct exercises.

2. Procure equipment of intrinsically safe radios, marine radios, and landline telephones in close proximity to vessel berthing areas.

3. Establish a dedicated marine firefighting frequency, marine channel.

4. Establish back-up communications plans.

5. Coordinate with marine support agencies for channel uses.

6. As possible, establish protocols to limit inter-agency interference. Establish SOP for all levels of incident response.

7. Be aware of the possibilities of localized black-out zone. Become familiar with vessel interior black-out zones through tests.

8.0 ENVIRONMENTAL ISSUES

Environmental issues are under the purview of several municipal, state and federal agencies. Environmental issues are recommended for review because the consequences of marine fires involve environmental disaster preparedness. Specialized knowledge is required to coordinate marine firefighting tactics with consequences for the environment.

Environmental Issues Recommendations address:

1. Selection of scuttling, sinking and grounding sites.
2. Short and long term effects of scuttling, sinking and grounding sites.
3. Salvage Operations/Procedures.
4. Pollution response capability and interaction with marine firefighting operations.
5. Hazardous materials response capability and interaction with marine firefighting.
6. Compatibility with Maine state and federal government plans.
7. Impact on tourism.
8. Update on environmental, hydrocarbon and other baselines for gauging environmental impact.
9. Environmental Hazards Analysis: Vulnerability and Risk.

9.0 FUNDING

Funding may be available from various sources.

Funding Recommendations include:

1. Develop and implement Harbor Fees to pay for marine firefighting training and equipment.
2. Obtain appropriations.
3. Establish fair-share expensing for marine firefighting training, equipment and resources.
4. Joint purchase of mutual aid marine firefighting resources and/or related discipline items.

PART TWO

Discussion of Recommendations

Part Two contains discussion and information about the Recommendations. It may also be used as resource information for implementation of actions. In many cases, a recommendation includes examples or criteria to help implement the recommendation. Each section also addresses the fire hazards and needs which are listed in Appendix A.

1.0 POLICY

Problems and solutions which affect the port at large have been grouped under Policy. Recommendations may be addressed by or applied to the port community, or a single agency. A number of port problems can be handled more expeditiously and appropriately through Policy than through other approaches. Recommendations include:

1. Establish a Marine Fire Safety Agency/Council.

Building a marine fire safety agency will serve to develop and maintain 1. marine firefighting planning, 2. training, 3. purchase of resources and 4. a mutual aid resource base for the protection of Portsmouth Harbor.

Membership may be established 1. as a specialized agency for marine firefighting, or 2. of an encompassing nature to include related disciplines from other port use groups, pollution, hazardous materials, and the USCG MSO. (If a USCG Marine Safety Detachment (MSD-Item 7) were established for the Port of Portsmouth, MSD membership should be included.)

Membership may be of 'decision makers', the agency leaders who are authorized to implement and enforce programs; or advisors, who do not have authorization to enact, implement or enforce, but provide specialized knowledge and expertise. The group may be a combination of these areas. The agency could work through the New Hampshire Port Authority who can amend or create administrative rules as applicable. The organization must be an active group that disciplines itself toward the maintenance and promotion of the harbor's protection from fire. Significantly, the group should have a fire-related network of local, state and federal response agencies. The USCG MSO and COTP Portland, Maine, USCG Station Portsmouth Harbor, Port Authority representatives, and facility owners and operators are other valuable agencies and probable members.

Marine Fire Safety Agency continued

Resources in the marine field are currently available for support of an agency of this nature. These include agencies participating in this project and other personnel who may respond to a marine fire incident. In addition, maritime organizations such as the Port Authority Commission, Propeller Club, Maritime Heritage Commission or Portsmouth Chamber of Commerce may provide assistance. Other organizations include shipowners, agents and insurers. A diverse council membership might include state of Maine and New Hampshire agency representatives, legislative personnel who have indicated support of the 'Plan', and local government. At one time, the Portsmouth Harbor Oil Spill Committee was familiar with related issues and may still be available with information.

2. Waterborne Port Safety Standards, Requirements, Standard Operating Procedure(SOP), and Memorandum of Understanding(MOU) for Waterborne Operations, Defense Areas and Vessels.

Standards may be developed through the New Hampshire Port Authority, possibly Kittery Port Authority, legislation, regulations, and the Port of Portsmouth Marine Fire Safety Agency (Item 1). Requirements of CFR 33 Navigation and Navigable Waters-Parts 1 to 199 under the jurisdiction of the COTP are not as well defined as standards, requirements and SOPs that might be designed port specific to Portsmouth Harbor. However, the Captain of the Port (COTP) should be consulted regarding instituting such actions and endorsing them with Marine Safety Office(MSO) approval.

For problems of interference between recreational boating and large vessel harbor movement, both states of New Hampshire and Maine could address the issue. For small boats and small commercial boating, existing regulations of New Hampshire may provide guidelines which the New Hampshire Port Authority can review for regulatory and legislative action.

New Hampshire RSA 486 Restrictions on Boating may be helpful with legislative action. State of New Hampshire, Department of Safety, Division of Safety Services, Marine Patrol Division issues the New Hampshire Code of Administrative Rules for Boating Rules and Regulation which apply to fresh water. Sections SAF-S 300-Watercraft Safety Rules, Saf-S 302 Power Boat Restrictions, Saf-S 303.09 Special Requirements for Commercial Boats, Saf-S-304 Boating Rules and Saf-S 309 Motor Boat Use Hearings pertaining to fresh water activity do not specifically address the problems of a working salt water port like Portsmouth. They may though be useful as guideline headings to apply to salt water and harbor problems. Such regulations are helpful to legal implementation. However, since the average boater does not usually read these regulations, information may require dissemination through a variety of ways. These may be included with 1. boat registrations for this area by First Coast Guard District, Boston, Massachusetts, 2. state boat registrations, 3. boat trailer registrations, 4. NHPA mooring permits, and 5. marinas and boatyards information. These activities offer volume exposure to boat users though somewhat complicated to arrange.

SOP and MOU continued

The problem of LPG vessel activity on holiday weekends may be helped through safety awareness procedures adopted through Policy. Policy can be used to help alert recreational and commercial boat owners and users to traffic restrictions without causing over reactions. It is generally economically impractical, even if permissible, to restrict entry of these vessels to weekdays and times of less recreational harbor congestion, in addition to restrictions placed by tide. However, as the boating traffic increased in 1987 by 35% and similar increases are anticipated for 1988, it is not unreasonable to discuss the problem with the USCG, vessel owners, facility operator and vessel Master upon arrival.

LPG vessel movement is regulated. Other large vessels normally calling at the Port of Portsmouth are not subjected to similar security procedures. The COTP LPG Vessel Management Plan institutes protection of the vessel and port through MSO and SAR escort. It is viewed by the federal government as safe transit. To some maritime industry personnel, the control and regulation is considered safer than regular large vessel harbor transit. Other large vessels moving on holidays and weekends do not usually have this escort.

In the Port of San Francisco, it is not unknown for large tankers of all types to have occasional USCG escorts on weekends due to the high volume of recreational boating. This action can be considered for Portsmouth Harbor. Regulations which are implemented for holiday weekend harbor use should be reasonably and equitably developed for appropriateness to all vessels, including recreational and commercial. Regulated boating procedures may be difficult to enforce for small boats but can be considered. Harbor Masters and Coast Guard Auxiliary may be candidates to patrol and enforce transit precautions which have been established through Policy.

Standard Operating Procedures(SOPs) may be developed for port safety. These would be in addition to the existing USCG port and safety requirements. The COTP should be involved in the development and approval of SOP. The COTP should review and approve any SOP which has been developed for whatever reason without COTP participation. SOP may include:

-'Fire Onboard' alarm for moored vessels with fire - one prolonged whistle or blast of the vessel's whistle: per USCG rules of the road "Navigation Rules, International-Inland Annex IV - Distress Signal (b) a continuous sounding with any fog-signalling apparatus."
-nesting restrictions on large vessels: by size, cargo, length of stay, fire equipment, onboard crew

Standard Operating Procedure(SOP) continued

-minimum mooring requirements
-fire warps (towing wires)
-fire hoses led out on deck during Portsmouth Harbor transit and stay
-fire main pressurized
-completion of the port's standard vessel inventory of fire equipment
-vessels in layup status must comply with fire safety standards
-incorporate homeported vessel standing orders in port with port SOP if applicable
-communications:-dedicated marine firefighting channel
-back-up procedures

-write-up on relationship between master of the vessel, and, Port of Portsmouth Incident Command, and Port of Portsmouth Federal OSC
-any vessel at sea experiencing a fire onboard while under the jurisdiction of the COTP, Portland, Maine shall not enter the navigable waters of the US Port of Portsmouth unless prior permission is granted by that office.
-no vessel, including small boat, with fire aboard shall be set adrift without permission of the COTP
-regardless of the response level, the fire department will always be contacted when any vessel fire occurs in their area of jurisdiction
-lift bridge operations procedures for harbor incidents

Defense Areas - Memorandum of Understanding (MOU) may be developed between local, state and defense agencies for defense area issues. The 'Piscataqua River Marine Disaster Plan' addresses the defense position as follows:

"An event involving high national security under the purview of the Navy or Air Force will result in that area being considered a National Defense Area. (see Para.IV H). Pease AFB is the primary response agent for any incident involving the Defense Logistics Agencies in Newington, N.H." According to the Piscataqua River Marine Disaster Plan then, PAFB would assume position of federal OSC in "any situation involving the Defense Fuel Support or Air Force aircraft or equipment." However, the words "any situation involving" may encompass a very broad range of circumstances.

Defense Areas continued

Furthermore, "Paragraph IV H. National Defense Areas" reads "1. Pursuant to 50 U.S.C.797, any military commander may establish a national defense area for the protection or security of military or naval aircraft, airports, airport facilities, vessels, harbors, ports, piers, waterfront facilities, bases, laboratories, stations, vehicles, equipment, explosives, or other property or places subject to the jurisdiction, administration or in the custody of the Department of Defense. With regard to any National Defense Area established on the port or waterfront area which activates this disaster plan, control and decision-making authority rests with the branch or branches of the Department of Defense most affected by the disaster. In any situation involving the Newington Defense Fuel Support Point or Air Force aircraft or equipment, the Air Force will have absolute control as the federal OSC of this plan."

Pease Air Force Base. The COTP in the process of updating the Piscataqua River Marine Disaster Plan and in response to workshop concerns, contacted PAFB and reviewed the PAFB operations manual regarding these and other issues. At this time, it appears that the Pease AFB Fire Department would be in charge of a fire at the shoreside facilities at the Defense Fuel Supply Point(DFSP). If the Defense Logistics dock is returned to service, the Pease AFB Fire Department is responsible for fires onboard vessels moored at the DFSP whether the vessel is solely commercial, chartered or Military Sealift Command (MSC).

It may be additionally helpful to document clarification on the Portsmouth Harbor Marine Firefighting Contingency Plan defense area issues regarding vessels moored at Sea-3, Inc. terminal. Documentation may be through a written MOU. The Sea-3, Inc. vessels are in close proximity to Defense Fuel Support Point(DFSP); approximately 100 yards. If fire onboard a vessel moored at the facility involves the security of the DFSP, the situation may pose jurisdictional consequences for the Newington Fire Department and State of New Hampshire.

The following questions are raised.

-Would the Pease Air Force Base Fire Department assume control as overall federal OSC and Incident Command of a vessel fire at the Sea-3, Inc. pier, and, under what circumstances.
-Would the PAFB Fire Department assume control of a vessel fire at Sea-3, Inc. as federal OSC in lieu of the USCG COTP. This is not the same circumstance as federal OSC of the DFSP tanks and pier. Would one agency act as the other agency's representative.

Defense Areas continued

-What are the consequences for the State of New Hampshire Fire Marshal in the event a transportation(including vessel) hazardous materials incident involves the DFSP facility. The NH Fire Marshal has been determined Incident Command under these circumstances by recent Attorney General interpretation of New Hampshire law.
-Who from Pease Air Force Base Fire Department will be the federal OSC. If events occur which give overall jurisdictional control to PAFB, would this person also be IC. Positions and names would be helpful to include in the Operation Manual.

Portsmouth Naval Shipyard. The location of the Portsmouth Naval Shipyard (PNSY) on Portsmouth Harbor also raised concerns regarding defense agency jurisdiction. While the PNSY is prepared to protect itself from marine fire and fire on the base, there are multi-agency jurisdiction issues to be considered. Some jurisdiction issues are similar to or shared by those of PAFB.

Others may include:

-circumstances initializing defense agency takeover.
-what are the basic criteria for "any situation involving a National Defense Area".
-understanding the specifics of defense agency take over: for example does it include OSC/IC, equipment, personnel: do firefighting personnel remain under the absolute control of the Fire Department (USCG remain under the control of USCG) or IC per mutual aid agreements; are they placed in an assisting role under a defense agency. If the port had waterborne firefighting apparatus, who would assume jurisdiction of the vessel if responding in defense areas.

Defense Vessels. Policy regarding defense vessels may be established through MOU. An MOU developed between the Seattle, Washington Fire Department and US NAVY with regard to fire fighting operations aboard Naval Vessels while under construction, conversion, or in repair in the City of Seattle is included in Appendix C. Similar MOUs could be developed with Department of Defense(DOD) vessels which might require the assistance of local municipal fire departments as visitors or through the PNSY.

3. Port Safety Standards, Requirements and SOP for Landbased Waterfront Operations. Adoption of recognized standards and practices by organizations such as the National Fire Protection Association (NFPA), Oil Companies International Marine Forum(OCIMF), Bureau Veritas and Port Authority Associations provide direction for increased fire protection regarding wharves, piers, facilities, and vessel activities.

Improvements to existing operations may be guided by applying recognized standards, using results of inventories, surveys, inspections, and firefighting water availability analysis at the facilities. Improvements should be considered for reasonable protection of the facility owner, operator, vessel owner, vessel and facility personnel, municipality, state and federal agencies, and Portsmouth Harbor. (See Item 2 for Survey and Inspections and Recommendation 6 Resources). Facility insurance rates are directly related to safety and security features of the sites. The more protective the features, the lower the rates.

Major Terminals. It is recommended that specifically related NFPA standards be adopted and enforced including:

NFPA 306 Control of Gas Hazards on Vessels
NFPA 307 Construction and Fire Protection of Marine Terminals, Piers and Wharves
NFPA 312 Fire Protection of Vessels During Construction Repair and Lay-up

Marinas. It is recommended that adoption and enforcement of NFPA standards include:

NFPA 302 Pleasure and Commercial Motor Craft
NFPA 303 Marinas and Boatyards

These two codes specify boat standards relating to engine, ventilation, heating and cooking systems as well as facility standards for management, electrical systems, fire protection, berthing and storage, and operational hazards. Important facility management standards that should be compulsory are outlined and include: cleanliness, firefighting equipment, access, employee training, practice drills, fire department liaison, and no smoking sign placement.

4. Brochure.

The Marine Fire Safety Agency may put forth a brochure which lists the Port of Portsmouth Regulations and SOP. This could be supplied to all vessels upon port entry by the pilots. It might contain marine firefighting policy including the master's relationship with the fire departments.

Brochure continued

Some ports require the master's acknowledgement that certain regulations will be complied with upon or prior to entry. The brochure might contain a form for this purpose. It might contain information regarding vessel firefighting requirements and procedures while berthed. In addition, attached to it might be a standard vessel inventory form for survey of onboard firefighting resources. This form could be filled out by the vessel at their convenience, and mailed to the association for proper distribution. For vessels that regularly frequent the port, this may be of great benefit should an incident occur.

The brochure might also contain designated warning or fire alarm signals to be given by the vessel. Such a signal could be the prolonged blast used worldwide as the international distress signal described under Port SOP. The brochure should not be considered unfriendly warnings to visiting and homeported vessels. It is possible to design an informative booklet whose purpose is to protect the harbor and its vessels, while welcoming the visitor to a safe and desirable port.

5. Placard.

A placard (or placards) with specific emergency instructions should be placed in strategic locations at all major terminals and marinas, near telephones, on the dock, facility telephones and other sites. It should be of durable material and permanently affixed to the site. Fire department, facility and USCG personnel should be consulted regarding its information and location. The language should be clear and concise. It should list notification procedures and initial actions to take. The placard would be beneficial in providing easy to see, easy to read, emergency instructions and actions to take. If the placard were damaged or destroyed, even by fire, for those who looked at it on a daily basis near a telephone, circumstances are they may remember portions of the instructions.

6. Establishment of a USCG Marine Safety Detachment (MSD).
Pursuant to USCG Marine Safety Manual Section 3.B.4. Marine Safety Detachment (MSD). "When there is a need to provide marine safety services at a remote location, an MSD may be established upon the submittal of a planning proposal by the district commander and its approval by the Commandant. This review process is required because personnel at an MSD perform combined functions of the OCMI/COTP/on-scene coordinator (OSC). The MSD supervisor, equivalent to that of a unit department head, acts under the supervision of the CO of the "parent" MSO, and exercises OCMI/COTP/OSC powers in the zone in which the MSD is located."

Marine Safety Detachment continued

An MSD is generally desirable in active, working ports like Portsmouth. The advantages include on scene MSO COTP representation. The functions are different from those of 1. Coast Guard Station Portsmouth Harbor (located in New Castle) which is primarily for Search and Rescue (SAR) operation and, 2. the mission responsibilities of the Cutters outside the permanent CG New Castle organization. While they may be moored at the pier, their tasks are different from those of the SAR Base Station.

The Port of Portsmouth is in growth and planning stages. It may be advisable to consider establishing an MSD unit for the harbor at this time. Presently, USCG MSO personnel must make almost daily visits to Portsmouth. A Portsmouth MSD may save many lost hours in transit as well as the cost of transportation. An MSD could provide immediate response to marine incidents with improved local knowledge. USCG budget constraints and personnel shortages however, may impact implementation of an MSD. This should be discussed with the COTP in Portland, Maine.

7. Lift Bridge Operations.

Operation issues of the two lift bridges during marine incidents should be explored. Some basic points include:

-automatic positioning of the bridges for various scenarios

-evacuation of the bridge operator

-traffic routing

-how long will the bridge remain in this position

-movement of supplies and equipment over the bridge

-vessel activity along the river

-movement of waterborne firefighting and support equipment

There are various agencies who have a part in this decision in addition to the Bureau of Bridge Maintenance. For example, CFR 33 tasks the USCG with bridge control issues among its other duties. They may be able to consult on bridge emergency procedures and their jurisdiction in the matter. This is an issue to discuss for the PNSY YTB-771 must have both bridges raised, if available to respond with assistance west of the Sarah Long Bridge. Bridge personnel may play a vital role with bridge operations in certain circumstances.

2.0 PLANNING

Marine firefighting goals and objectives for the protection of Portsmouth Harbor are designed, developed and implemented through Planning. Recommendations include development of the following items.

1. Pre-fire plans for vessel and terminal. All such existing plans should be incorporated into the Operation Manual either in complete form or summary as appropriate. Another Operation Manual Volume may be established for this type of information. Terminal operation plans are sometimes confidential and lengthy. These may be summarized for inclusion. Vessel pre-fire plans for home ported and regularly visiting ships are prudent, practical and recommended.

2. Marine Fire Mass Casualty Plans. Waterborne firefighting and fire rescue response capabilities are constrained by available resources. These rely heavily on 'assistance as available' from the USCG and PNSY. The simultaneous occurrence of rescue and firefighting is hampered by the limitations and supply of responding watercaft. An organized effort by agencies charged with rescue and mass casualty is important not only for harbor incidents but to out of harbor areas and offshore marinas and vessels. Rescue and casualty plans should be developed. This is particularly so as the firefighting forces who are often involved in rescue activities, may be preoccupied with fighting the marine or facility fire(s) and committed to the fire incident.

3. Evacuation Plans. Evacuation plans are important for water and land operations. Planning considerations include:

-rescue personnel familiarity with large vessels, small craft and the harbor waters.
-approach to the rescue area may be difficult and hazardous.
-rescue personnel should be properly equipped for various exposures including burning flammable liquids, toxic atmospheres and cold water immersion.
-interference from ongoing activities, both onshore and offshore.

4. Develop Port Emergency Planning Procedures. Other planning areas include Pollution, HAZMAT, Security and Sabotage. At one time the Maritime Administration (MARAD) assisted with the development of Port Emergency Planning. The Marine Safety Manual describes the MARAD port planning functions in two phases. Phase 1 concerns peacetime and Phase 2 is for national emergency. The basic goal of the port planning was for national emergencies, not marine firefighting. However, MARAD did provide guidance regarding the establishment of Port Planning Committees. If Portsmouth has or had one, the committee information may be of use. If one does not exist, and if it is still within the realm of MARAD, useful information may be obtainable. PAFB and the PNSY may already have this information available as they are likely to be involved in national emergencies.

5. Design Inspection and Survey Guidelines; Conduct Inspection and Survey for Compliance; Develop Enforcement Procedures. This section addresses practices for inspection and survey of waterfront facilities and vessels. Basic guidelines are provided which may be used for the development of inspection and survey methods. However, in-depth professional guidelines should initially be developed and applied, until appropriate agencies have the capability to minimally analyze marine firefighting operations.

Marine fire prevention and safety surveys are basically defined as cost-effective postures to be taken for the prevention and mitigation of marine fires. They may be conducted on vessels as well as waterfront facilities at which these vessels dock and perform cargo operations. They also serve to familiarize an organization with details on the facility and vessel. Surveys are also useful for alerting agency, facility, vessel owner or inspector, to a problem area. 'Team' surveys by related disciplines provide for learning from each other's observations.

They also are helpful to plan for drills and exercises. The survey information can be used by towns and port development in standardizing marine fire safety operations. Some form of survey training may be necessary. This is due to the need to be familiar with the maritime environment and cargo operations. Once this process is organized, it should be regularly practiced and cost-effective for the trained agency. These surveys and inspections are intended for fire officers, agency directors, representatives and terminal management and should not replace vessel and facility tours for the hands-on firefighter. They also require time and in a number of instances, specialized knowledge of marine operations.

USCG Inspections. Facility inspections are performed by the USCG at the minimum, on a quarterly basis. Agency representatives have been extended the invitation by the USCG to observe vessel and facility survey and inspections. It is difficult to coordinate all agencies' schedules for these meetings. Once the coordination is accomplished though, the USCG survey guidelines will be helpful. The **facility inspection** is primarily "to determine in detail whether it (the facility)complies with applicable regulations". The **facility survey** is a detailed account of the physical plant. "The primary purpose is to have information readily available to assist in making a proper and well-informed response to an emergency." If an inspection or survey is conducted of a vessel or facility, advise the COTP as this information is maintained in MSO files. A copy of the USCG 'Elements of a Survey' is in Appendix C. This is not as thorough as a customized Port of Portsmouth survey could be.

Marine and Terminal Operations. Specific guidelines (in addition to existing guidelines) for marine and facility operations may be established to allow for proper assessment of marine fire prevention and firefighting capabilities, operational safety procedures, pollution or HAZMAT prevention and maintenance standards. A team of members of appropriate disciplines should be organized to conduct a survey preferably during transfer operations. The survey should include interviews with personnel and inspection of the facilities. It is reasonable to discuss the survey with facility personnel prior to undertaking any actions. Topics for consideration include:

-marine fire prevention and firefighting capability
-berthing and mooring facilities
-ship/terminal interface procedures
-cargo, ballast and bunker transfer procedures
-shore tankage and pipeline facilities

Several agency representatives from various disciplines were invited to attend the April 15th, 1988 waterfront facility tour of ten port terminals to familiarize themselves with waterfront marine fire protection. Among the many possible marine firefighting issues, the following is a brief list of considerations which should be covered during such tours.

Marine Terminal Considerations:

-water availability through municipal system
-water availability through drafting potentials
-water availability through onsite storage systems
-availability of staging areas
-access to pier area
-access to vessel berthing area
-terminal security of pier/vessel
-pier isolation from combustible facilities
-pier proximity to population
-pier combustibility-substructure and superstructure
-pier construction-substructure and superstructure
-substructure access for fire suppression
-quick release mooring hooks for all lines
-mooring wires or fiber lines
-dock emergency shutdowns on dock
-dock emergency shutdowns on vessel
-dock/vessel communications
-proximity nearest telephone - no coin required
-dock hoisting equipment to/from vessel main deck
-availability of electricity for firefighting operations
-terminal/pier special firefighting systems-foam, etc.
-pier firefighting equipment and International Shore Connections

A copy of the MARITECH checklist is in Appendix E on these issues for agency use. A full-scale survey must be more detailed and site specific to the facility and port.

6. **Cost Estimates of Supplies.** Obtain estimates of quantities of resources and equipment for various types of marine fires. Apply cost factors to estimate the cost of the operation. This can be used to assure that adequate insurance and coverage is maintained by responsible parties. This is particularly important for vessels seeking entry with fire onboard.

7. **Purchasing.** Pre-arrange for purchasing large amounts of supplies, specialized equipment and resources such as foam or CO2. Determine brand preference, response and other items described in Recommendation 6 Resources. This may minimize or eliminate communication problems regarding shipments and approvals during an incident.

8. **Delivery.** Transportation networks for the delivery of large supplies should be pre-arranged. PAFB has indicated a willingness to cooperate with use of their facilities.

9. **Exercise.** Most 'Plans' stated the need for an exercise as well as practice in using individual plans. Small scale exercises provide more familiarity and 'hands-on' knowledge than classic 'table-top' or 'functional drills'. Examples of small scale cost/effective exercises include:

A. Notification drill on a regular basis until participants are familiar with the call-up, and knowledgeable about the PHMFCP.

B. Exercise scenarios similar to the VOP are recommended as efficient use of fire department time. They might be preceded by vessel tours for new people, or 'advanced' vessel tours for those who have had vessel orientation.

C. Facility, vessel and marine firefighting agency fire drills can be exercised economically and are generally welcomed by most shipping companies. These must be scheduled in consideration of crew availability, fire department and other agency participation.

D. At this time, a full-scale exercise is not recommended for Portsmouth Harbor. These are costly and are complicated to arrange. However, they are most effective when a plan is complete and ready for implementation. They are necessary and a full-scale exercise target goal should be set.

3.0 ROLES AND RESPONSIBILITIES

The delineation of Roles and Responsibilities (R & R) is important to the proper assignment of specific tasks to Incident Command personnel, hands-on firefighters and other response agencies. Development of Roles and Responsibilities is recommended because of the need to qualify jurisdiction, assume command, assign tasks, to minimize confusion and avoid uncertainty. It is important to have the active participation of agencies who are being assigned R & R for the most effective performance.

All agencies invited to participate in the development of the Portsmouth Harbor Marine Firefighting Contingency Plan(PHMFCP) between February and June 1988 have a potential role in a marine fire incident response effort. The agencies represent a cross section of potential response groups. The degree of active incident participation will depend on location and circumstances.

Due to the varying levels of participation and the scope of the project, it is recommended that R & R development continue. This is important in ascertaining agency capability to carry out existing Roles and Responsibilities. When actions are clearly defined, uncertainty is minimized. This results in increased task performance. All agencies should be involved in pre-fire marine fire R & R planning. Upon completion, the narrative should be ready for inclusion in the Operation Manual.

An edited worksheet list of R & R was distributed during the meeting of April 26, 1988. Copies were mailed to all agencies not attending along with a memo describing the purpose of the list and request for agency review. Due to the 1. general lack of feedback on that list, 2. constraints and conditions on the edited Roles and Responsibilities, and 3. principles of Organizational Behavior and Human Resource Development, R & R from existing plans are not included in the Operation Manual. It is therefore considered, that the Roles and Responsibilities for a marine fire incident response need to be further: 1. delineated, 2. clarified, 3. consented to, 4. expanded, 5. completed, and to be documented with 100% participation and agreement by the involved agencies. Discussion follows.

The development process of R & R combines technical task qualifications and organizational behavior. Organizational behavior studies recognize that the less a group knows about its task, the greater the reduction in performance. The greater the uncertainty, the greater the cost. In this instance, cost is measured in terms of personnel safety, effective fire extinguishment, and the protection of Portsmouth Harbor. It is recommended that agencies participate in role development. Increased knowledge about marine firefighting R & R (tasks) through participation will have a beneficial effect on marine firefighting incident response. Effectively, the firefighter or agency need for information processing is reduced. Time saved in an emergency may be vital. Ultimately, the capacity to process incident information is increased overall, positively impacting the intensive demands of major incident response.

Organizational behavior and human resource development are complex issues. This is more so for multi-jurisdiction emergency responses. In addition to appropriate technical descriptions of tasks, R & R may be grouped into classifications with organizational behavior development objectives. They include:

- Command
- Jurisdictional Organizations
- Hands-on
- Agency

For Command or Incident Command. The development objective is to reduce decision making necessitated by uncertainty, or to improve decision making with pre-fire information. Consider that:

- Task uncertainty affects performance levels.
- the more uncertainty, the more Incident Command must process during an event, the more difficult the decisions. The best or better decisions are more difficult to make under these circumstances.
- IC may choose strategies and tactics which are less effective due to the lack of information with which to make the most appropriate choice.
- Familiarity with all agency tasks (roles) results in improved understanding, assignment and implementation of tasks.

Roles and Responsibilities continued

Jurisdictional Organization. The R & R development objective is to learn about group decision making, organization and to personally interact with potential leaders. Consider that:

-Incident Command may be a group function or organization
-Uncertainty may negatively affect the type of organizational structure.
-Goal agreement is easier to arrive at with knowledge of particularly for:

life hazards
pollution concerns
HAZMAT concerns
vessel protection
facility protection

Hands-on. The R & R development objective is to learn about the situation potentials, hands-on R & R, and Incident Response Personnel roles at the Command Post. Consider that:

-Each time the situation is repeatedly encountered (practice), the amount of communication and decision making time is reduced.
-Practice provides stability to the organization's operations.
-Personnel turnover will have less impact as the existing cohesiveness is generally sufficient to sustain the original training inertia.

Agency. The R & R objective is to learn about agency interaction with Incident Command and, supporting agency R & Rs.

-Superior group decision making results from knowledge and trust in group members. This may be achieved by pre-incident meetings.
-Marine fire incidents involve an overlap of marine disciplines of marine shoreside, marine shipboard, shorebased, pollution and hazardous materials. The resulting situational leadership involves cross-training or learning about related disciplines.
-Effective incident command is enhanced by the interactive ability of these leaders.
-Meetings and workshops of the PHMFCP are evidence of improved response capability due to increased familiarity with agency R & R, jurisdiction, and leaders.
-"Short time demands, such as an emergency, tend to require task-orientated behavior."(Management of Organizational Behavior). Heavily task orientated behavior does not necessarily lend itself to efficient, overall group productivity. This is significant to multi-agency, multi-jurisdiction response.

Delineation, group approval and practice make for the best development and assignment of R & R. After these have been accomplished, the information should be included in the Operation Manual.

4.0 MARINE FIREFIGHTING OPERATIONS

The effectiveness of marine firefighting operations is largely related to organization and pre-fire planning. Marine Firefighting Operations development is recommended because of the need to continue to develop and implement Operations Policy. Recommendations include:

1. Further development and expansion of the Operation Manual. There are items in the Operation Manual which are 1. under consideration, 2. incomplete, and 3. contain suggested criteria for development. It is preferable and possible to have these items completed in pre-fire plans and/or in the Operation Manual. Therefore, it is recommended to expand the Operation Manual to include these items of:

-Consent of parties/MOU

-Approved Notification schemes

-Completed Jurisdiction grid

-Response Levels

-Command Post site possibilities

-Emergency Operating Center locations

-Staging area locations

-Inventory on a database

-Directions to various locations

-Personnel for Incident Command positions

-Definitions to have consistency between titles and words

-Establish preferred fire control berths

-Site selection for grounding, sinking and scuttling of vessels

-Roles and responsibilities

-Telephone numbers and names

-SOP as applicable and developed from Policy Recommendation 1

2. Response Levels.

At present, the port marine incident plans are essentially One Level plans. The 'COTP LPG Emergency Contingency Plan' is considered a worst case. Therefore, it may be viewed as a one level plan. Two level plans offer an alternate method. The First Level is generally notification alert of agencies. The Second Level is full implementation. Another option used in some emergency services is the Three Level Plan. This may be compared to fire department automatics/alarms which increase regarding incident demands and resource needs. If a major marine incident occurred, it is expected that fire departments will be using mutual aid. A copy of the National Response Team (NRT) Hazardous Materials Emergency Planning Guide, March 1987Levels designation is in Appendix G. It lists NRT Level One, Two and Three criteria. This may be helpful in establishing marine firefighting levels if desired. The following outline contains examples of Marine Firefighting Level Designations.

Small Vessel: less than 65 feet. Does not normally pose a threat to the harbor or facility unless berthed within populated marina. Notify: Municipal fire department and the United States Coast Guard Station Portsmouth Harbor.

Level One: (NRT-Potential Emergency Condition)
Minor vessel fire which can be quickly controlled and extinguished by on scene personnel and jurisdictional firefighters. Notification calls: Level One: Alert to selected agencies.

Level Two: (NRT-Limited Emergency Condition)
Vessel fire which cannot be quickly controlled and extinguished by on scene resources and jurisdictional fire department. Establish Command post. Notification calls: Level Two: All agencies. Specify request for assistance.

Level Three: (NRT-Full Emergency Condition)
Major marine fire necessitating use of specialized resources and equipment which may not be immediately available in the Seacoast area. Notification calls: Request for mutual aid. Implementation of the 'Piscataqua River Marine Disaster Plan', medical alert, etc. Notification to large suppliers of immediate 'Supply Plan' implementation , Implementation of Port Safety Standard Operating Procedure(SOP), or Port Emergency Planning Procedure.

5.0 TRAINING

Training has been called 'the cornerstone of an effective response'. The training program which was used to introduce marine firefighting to Portsmouth Harbor was adjusted to apply to the diverse group of trainees. Training recommendations are necessary because training is an ongoing need. A regular Marine Firefighting Training Program should be established.

Define Goals and Objectives. It will be necessary to establish criteria for and standards in the training program. NFPA will not have their recommended practice on Shipboard Firefighting for Landbased Firefighters published until 1989 at the earliest. However, this information is accessible and was incorporated into the PHMFCP Training Program. Objectives should now include:

-Establish training levels
-Correlate training with role and responsibility
-Provide cross-training
-Evaluate effectiveness of training. Use inventory records to compare number of personnel familiar with large vessels before and after Training.

Define Target. Potential trainees include groups which may be segregated. There are always benefits as well as disadvantages to mixed training groups. Target groups include:

-Municipal firefighters: Volunteer, professional, call, part and full-time needs.
-Federal firefighters
-Facility personnel
-Homeported vessel personnel
-Related discipline personnel
-Command personnel
-Other response agency personnel

Program Components.

-levels and standards: number of hours per year, number of vessel tours, facility tours, hands-on exercises.
-subject matter: special systems, vessel systems, foam types and uses. Contact foam companies. They operate training programs. R & R; Seminar on Marine firefighting Incident Command and Operation Manual.
-specialized training for Officers: command; and advanced strategy and tactics. This could be accomplished by sending personnel to marine fire training schools such as Texas A M.
-advanced training
-fire orientation for dockside and facility personnel
-coordinate training with local, state and federal agencies as appropriate
-arrange yearly training with USCG
-accompany USCG on facility and vessel inspections

6.0 RESOURCES

Having supplies available to be drawn upon when needed, gives an advantageous ability to deal with a situation more effectively. Resources in the local area are insufficient for a major marine fire. This is typical for most ports however, for major marine fire requirements are massive. The resources are not customarily stored or owned by many organizations. The inventory in the 'Piscataqua River Marine Disaster Plan' which has recently been updated, lists available resources. The twelve Inventory Responses to the PHMFCP do not statistically reflect the state of readiness for a minor or major marine fire.

The major sources of local waterborne firefighting capability and rescue, large supplies, variety of and sophisticated equipment are from local federal Department of Defense (DOD) organizations. These may be available under mutual aid. However, it is well established that their supply is restricted to 'assistance as available' and to the limits of what must be retained for obligatory defense postures. Defense agencies may assist in procuring supplies from elsewhere, or as in the case of PAFB, permit use of the airfield for flown-in resources. USCG personnel are never under the jurisdiction of other agencies. There are a number of circumstances when these agencies may not be able to supply normal mutual aid.

Recommendations include procurement of the following resources:

1. Adequate Water Supplies
2. Specialized Equipment for Each Fire Department
3. Specialized Resources for Combined Multi-Agency Use
4. Large Supplies/Resources Availability Plan
5. Casualty Documentation and Reports

1. Adequate Water Supplies. One of the greatest needs of safe, effective fire fighting, is **sufficient water availability.** Inadequate water supply for a major vessel fire has been identified as one of the harbor's significant problems. For Portsmouth Harbor firefighting purposes, water may be supplied by the following sources depending on the facility:

1. Municipal Water Supply
2. Piscataqua River
3. Facility Storage Tank
4. Fire Response Apparatus (negligible amount)

Adequate Water Supplies (continued)

The lack of water availability through the municipal water supply has been a major concern of some response agencies for a considerable period of time. Others have recently learned that this is a problem common to much of the waterfront area; and that one municipality may be affected by water use in a neighboring or nearby municipality due to physical capabilities of the water supply system. Also of concern is that in some cases, the nearest hydrants are well over 500 feet from the vessel's berth. Friction effects of long distances additionally restrict flows unless very large diameter hose is available and put into service as sufficient personnel become available.

During the April PHMFCP Fire Chief tour of South Portland's waterfront, the project chiefs learned that the South Portland municipal hydrants, most of which are located at the pier, flow in excess of 10,000 GPM. This flow is many times greater than the best hydrants which protect the major terminals in Portsmouth Harbor. As a short term priority, some solutions should be enacted. Short term and immediate solutions focus on river drafting potentials. The more capital intensive on-site water storage tanks or municipal water supply improvements, while desirable take time to develop and implement.

Ideally, water supplies of readily available pressurized fresh water are preferred. The complexities and disadvantages of drafting salt water from a tidal river may limit response time and reliability, depending on the methods used. The more complex the arrangements, the greater the chance of operational difficulties.

Due to municipal water supply problems of the facilities, water supplied through direct use of the river should be fully explored. A major fire will probably require extensive use of river water that could be supplied through various means. According to the 1984 report "Town of Newington, N.H. Water System Analysis Recommendations" prepared by fire protection consultant Richard Rand, "With respect to the Fuel Storage and Manufacturing areas, i.e. (waterfront)...it will be necessary to use the natural resources offered by the Piscataqua River to supply water during a conflagration."

This is valid for berthed vessels as well as the facilities themselves. For each berth, arrangements should be in place to insure an adequate water supply for control and extinguishment of a fire onboard any vessel that would normally use the berth.
Due to the bulk liquid hydrocarbon cargos carried by many of the vessels, pre-determining water requirements for a major vessel fire will ultimately be a matter of judgement. In regard to the requirements of the waterfront facilities themselves, Mr. Rand states that "there are no specific guidelines for such high hazard operations..."

Large vessel cargo fires involving gasoline, propane, JP4, etc. could require massive quantities of water, well beyond the present available municipal supply, for cooling, confinement, exposure protection, and foam application. Due to stability concerns and dewatering capabilities however, water flows for various interior vessel fires can be limited to a few thousand GPM irrespective of the suppression amounts needed.

If sufficient water is unavailable for the control and extinguishment of major vessel fires, then water supplies should minimally be available which will contain the fire and protect the exposures. Consequences of minimal water availability include the loss and sinking of the vessel at the berth. The resulting economic impact to the facility as well as the severe environmental effects that are evident should be carefully considered. Minimal and sufficient water availability can be evaluated in terms of acceptable risk or that some risks are not acceptable with regard to the protection of the facility and Portsmouth Harbor.

Piscataqua River water could be supplied through several different methods including:

A. Fixed permanent pumps - similar to those installed at the PSNH pier (operated by C.H. Sprague and Son Company, Inc.) This alternative is preferred over 'B' and 'C' since it provides dedicated, immediate response and minimal needs for personnel or additional apparatus.

B. Portable pumps - Large mobile units could be brought to the site as necessary. These would be less costly units to purchase than to risk a $250,000 - $350,000 piece of fire apparatus as outlined in 'C'.

C. Fire Engine Drafting:

1. Through fixed, permanent dry hydrants.
2. From installed drafting sites or ramps.
3. From existing sites as available and appropriate with considerations to include:
   - o pier access/blockage by fire engines
   - o fire engine exposure/proximity to fire area
   - o tide height effect - assuming most engine's have maximum practical lift of 22 feet
   - o logistics of placement - proximity to edge of bank, front/side suction options, available lengths of hard suction hose, etc.
   - o ice restrictions on suction hose
   - o flammable product on water restrictions
   - o detrimental effects on fire engine

D. Waterborne Apparatus:

1. Dedicated Fireboat (See pages 39, 40)
2. Multi-Purpose Harbor Craft (See pages 39, 40)
3. Firefighting Tugboats - like the PNSY YTB-771

River drafting, whether from fire trucks or fireboats will also provide protection for nearby onshore facilities and structures. It is recommended that any combination of the above alternatives be used as a short term solution to a long time problem.

2. Specialized Equipment for Each Fire Department. According to the inventories, not one **International Shore Connection (ISC)** is owned by participating project local fire departments. Sea-3, Inc. owns one ISC. The significance of an ISC is discussed in the Training Manual. In essence, a vessel carries one half of the connection and shore operations carry the other half. One without the other is basically ineffective. When properly connected, an ISC will provide for water to be brought onboard the vessel originating from an off-vessel supply source. All large vessels are required to have their half of the connection. Most large ships carry at least two of these attachments.

Both the Training Manual and the Operations Manual list a number of specialized items that should be available to safely and effectively respond to marine fire. The Inventory form lists types of pieces that are owned by agencies throughout the United States which may be used for marine fire incident response. All these items could be necessary. Ideally, these items should be on hand and are recommended standard equipment for harbor fire departments.

In order to build a marine firefighting inventory, it is suggested that each department should have the following pieces at a minimum. Since each organization has special concerns, response capabilities, and staffing levels, the list should be adjusted according to agency needs and preferences but should include:

For Each Fire Department:

1. Several International Shore Connections
2. 60 minute air packs (minimum quantity 6-10)
3. 60 minute spare tanks (minimum quantity 12-20)
4. Intrinsically safe handheld radios (see page 41)
5. Marine radios (see page 42)
6. Dewatering eductors (minimum two 2 1/2" units)
7. An Advisor Kit (for emergency use) to include special documents and material:
    a. PHMFF Operation Manual
    b. PHMFF Training Manual
    c. Marine Fire Prevention, Firefighting and Safety
    d. NFPA 1405 (when available)

3. Specialized Resources for Combined Multi-Agency Use. A cache of equipment and supplies might be locally stored for mutual aid use. The funding and use of the cache would be provided on a shared basis. Agencies that access the cache would be obligated to replace or repair items consumed or damaged.

Having such items locally available is a recommended safety practice. In addition, personnel should be well trained in the proper use and application of all items. Some cache items should include:

1. A 500-1000 gallon minimum supply of universal-type foam. Considerations of shelf life, freeze/thaw capacity and low temperature flow capacity should be given in addition to product performance and cost.

2. Special foam distribution and proportioning equipment that is unavailable locally and needed to apply large foam amounts.

3. CO2 transfer equipment for inerting spaces aboard vessels. This would include special hose, associated fittings and electrical bonding equipment for static charge control.

4. Special monitoring equipment for inerted spaces including an O2 analyzer, a CO2 analyzer, and both low and high range thermocouples.

5. An infrared heat detector to locate the fire through the often dense smoke within the vessel. Currently, only the New Castle Fire Department lists such a device in its inventory.

6. A minimum of 20-30 60 minute spare SCBA tanks. These spare tanks are recommended presuming the availability of:
   - o At least one SCBA service truck/cascade system for 60 minute SCBA units
   - o At least one 4500 Lb. compressor
   - o A sufficient number of 60 minute SCBA air packs

7. Dewatering gear for removing large quantities of water from the vessel.

A more ambitious project, is establishing a regional cache of very specialized equipment for the major seaports of Boston, Portsmouth and Portland. Portsmouth is centrally located to store the cache. Locations for storage might be the Portsmouth Armory, Pease Air Force Base or PNSY.

4. Large Supply/Resources Plan. These items are necessary to large fires and those that take time to contain and/or extinguish. Their use may be directly related to the time required to extinguish a marine fire while minimizing risks to personnel and property. They are described in the Training Manual and Operation Manual. As with equipment, there are priority items to initially secure. The costs can be minimal for several items and expensive for others.

Immediate Supply Plan. Examples of large supplies that may be needed include items such as:

- o Foam
- o Foam Stabilizer
- o CO2
- o Dry Chemical

Items to consider in making arrangements with supply sources are: product and service, anticipated quantities, response time for product arrival, shelf life, freeze/thaw capabilities, low temperature flow capabilities, requirements to expedite and release the item, purchasing and responsible party direct payment, discussion with local possible responsible parties as to their suppliers.

A representative from National Foam spoke before the Seacoast Fire Chief's meeting on May 5, 1988 regarding these issues. Information from 3M's foam group, received by MARITECH, has been distributed for Fire Department circulation. 3M also supplied a manual on 'Light Water' Products and Systems Engineering for review, a video tape and a manual to be used for product training. These will be circulated through the fire departments this summer. This type of information is usually available from companies and is economical training for firefighters at a firehouse with a video tape player.

5. Casualty Documentation and Reports. Casualty investigations documented in USCG Forms 2692 and NTSB Reports are to be distributed to fire departments through the New Hampshire Port Authority. Examples have been discussed and distributed at workshops. The importance of this material is for case study. It increases familiarity with circumstances that may occur in the marine industry, and allows for analysis.

6. Computerize Mutual Aid inventory onto a database.

7. Fireboat or 8. Multi-Purpose Harbor Craft. "There are many basic differences in the use of the fireboat and its equipment as compared to that of land fire fighting apparatus and equipment. Basically the use of the fireboat may be divided into three categories: first, the supply of water, hose, and appliances for use on shipboard or on land; second, the use of fireboat monitors and hose appliances operated from the fireboat itself; and third, the use of the fireboat to supplement the High Pressure System or to act as a supply source for relay. These basic uses involve many problems of seamanship and firemanship that do not occur on land." ('Fireboat' Revised 1977)

In recent times "A number of ports seem to have taken advantage of current attractive shipyard prices to get new fireboats. They include the ports of Long Beach, California and King Cove, Alaska." according to the December 1986 issue of Marine Engineering Log. Portland, Maine has a fireboat. According to recent information, South Portland, Maine has been investigating purchase of a fireboat. Camden, Maine may have a fireboat for sale. Boston, Massachusetts has two fireboats. General inquiries into the use of these under mutual aid agreements suggest the need to understand response timeframes, safe transit from port to port, liability and availability of the fireboat under certain conditions. The issue of mutual aid fireboats is extremely complex. Committing a fireboat to distant ports disables its ability to respond to home port problems in a reasonable time. This is not generally the case with firetrucks.

During the PHMFCP project development between February 1988 and May 1988 many participants inquired as to fire boat purchase and, some responsible parties indicated a need. It is not within the project scope for MARITECH to determine, to recommend or not to recommend purchase of a fireboat. There is however, sufficient information to suggest active investigation into the purchase and/ or design of a fireboat or multi-purpose vessel.

There are numerous issues to review during planning and feasibility study for a Fireboat or Multi-Purpose Harbor Craft, Some of these include:

-funding sources
-cost/benefit of purchase/lease
-mutual aid commitments
-private contracts
-union/non-union crewing
-mixed use or multi-purpose: Rye, Hampton, York Harbor, Isles of Shoals, Great Bay, medi-vac, pollution, bridges, buoys, etc.
-criteria to obtain funding
-occasions of use
-augment possible firefighting water shortage of waterfront areas within 2000-3000 feet (with 5" hose lay)

Among the many fireboat considerations, some major ones are:

1. hull design-planning or Surface Effect Ship (SES)
2. hull and superstructure material - preferably steel, aluminum second choice
3. fire retardant construction materials
4. dash speed - important if going against current
5. vertical height - should allow clearance of Memorial Bridge (19') with communications antennas in place
6. multi-mission capability - not only for firefighting but rescue, salvage and miscellaneous activities.
7. initial capital cost
8. operating cost including minimum crew
9. maintenance costs including minimum crew
10. pumping capacity (at least 5,000-6,000 GPM)

Some 'other' fireboat apparatus considerations include:

1. fuel capacity
2. foam capacity
3. propulsion integrity from fouling lobster pots (i.e. shrouded propellers, water jets, etc.)
4. automated fire monitors
5. dewatering capability
6. lifting device for injured from water
7. air protection for on-board personnel and engine systems in toxic and/or flammable vapor environments
8. ruggedness of exterior/interior
9. maneuverability with monitors in use
10. equipment such as radios, navigation gear, worklights and onboard small shallow-draft auxiliary boat
11. hull and propulsion systems' resistance to damage from floating debris and ice
12. ability to carry additional payload of people/equipment

A multi-purpose harbor vessel may provide waterborne firefighting capability with similar or identical puposes as a fireboat. It may provide functions in addition to marine firefighting for rescue, emergency and other operations in order to meet demands of the residential, commercial, governmental, recreational, and environmental aspects of Portsmouth Harbor and neighboring vicinities. Further investigation is recommended.

7.0 COMMUNICATIONS

Effective communications systems are necessary for reliable transmission and reception of vital information. The Communications Sections in the Training Manual and Operation Manual describe various needs of communication systems. Some resources may be purchased, others may be contributed through mutual aid. Another communication resource is system design. Communications system design is properly developed with equipment, channel designation/coordination, and knowledge of communications. Recommendations include:

1. Notification and Exercise. It is recommended that the Operation Manual Notification scheme be finalized and approved by participants. Exercises should be conducted to review notification setups and the appropriateness of the call-up. Points to observe: start to finish times, accuracy of relayed information, correct telephone numbers in place, what other schemes were simultaneously placed, was the call-up confusing, did it flow in a logical sequence, are all plans which are incorporated into it properly covered. This is a cost-effective practice which should be conducted as routine maintenance of the plan. It will also serve as an awareness campaign to dispatchers regarding the implementation of the PHMFCP. Random calls to dispatchers revealed dispatch lack of knowledge and familiarity with some harbor related plans. A notification schedule which has been practiced and debugged, will be more effective in providing rapid response capability.

2. Procurement of Radio Equipment. Significant equipment to be acquired on a priority basis includes:

A. Intrinsically safe radios. The apparent number of these radios is minimal for the seacoast area. These radios are important to safety. They are considered explosion proof. The radio is insulated such that ignition sources, i.e. sparks, do not escape from the radio. In some incident response situations, these qualities are necessary. Volatile atmospheres provide the element which, when combined with an ignition source from the radio, may cause fire or explosion. Also, these radios are less affected by the hot and humid conditions of the shipboard interior than regular radios. They are therefore more reliable. They are a recommended resource item for the safety and protection of personnel, and indirectly the harbor area. Additionally, their use is valuable to onshore HAZMAT incidents which present similar circumstances.

Communications continued

B. Marine radios. It is reasonable to expect potential incident command organizations to have available at least one marine radio to communicate with the various support water craft. Presently, no marine radios are listed in any municipal fire departments' inventory. Either a single port-a-pack convert-a-comm unit in the department's command vehicle, or a mobile radio and handheld would be minimally required for a large incident.

C. Telephones. Dock telephones are primary first-line notification resources as well as providing back-up communications. Landline telephones are superior in several ways to radio communication. They insure privacy, are not limited by radio interference, are easy to use and, provide reliable and immediate communication. Telephones are not installed at several waterfront berths nor in close proximity to the pier or vessel. This has been a common complaint of fire departments and the pilots.

The lack of telephones pose a number of consequences for emergency communications. These include time delays and communication failures. For injured persons who are calling, whether in good weather or snow, they may have to crawl, walk or run a considerable distance. Requests for additional information are difficult to comply with as the roundtrip distance to the line is again considerable. It is also difficult for parties without radio communication capability to call the pier area. Pay telephones should always operate without a coin. Special arrangements may be considered with telephone companies to insure that public telephones can be called back. There are public telephones one cannot call back.

3. Dedicated marine firefighting frequency, marine channel. The COTP may designate a channel for marine firefighting response efforts if channel 22 becomes overcrowded or conditions warrant. Channel 22, 157.10 is designated as the "working frequency for all waterbased responding units". It may be helpful to pre-designate alternate channels which might be used.

4. Plan for back-up Communications for occasions when communication appears to be late or cannot get through. Equipment failure may be the cause. Extra radios and spare batteries may help. Hair dryers are helpful to dry out radio components. Establish relay stations to EOCs, etc. with radio communications and landline telephone systems. Again, the importance for dockside telephone capability. Personnel may act as messengers.

5. Coordinate with military agencies for channel use in the event all channels are in demand. SOP for marine firefighting communications should address this.

6. Interference. Anticipated radio interference problems may be addressed in SOP for marine firefighting. FAA Temporary Flight Restrictions (TFRs) may also help with some problems by minimizing air traffic near the incident. Air traffic noise should be minimized. The benefits of aircraft support should be weighed against the disadvantages of interference or noise.

7. Blackout Zones. These are radio communication transmission problem areas with frequency interference, or areas where transmissions cannot send or receive. If at all possible, these may be tested for around the harbor area to catalogue potential communication problems. Local conditions or devices may cause occasional or full time transmission/reception difficulty. Certain parts of the vessel do not allow for transmission. Hints have been provided in the Training Manual on how to address this. However, 5 watt or more radios generally transmit better through vessels than lower wattages.

8.0 ENVIRONMENTAL ISSUES

Environmental issues are under the purview of several municipal, state and federal agencies. Environmental issues are recommended for review because the consequences of marine fires involve environmental disaster preparedness. Specialized knowledge is required to coordinate marine firefighting tactics with preparation for environmental consequences.

Local resource groups may assist in cost/benefit determination on scuttling, grounding and sinking sites. They may also help establish design criteria for review of contamination of water and special hazard assessments. The University of New Hampshire's Jackson laboratory organization has a wide range of information regarding the area's marine environment. New Hampshire has a 1980 Inventory of Natural Resources of the Great Bay Estuarine System. The Coastal Zone Management Proceedings 'Perspectives on Oil Refineries and Offshore Unloading Facilities' for the local seacoast area in 1974 is another resource. It has a complete bibliography as well as names of then local and regional participating agencies. Many of these groups already have knowledge and understanding of this coastal area. Local resource groups may be helpful with:

-Updating and adding to baselines for environmental damage assessment.
-Evaluating consequences of using large local amounts of Piscataqua River water during an emergency. This should not be a concern based on current daily commercial harbor uses.
-Evaluating booming techniques which may be ineffective and dangerous around the vessels per the established plans. New pollution plans may be necessary which are appropriate to firefighting and feasible for the swift currents of the Piscataqua River.
-Working with salvage operations. Such groups are generally brought in from elsewhere and do not have thorough understandings of local environmental concerns. Familiarity with salvage operations by local environmental experts enables these people to provide assistance to salvors as necessary.

Environmental concerns include:

-Selection of scuttling, sinking and grounding sites.
-Short and long term effects of scuttling, sinking and grounding sites, blocking the channel.
-Evaluate use of firefighting extinguishing agents on the environment: use of large amounts of CO2, Halon (halon is being phased out), dry chemical, foam types - protein, AFFF, alcohol.
-Dispersal of agents into the adjoining waterways, contamination of water and supplies.
-Longterm effects of dry hydrants on marine life; It is generally the reverse - minor forms of marine life grow on dry hydrants clogging the hydrant.

Environmental concerns continued:

-Pollution problems.

-Hazardous materials problems.

-Compatibility with other pollution and HAZMAT plans, particularly from Maine.

-Toxic smoke plumes.

-Damage to commercial and recreational fishing industries, lobstering, oysters and various marine and bird life. These could be seriously impacted by the far-reaching consequences of a vessel fire incident.

-Negative impact on tourism.

-Firefighting tactics and the environment: exercise water discipline. Not only for stability purposes but excess water may overflow cargo tanks and deck areas flushing pollutants and contaminants into the surrounding water. An action which might be avoided through educating firefighters.

-Consideration of hazard ratings. Some of this information is now computerized and immediately accessible:
airborne toxicity factor - certain cargos, if released to the air, or if on fire, may form toxic clouds. Downwind drifting from the vessel can constitute a hazard;
water toxicity and environmental factor - certain cargos, released in water constitute a risk to marine life. Oily slicks and fumes may negatively impact nearby coast and water uses.

9.0 FUNDING

Much as training is the cornerstone of an effective response, so might funding be considered the cornerstone of an effective program.

1. **Harbor fees:** Develop and implement Harbor Fees to pay for marine firefighting training and equipment. A reasonable fee collected for each port call could generate seed money. A $50.00 harbor fee per vessel may provide income for valuable services to the maritime operations and protection of the harbor. A reasonable fee should have a negligible impact in relation to the degree of marine fire protection provided, since the ports' volunteer and mutual aid organizations already act as a cost saving approach. A similar program, implemented in the State of Washington, is used to fund training and equipment purchases.

2. Obtain appropriations and grants.

3. Establish fair-share expensing for marine firefighting training and equipment and resources.

4. Joint purchase of mutual aid marine firefighting resources and/or related disciplines. Agencies with shared interests, such as pollution and HAZMAT to jointly purchase equipment and supplies for the cache or with the fire agencies and others.

APPENDIX

Appendix	**A**	Findings of the Fire Hazard Assessment(FHA) workshops of March 16th and March 17th, 1988
	B	Roles and Responsibilities excerpted from existing plans used for the project
	C	Memorandum of Understanding: USCG example
	D	Memorandum of Understanding: Seattle Fire Department and the US Navy
	E	MARITECH Facility Checklist
	F	USCG Facility Survey Guidelines
	G	National Response Team (NRT) Level Guidelines

Appendix A

Findings of Fire Hazard Assessment, Other Concerns and Needs:

This section contains the findings of the three Fire Hazard Assessment Workshops of March 16 and March 17th, 1988. Added to the workshop information, are the concerns identified by agencies during other meetings, workshops, tours and information requests. This information has been previously distributed to all participating agencies. Each item is a 1. direct quote, 2. brief re-statement of explanation, or 3. paraphrase of an agency comment or question. Most of these items are verbatum. Following each 'Need' item is either a reference number to a Recommendation section of this report or a status comment. The Recommendation number is intended as a cross reference convenience. Action(s) to take regarding each item(s) have been made and some recommended activity is already underway.

The results of this information is compiled into related concerns, comments and questions under eight headings of:

1. Roles, Responsibilities, Jurisdictions
2. Portsmouth Harbor Marine Environment
3. Vessel Issues
4. Terminal/Facility Issues
5. Equipment and Resources
6. Marina Issues
7. Personnel Issues
8. National Defense Areas

The following eight sections contain the 'Hazards'and 'Needs' defined by agencies between March 1988 and May 1988.

1.0 Roles, Responsibilities, Jurisdictions:

-who is designated in charge once there is the anouncement of fire. **See OPERATION MANUAL-Jurisdictions**
-multi-agency, multi-jurisdiction-what areas and who is responsible. **See OPERATION MANUAL-Jurisdictions**
-notification procedures. **See OPERATION MANUAL-Notifications**
-would like to be notified when there is a fire in local fire department jurisdiction on the water. **Resolved: Cooperation of COTP and Coast Guard New Castle. SOP- Fire departments will be notified of all vessel fires within their jurisdiction.**
-incident: Horse of a Different Color fire. Embers rolled over to boat. **Resolved: Portsmouth Fire Captain requested to and discussed with concerned party.**
- condos in Sheraton have fireplaces. Concerned about embers and fire potential for pier and vessels nearby. **Resolved: Portsmouth Fire Department requested to and discussed with concerned party.**
-if toxic gases area released during a a fire near the waterfront, detrimental to population. **Reference: OEM/HAZMAT-evacuation if necessary**

1.0 Roles, Responsibilities, Jurisdictions continued.

-example of worst case: USS JOHN KING visit, in at Easter weekend, except for duty section only ones onboard, fire occurs. **Action: Used for discussion purposes.**
-agencies have priority missions such as Navy, Airforce, USCG. Mutual aid. 'As available resources not to be counted on. **Recommendation #1, 2, 4, 5, 7.**
-Seabrook. **Action: sharing of IFO**

2.0 Portsmouth Harbor Marine Environment:

-river is difficult to deal with oil spill. **Recommendation #2, 8**
-difficulty of maneuvering, river itself has potential for accidents. **Recommendation #1, 5, 8**
-if collision with bridge, access out to river to combat is difficult, seems to be primarily private. **Recommendation #1, 2, 4, 5, 6.**
-bridges: falling objects; dropping ignition source, high speed chases over opening of bridge. **Recommendation #1, 2, 4, 5, 6.**
-increase in boat traffic increases probability of something happening. **Recommendation #1, 2, 5**
-35% increase in 1987, anticipate similar for 1988 for boat traffic increase. **Recommendation # 1.**
-harbor congestion, shipping lanes. **Recommendation # 1, 2.**
-two fastest currents around New Castle Island. **Recommendation #1, 2, 4, 6, 9**
-problems at anchorage or near mouth of river causes them problems. **Recommendation #1, 2.**
-river maneuverability. **Recommendation #1, 5, 8.**

3.0 Vessel:

-cargo-bulk liquid, dry could be flammable, or combustible containerization. **Recommendation #1, 4, 5**
-fuel systems. **Recommendation #1, 4, 5**
-engine room. **Recommendation #1, 4, 5**
-pump room. **Recommendation #1, 4, 5**
-galley fire. **Recommendation #1, 4, 5**
-crew member smoking in stateroom.**Recommendation #1, 4, 5.**
-nesting. **Recommendation #1.**
-ships in on holidays, particularly LPG, traffic problems, shut down port. **Recommendation # 1**
-Indian Ocean around December 1986. **Recommendation #1.**
-docking at PSNH and Mobil at same time(proximity of vessels) **Recommendation #1.**
-ship construction. **Recommendation #5.**
-fire suppression equipment onboard. **Recommendation #5.**

4.0 Terminal/Facility:

-except for shipping the piers are inaccessible(Sprague/Simplex)
-no water at piers for most or all. **Recommendation #1, 2, 4, 6,**
-traffic scheme to leave clearance for fire apparatus:Paterson Lane: Woodbury Ave. **Recommendation #4 for inclusion of pre-fire plans in Operation Manual**
-62 tanks in Newington. **Recommendation #1, 2 and #4 for inclusion of facility information in operation manual.**

-14 tanks at Mobil-no fire suppression, no class A protection 1960's tank with 1960's code, upperside of tank not properly dyked. **Action: under investigation by PSNH,** with call out to Mobil Oil.
-LPG mooring arrangements. **Recommendation # 5.**
-accessibility by land is difficult to impossible for tanks nearest river. **Recommendation #1, 2, 4, 5, 6.**
-are there water mains on piers. **Recommendation #1, 4, 6.**
-concerns over susceptibility of one terminal to another. **Recommendation #1, 2, 4, 6.**
-hazards from others. **Recommendation #1,2,4,6.**
-lack of standards, i.e. water on the docks, basic component. **Recommendation #1, 2, 3, 4, 6.**
-industrial firms. **Recommendation #1, 2, 3, 4, 6.**
-railroads in and of themselves. **Recommendation #1, 2,**

5.0 Marinas Recommendations #1, 2, 3.

-hotel guest vessel owners - how do you care for docks and vessels
-New Castle 200 slip marina with diesel and gas fueling
-yacht clubs
-floating dock arms with fixed arms into piers
-Great Bay refueling and spills
-Boat on fire to be set loose. **Resolved: Per the COTP SOP.No boat with fire aboard is to be set loose without approval of the COTP.**

6.0 Equipment and Resources:

-Fireboat. **Recommendation #4, 5, 6**
-inaccessibility to Isles of Shoals. **Recommendation #1, 2, 6.**
-Rye Harbor mooring. **Recommendation # 1, 2, 6.**
-availability of resources for a marine fire. **Recommendation #1, 2, 6**
-breathing apparatus. **Recommendation #1, 2, 6**
-need sixty minute airpacks. **Recommendation #2, 3, 5, 6**
-firefighters need skills. **Recommendation #5**

7.0 Personnel:Recommendation #3.

-language barriers. **Recommendation #3, 7.**
-communication. **Recommendation #3, 7.**
-vessel fire suppression equipment. **Recommendation #5, 6.**
-capabilities of onboard crew. **Recommendation #5.**
-lack of training. **Recommendation #3, 5.**
-communications poor. **Recommendation #3, 7.**

8.0 Defense Areas:

-shipboard reactors. **Recommendation #1, 2.**
-PNSY. **Recommendation #1.**
-Pease Airforce Base. **Recommendation #1.**
-aircraft. **Recommendation #1, 2.**
-military facilities. **Recommendation #1, 2.**
-aircraft crash. **Recommendation #1, 2.**
-naval base-how do you fight a submarine fire. **Recommendation #1, 2, 3**
-ship at Defense Fuel pier with defense fuel products. **Action: Cooperation of COTP, PAFB and Newington Fire Chief working to resolve. Recommendation #1, 2, 3, 4, 7, 9**

Appendix B

Existing 'Plans' Roles and Responsibilities. This section contains in alphabetical order by agency, currently assigned and/or agreed to descriptions of agency roles and responsibilities. These should be reviewed by the agency they have been assigned to prior to inclusion in the Marine Firefighting Operation Manual. The roles should be examined collectively to ensure that all response areas have been covered. For marine firefighting areas not covered, additional agencies or roles should be included.

N.B.'Plan' refers to the individually named plan of a section. 'Plans' refers to the collection of MFFCP plans in Item 1 of the Operation manual.

BUREAU OF BRIDGE MAINTENANCE: (603)271-3667
Per the 'LPG Emergency Contingency Plan:('Plan')
1. Reference is made to the Maine Interstate Bridge Authority: (207)439-4128. No specific tasks assigned.

FACILITY PERSONNEL: Sea-3, Simplex, PSNH, Sprague, Granite State, National Gypsum, NHPA, Isles Of shoals Steamship,Portsmouth Navigation.
Per the 'Piscataqua River Marine Disaster Plan:('Plan')
1. As Private Industry-requirements would be determined by the EOC, who would make the necessary arrangements to obtain these services and equipment.(p.7)

Per the 'New Hampshire Hazardous Materials Incident Emergency Response Plan':('Plan')
1. If an appropriate company, may be contacted by the State Emergency Operations Center to mitigate, clean-up, and dispose of materials (p.7)
2. If a responsible party- has legal responsibility for the involved products at the time of the incident. (p.14)
3. Oil companies/private contractors: provides support assistance in combating and investigating hazardous material spills.(p.33)

Per 'Incident At Sea-3 Plan': For Sea-3 Personnel Only:
1. Terminal personnel will activate emergency shut-down systems and close appropriate valves to shut off flow of product.(p.5)
2. Terminal personnel and the Chief Fire Officer will order all sources of ignition shut off in the area.(p.5)
3. Key terminal personnel will order any ship at berth to shut down unloading operations and disconnect unloading hoses.(p.5)
4. If conditions dictate, the USCG MSO (Portland,ME) will order a ship or barge away from the berth.(p.5)

Per the 'LPG Emergency Contingency Plan':('Plan'):1988 for Sea-3:
1. Give the alarm to Newington Fire Department (603)436-5737.(p.VI-4)
2. Attempt to isolate the source of incident P.VI-4)
3. Secure transfer operations. (p.VI-4)

ISLES OF SHOALS STEAMSHIP COMPANY VESSELS:
1. No 'Plans' have specifically addressed this vessel operation.

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION: (207)289-2651
Per the 'Piscataqua River Marine Disaster Plan:('Plan')
1. Will provide equipment and expertise for response to oil and hazardous substances spills. (p.7)

MAINE CIVIL EMERGENCY PREPAREDNESS BUREAU:YORK COUNTY EMERGENCY MANAGEMENT AGENCY: (207)324-1573,(207)324-1578(EM)
Per the 'Piscataqua River Marine Disaster Plan':('Plan')
1. Personnel will proceed to the EOC as required(p.7)
2. Provide Civil Emergency Preparedness Bureau resources (revised 4/88) as required.(p.7)
3. If emergency or disaster is beyond the capabilities of local participating agencies, Civil Emergency Bureau 13 will be responsible for requesting support from the States of New Hampshire or Maine for resources (revised 4/88) and/or declaration of a disaster area. (p.7)

Per the 'LPG Emergency Incident Plan': ('Plan')
1. No specific marine firefighting tasks have been assigned.

NATIONAL DEFENSE AREA AGENCY RESPONSIBILITIES AND ROLES:
Per the 'Piscataqua River Marine Disaster Plan':('Plan')
for events involving high national security under the purview of the Navy or Air Force, such areas is considered a National Defense area.(p.2)
1. Pease AFB is the primary response agent for any incident involving Defense Logistics agencies in Newington.(p.2)
2. Portsmouth Naval Ship Yard: Defense area roles and responsibilities not delineated.

"National Defense Areas:
1. Pursuant to 50 U.S.C. 797, any military commander may establish a national defense area for the protection or security of military or naval aircraft, airports, airport facilities, vessels, harbors, ports, piers, waterfront facilities, bases, laboratories, stations, vehicles, equipment, explosives, or other property or places subject to the jurisdiction, administration or in the custody of the Department of Defense. With regard to any National Defense area established on the port or waterfront area which activates this disaster plan, control and decision-making authority rests with the branch or branches of the Department of Defense most affected by the disaster. In any situation involving the Newington Defense Fuel Support Point or Air Force aircraft or equipment, the Air Force will have absolute control as the federal OSC of this plan."(p.8)
N.B. National Defense circumstances for protection of Portsmouth Harbor under consideration per 3/30 meeting questioning. See also Operation Manual Jurisdictions.

NEW HAMPSPHIRE DEPARTMENT OF TRANSPORTATION:(271-3734)
Per the 'Piscataqua River Marine Disaster Plan':('Plan')
1. No specific marine firefighting tasks have been assigned.

Per the 'LPG Emergency Contingency Plan':('Plan')
1. No specific marine firefighting tasks have been assigned.

Per the 'New Hampshire Hazardous Materials Incident Emergency Response Plan':('Plan')
1. Provides manpower, communications and equipment in support of the Water Supply and Pollution Control Commission in containment and clean-up of oil and hazardous material spills.(p.30)
2. Provides heavy equipment to remove damaged vehicles and clear debris.(p.30)
3. Provides back-up communications.(p.30)
4. Monitors and investigates hazardous material incidents involving railroad accidents and aircraft.(p.30)
5.Other tasks assigned per the 'Plan.'(p.30)

Per the 'State of New Hampshire Oil and Hazardous Materials Pollution Contingency Plan':('Plan')
1. No marine firefighting tasks have been assigned.

NEW HAMPSHIRE FIRE DEPARTMENTS: NEW CASTLE, NEWINGTON, PORTSMOUTH, RYE
Per the 'New Hampshire Hazardous Materials Incident Emergency Response Plan':('Plan')
1.- May be a member of Hazardous Materials Task Force (p.13)
2.-May be local coordinator per the HAZMAT plan role.(p.13&20)
3. If Incident Commander as the senior fire officer
a.responsible for commanding systematic response to a hazardous material incident.(p.13)
b.initial action to be taken but not limited to:(p.19)
 1.securing the site to prevent additional public involvement
 2.identification of the material(s) involved
 3.provision of medical assistance to the injured
 4.establishment of a Command Post to assure that the efforts of all responding forces are coordinated to the maximum extent possible for assuring all necessary measures to preserve life and property.
c. Will direct all activities during the initial phase until the incident is determined to be stable or safe.(p.20)
d. Believes that the incident is beyond the capabilities of the local government to render the area safe, sound and secure, s/he may request the chief elected official of the local political subdivision to formally request the Governor to assume control of the incident(disaster), in accordance with NH State Statute.(p.21)
e. Will take all steps necessary to protect the safety and well-being of the responding forces and the threatened citizenry.(p.21&p.22)
f. Will consider containment and countermeasures per 'Plan' (p.22).

4. Make early appraisal of the situation and its potential(p.23)
5. Take immediate steps to establish control of the scene in the interest of public protection.(p.23)
6. As necessary and appropriate will request assistance/support from the State of NH through EOC.(p.23)
7. Activate the Municpal EOC(p.23)

Per 'New Hampshire Oil Pollution Control Training Manual':('Plan')NEW CASTLE, NEWINGTON, PORTSMOUTH, RYE:
1. If the fire department determines that the public safety risk is great, they retain the authority to do what they must do to reduce and/or eliminate that threat.(Section G, p. 12)
2. Other descriptions of possible actions by the Fire departments for New Hampshire.

Per the 'Piscataqua River Marine Disaster Plan':('Plan')NEW CASTLE,NH, NEWINGTON,NH, PORTSMOUTH,NH, ELIOT, ME, KITTERY, ME.:
1. Retains both supervisory and operational responsibility for fighting fires involving vessels or waterfront facilities.(p.2)
2. Responsible for fire prevention and response in respective municipalities .(p.2)
3. Due to mutual aid agreement policy, the department's primary responsibilities will take precedence over the requirements of this 'Plan' should a conflict exist. (p.3)
4. May withdraw resources should need arise. This should be done after discussion with the other agencies on scene.(p.4)
5. If an implementing agency or department, will immediately alert all fire departments and federal agencies which have agreed to support the 'Plan'.(p.3)

6.FOR PORTSMOUTH FIRE DEPT. DISPATCHER: will notify(p.3)
a.York County Civil Emergency Preparedness Bureau (207)324-1573, (207)324-1578(emergency number)
b.NH CD:1-800-852-3792,(603)357-19983?typo?
c.York County Sheriff's Dept.(207)324-1111
d.Rockingham County Sheriff's Dept. (603)772-4716/679-2225
e.Maine State Police (207)883-3473
f.NH State Police(603)271-3636. 1-800-852-3411
g.Hospitals in Maine Area, Regional Emergency Medical Information System(REMIS) (207)871-2950(Maine Medical Center Emergency Room)
h.Hospitals in NH area (REGENT) (603)433-4012(Portsmouth Hospital Emergency Room).
7. Establish and locate the Command Post (p.4)
8. Responsible for providing the communications equipment necessary for effectively directing operation of its personnel.(p.5)
9. Utilize the following command frequencies:(p.5)
154.190-seacoast primary fire frequency
154.280- on-scene working frequency
157.100MHZ channel 22FM-working radio frequency for all water based responding units

10.As EOC: (p.5)
a. responsible for procuring and assigning any additional equipment required either at the fire scene or support areas.
b.be in charge of all firefighting operations, both from SHORESIDE and WATERSIDE,(p.5)
c.formulate a plan of action for the extinguishment of the fire and the safety of personnel and property.(p.5)
d.direct the activities of all personnel and equipment engaged in firefighting.(p.5)
e.procure damage control plans, damage stability data, and stability information for any vessel involved.(p.5)
f.notify railroad companies to insure no train movements pass through the disaster area.(p.5)
g. Determine requirements of private industry and make necessary arrangements to obtain these services and equipment. Assistance most likely needed would be:
a. towboats to move vessels or assist in firefighting as directed by the COTP at the EOC.(p.8)
b. pilots to direct movement of vessels as requested by the COTP at the EOC.(p.8)
c. local oil clean-up contractors will be alerted for possible pollution containment or salvage assistance.(p.8)

Per 'State of New Hampshire Oil and Hazardous Materials Pollution Contingency Plan ('Plan'):(p.7)
1. All law enforcement officers and fire officials on the advice of the water supply and pollution control commission or the commission's authorized agent, may assist in any oil spillage cleanup operation and may receive its support and guidance when engaged in such assistance.

Per the 'LPG Emergency Contingency Plan ('Plan'):(p.VI-2,VI-4)
1. Portsmouth will notify other fire departments as necessary(in transit)
2. Newington informs and updates Portsmouth Fire Department (603)436-1129. (moored).
3. Establish communications as necessary in accordance with Part II, Figure 3. (moored).
4. Newington Fire Department assumes control of fire fighting response when on the scene. (moored).

NEWINGTON FIRE DEPARTMENT:'Incident at Sea-3'('Plan')(p.4)
1. If fire is present, Fire department will set up water spray and water fog curtains to protect exposure to vessels, equipment, piping, building, etc.
2. If necessary to extinguish the fire, Fire Department will use dry chemical extinguishers as well as water spray/fog.
3. If vapor is present, water spray and fog will be used to disperse the cloud (starting with the down wind side).
4. Will assist plant personnel in closing essential valves.
5. Will advise Police Department to establish fire lines and keep unauthorized persons out of the area.
6. Will dispatch ambulance(s) to the scene.
7. Alert local officials and the Newington Civil Defense Director as necessary.
8. If necessary, the Fire Department will advise Police to notify and evacuate occupants from the area (starting with the down wind side)

NEW HAMSPHIRE STATE FIRE MARSHAL: (271-3336)
Per the 'Piscataqua River Marine Disaster Plan':('Plan')
1. No specific marine firefighting tasks have been assigned.

Per the 'LPG Emergency Contingency Plan':('Plan')
1. No specific marine firefighting tasks have been assigned.

Per the 'New Hampshire Hazardous Materials Incident Emergency Response Plan':('Plan')
1. Takes charge of a hazardous material incident upon request of the local fire officer in charge.(p.25)
2. Provides support upon request to Civil Defense, State Police, Safety Inspectors and local fire departments in identifying and investigating potential and actual hazardous material incidents.(p.25)
3. Other tasks assigned in the 'Plan'.

Per the 'State of New Hampshire Oil and Hazardous Materials Pollution Contingency Plan':('Plan')
1. Responsible for monitoring transportation accidents involving hazardous materials.(p.X-2)
2. Provides support to State Police and local fire departments in identifying and investigating potential and actual hazardous material fires. (p.X-2)
3. May assist in any oil spillage cleanup operation (p.7)

N.B.-If the Fire Marshal or designee becomes Incident Commander, presumably tasks which have been assigned throughout the plans to Incident Command will be assigned to the Fire Marshal or designee.

NEW HAMSPHIRE FIRE STANDARDS AND TRAINING COMMISSION: (271-2661)
Per the 'Piscataqua River Marine Disaster Plan'('Plan')
1. No specific marine firefighting tasks have been assigned.

Per the 'LPG Emergency Contingency Plan'('Plan')
1. No specific marine firefighting tasks have been assigned.

Per the 'New Hampshire Hazardous Materials Incident Response Plan':('Plan')
1. Responsible for training dealing with HAz-Mat per 'Plan' description page 28.
2. No specific marine firefighting tasks have been assigned.

NEW HAMPSHIRE CIVIL EMERGENCY MANAGEMENT BUREAU (Now Called GOVERNOR'S OFFICE OF EMERGENCY MANAGEMENT): (271-2231,1-800-852-3792)
Per the 'Piscataqua River Marine Disaster Plan':('Plan')
1. Personnel will proceed to the EOC as required.(p.7)
2. Provide Civil Emergency Preparedness Bureau resources (revised 4/88) as required.(p.7)
3. If emergency or disaster is beyond the capabilities of local participating agencies, Civil Emergency Bureau 13 will be responsible for requesting support from the States of New Hampshire or Maine for resources (revised 4/88) and/or declaration of a disaster area.(p.7)

4. No specific marine firefighting tasks have been assigned.

Per the 'LPG Emergency Contingency Plan':('Plan')
1. No specific marine firefighting tasks have been assigned.

Per the 'New Hampshire Hazardous Materials Incident Emergency Response Plan' if the incident is declared a Hazardous Materials Incident within the plan scope as it covers releases or potential releases of hazardous materials to the air, land, surface and subsurface waters of the State which pose immediate or major long-term threats to population and which result from incidents per the plan description.

1. The New Hampshire Civil Defense Agency Representative or Duty Officer will open the Emergency Operations Center, when requested by (OSC) and monitor activities of the incident with assigned representatives from participating agencies until the situation is resolved and/or state assistance is no longer required. (p.4)
2. The New Hampshire Civil Defense Agency will coordinate State response to a hazardous material incident.(p.14&20)
3. The New Hampshire Civil Defense Agency will notify all other State response agencies having hazardous material incident response assignments, as necessary and outlined in the procedures checklists.(p.3,11,19)
4. Responsible for evacuation and coordination of resources as dictated by the extent of the Haz-Mat incident.(p.26)
5. Assists other agencies in all other areas as requested by officials.(p.26)
6. Other tasks as listed in the 'Plan'.

Per the 'State of New Hampshire Oil and Hazardous Materials Pollution Contingency Plan':('Plan')Listed as Civil Defense Agency:
1. Provides support to state and local law enforcement officials in area evacuation.(p.X-1)
2. Provides support to the Radiation Control Agency - Division of Public Health Services in radiological monitoring.(p.X-1)

NEW HAMPSHIRE PORT AUTHORITY:436-8500
Per the 'Piscataqua River Marine Disaster Plan':('Plan')
1. No specific marine firefighting tasks have been assigned.

Per the 'LPG Emergency Contingency Plan':('Plan')
1. No specific marine firefighting tasks have been assigned.

Per the 'New Hampshire Hazardous Materials Incident Emergency Response Plan':('Plan')
1. Provides assistance in initiating measures to prevent coastal contamination by oil or hazardous material spills.(p.31)
2. Provides vehicles for transporting people and property, if necessary.(p.31)

3. Provides back-up communications.(p.31)
4. These items (1-3)are under consideration for change.
5. No other related marine firefighting tasks.

Per the 'State of New Hampshire Oil and Hazardous Materials Pollution Contingency Plan':('Plan')
1. Provides assistance in initiating measures to prevent coastal contamination by oil or hazardous material spills.(p.X-3)
2. This item under consideration to change.
3. No other related marine firefighting tasks have been assigned.

ALL NEW HAMPSHIRE STATE AGENCIES:
Per the the 'New Hampshire Hazardous Materials Incident Emergency Response Plan': ('Plan')
1. State agency personnel will coordinate their activities with the local responding forces at the Command Post. Each agency will respond in accordance with its plans and procedures, and will coordinate its activities with the Incident Commander.(p.20)
2. All tasks assigned in the 'Plan'.

NEW HAMPSHIRE SAFETY INSPECTORS:271-3349
Per the 'Piscataqua River Marine Disaster Plan'('Plan')
1. No specific marine firefighting tasks have been assigned.

Per the 'LPG Emergency Contingency Plan'
1. No specific marine firefighting tasks have been assigned.

Per the'New Hampshire Hazardous Materials Incident Emergency Response Plan'
1. Investigates hazardous material incidents for compliance and enforcement to hazardous material laws. (p.25)
2. Assists in providing security at the scene and control access.(p.25)
3. Assists in providing for safety and crowd control.(p.25)
4. Assists in warning and evacuating people, as situation dictates.(p.25)
5. Other tasks as assigned per the 'Plan'should it be initiated.

NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION: (271-3503)
Per the 'Piscataqua River Marine Disaster Plan'('Plan')
1. "New Hampshire Water Pollution and Supply Control..will provide equipment and expertise for response to oil and hazardous substance spills" (p.7)
2. No marine firefighting tasks have been assigned.

Per the 'LPG Emergency Contingency Plan':('Plan')
1. No marine firefighting tasks have been assigned.

Per the 'New Hampshire Hazardous Materials Incident Emergency Plan'('Plan')
1. Primary jurisdiction over the clean-up of oil discharges or spillage. Administers Oil Pollution Control Fund. (p.27)
2. Monitors actual or potential contamination of surface water or ground waters.(p.27)
2. Other tasks as assigned per 'Plan'.

Per the 'State of New Hampshire Oil and Hazardous Materials Pollution Contingency Plan':('Plan')
1. To investigate all reported discharges of petroleum (or petroleum products) or hazardous wastes into the surface waters or groundwaters of the State of New Hampshire.(p.3)
2. To determine the origins of these discharges, locate the parties responsible for these discharges and see that these discharges are immediately stopped.(p.4)
3. To see that containment and cleanup efforts are undertaken to minimize environmental damage and protect the health and safety of the public.(p.4)
4. To provide that the recovered pollutant and all associated contaminated debris are disposed of in a manner acceptable to the State. (p.4)
5. Other tasks assigned per the 'Plan'.

PORTSMOUTH NAVIGATION DIVISION: (603) 436-1209
Per the 'Piscataqua River Marine Disaster Plan':('Plan')
1.As private industry assistance most likely provided would be:
a. towboats to move vessels or assist in firefighting as directed by the COTP at the EOC.(p.7)
b. pilots to direct movement of vessels as requested by the COTP at the EOC.(p.7)

Per the 'LPG Emergency Contingency Plan:('Plan')
1. During vessel harbor transit incident (p.VI-2) may be or will be assisting LPG vessel to exit the harbor if at all possible.

PORTSMOUTH NAVAL SHIPYARD:
Per the 'LPG Emergency Contingency Plan:('Plan')
1. Reference is made to call PNSY at (207)439-1000. No specific tasks have been assigned.

USCG COTP - PORTLAND, MAINE (day-night-emergency telephone)
Per the 'Piscataqua River Marine Disaster Plan':('Plan')
1. Will coordinate with local authorities , Coast Guard mutual assistance for disaster response operations in the port area,i.e.the navigable waters, and adjacent land areas. (p.1)
2. While responsibility for port safety includes fighting fires involving vessels or waterfront facilities, this does not extend to the preemption of local responsibility and authority(p.2)
3. Ensures safety and security of the port.(p.2)
4. Authority to control vessel, vehicles and personnel movements to assure the safety and security of the port.(p.2)

5. Can assist firefighters with locally available resources and advice on merchant vessel design and operations.(p.2)
6. Provide expertise in matters of ship construction, stability and other technical areas in which the fire chief may require assistance.(p.7)
7. CG personnel and resources employed in combating fires in accordance with this 'Plan' will be under the operational control of the COTP.(p.2)
8. Will monitor all aspects of the operation and will advise the fire chief of any foreseen problems.(p.6)
9. Designated CG personnel will proceed to the EOC and establish liason with all participating agencies and CG floating units available for response.(p.6)
10. Dispatch one or more CG personnel to the scene of the fire or incident to coordinate the activities of the CG resources and assist the fire chief in any way possible.(p.6)
11. Activate other CG response personnel assigned to the COTP and coordinate additional resources with the Commander, Coast Guard Group Portland.(p.6)
12. Establish and maintain communications with Commander First Coast Guard District to determine the availability of additional resources which may be required.(p.6)

13. COTP will initiate action to control vessel movement or relocate vessels in the port and maintain control over bridge operations as circumstances dictate.(p.6)
14. COTP radio frequency will be 157.100MHZ(channel 22 FM) COTP will supply an FM radio at the EOC to provide communications with all floating units.(p.6)
15. COTP will establish appropriate safety/security zones as necessary. This includes air traffic safety zones which can be established by contacting the Pease AFB Traffic Control Tower through the Pease AFB Fire Department at (603)430-3700/3308/3460. Emergency Line (603) 430-3473.(p.6)
16. As Federal OSC for pollution response, coordinate all activities related to pollution prevention or removal.(p.7)

Per the 'LPG Emergency Contingency Plan':('Plan')
1. Provide direction as OSC(p.VI-4)
2. Notify Portsmouth Fire Department who will notify other fire departments as necessary.(p.VI-4)
3. Notify facilities with tugs and/or firefighting tugs. Portsmouth Navigation(603)436-1209) and Portsmouth Naval Shipyard.(207)439-1000.(p.VI-4)
4. Notify appropriate state police department who will notify local police departments as necessary. NH (603)271-3636 ME (207) 439-1141(p.VI-4)
5. Request Group Portland units to send floating units and/or personnel to the scene.(p.VI-4)
6.Request Group Portland to initiate safety broadcast (format in LPG Plan)(p.VI-4)

7. Notify as appropriate:(p.VI-4)
   a.NH State Port Authority (603)436-8500
   b.NHWSPCC (603)271-3503
   c.NHCD Dept. (603)271-4128
   d.Maine Interstate Bridge Authority (207)439-4128
   e.Maine Dept. Environmental Protection (207)773-4761
8. Take action to control vessel movements, assist other agencies in disaster control, and protect life and property on the scene as described in LPG Plan Part II, Fig 2.(VI-4)
9. Brief personnel on LPG guidelines emergency procedures in 'Plan' Part II, Appendix I.(VI-4)

N.B. All tasks are identical for moored and in transit except for Item 2-to notify the Portsmouth Fire Department who will notify other fire departments as necessary. Item 2 is deleted when the vessel is moored.

Per the 'New Hampshire Hazardous Materials Incident Emergency Response Plan':('Plan')
1.-If USCG COTP is simultaneously Federal OSC and Incident Commander than per definition the COTP as senior agency representative is responsible for commanding systematic response to a hazardous material incident.(p.13)
2. As Incident Commander initial actions to be taken but not limited to include:
   a. securing the site to prevent additional public involvement
   b. etc. (p.19)
3.USCG(436-4414):(p.32)
a. responsible for emergency actions to contain and remove oil hazardous material spills in coastal waters.(p.32)
b.Responsible for coordinating Piscataqua Capt. of Port Disaster Plan.

Per the 'New Hampshire Oil Pollution Control Training Manual':
1. Has the overall responsibility for responding to oil spills.(Section G.,p. 13)

NOT NAMED USCG PROJECT AGENCIES:FOR REFERENCE ONLY:
Commander, Coast Guard Group Portland:Piscataqua Plan:
1. Has primary responsibility for SAR operations and will be the On-Scene Commander for all SAR operations. Operational control of units and personnel provided for support of fire fighting operations will be shifted to the COTP.(p.7)
2. The Commander,CG Group Portland located in South Portland, ME will provide available resources to the COTP to assist in firefighting efforts.(p.2)
Coast Guard On-Scene:LPG Plan:(p.VI-2,Transit)
1. Notify Portsmouth Harbor Station (FMCh.16 or Ch.23)Request that they notify MSO Portland.
2. Keep all unauthorized vessels clear of the area.
3. Assume control of area and take direction from OSC.
(p.VI-4,Moored)
1. Notify COTP Portland of situation and direction of threat (207)780-3251/3252.

2. Assume control of area and take direction from OSC.
3. Verify alarm has been given to Newington Fire Department (603)436-5737.

Coast Guard Group Portland:
Per the 'LPG Emergency Contingency Plan'when requested by the COTP:(p.VI-4,VI-5)
1. Dispatch floating units to the scene.
2. Initiate safety broadcasts(see LPG Part II, Figure I for format)
3. Provide personnel as necessary to act as perimeter and/or safety zone guards.
4. Make preparations to receive helicopter in parking lot adjacent to building at Portsmouth Harbor Station:
   a. clear lot of vehicles.
   b. firefighting equipment at the ready.
   c. landing pad illuminated.
   d. assist personnel.

VESSEL PERSONNEL:
Per the 'LPG Emergency Contingency Plan':
Transit Incident-
1. Notify Coast Guard MSO Portland via Coast Guard Portsmouth Harbor Station (FM CH. 16) and Coast Guard escort (FM CH.13 or CH 16).(p.VI-2)
2. Attempt to isolate and control the casualty.(p.VI-2)
3. Vessel is to exit harbor if at all possible.(p.VI-2)

Moored:
1. Give the alarm to Newington Fire Department (603)436-5737.(p.VI-4)
2. Attempt to isolate the source of incident.(p.VI-4)
3. Secure transfer operations.(p.VI-4)
4. These roles are shared by the facility personnel. It is not specified as to which agency will carry through the assigned responsibility based on the occurrence or circumstance.

APPENDIX C

MEMORANDUM OF UNDERSTANDING

MOU-USCG

MARINE SAFETY MANUAL (CG-495)

PLATE 86-6-10.1

SAMPLE MUTUAL FIREFIGHTING ASSISTANCE AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 19__ by and between _____ _____ _____ and the Commander, (Commanding Officer,) _____

WITNESSETH:

WHEREAS, each of the parties hereto maintains equipment and personnel for the suppression of fires within its own jurisdiction and areas, and

WHEREAS, the parties hereto desire to augment the fire protection available in their various establishments, districts, agencies and municipalities in the event of large fires or conflagrations, and

WHEREAS, the lands or districts of the parties hereto are adjacent or contiguous so that mutual assistance in a fire emergency is deemed feasible, and

WHEREAS, it is the policy of the Coast Guard and of the municipalities or other districts and of their governing bodies to conclude such agreements wherever practicable, and

WHEREAS, it is mutually deemed sound, desirable, practicable, and beneficial for the parties to this agreement to render assistance to one another in accordance with these terms;

THEREFORE BE IT AGREED THAT:

1. Whenever it is deemed advisable by the senior officer of a fire department or firefighting force or other authorized representative of a party to this agreement, or by the senior officer or other authorized representative of any such fire department or force actually present at any fire, to request firefighting assistance under the terms of this agreement, he is authorized to do so, and the senior officer or authorized representative on duty of the fire department or force receiving the request shall forthwith take the following action;

a. Immediately determine if apparatus and personnel can be spared in response to the call,

b. Determine what apparatus and personnel might most effectively be dispatched,

c. Determine the exact mission to be assigned in accordance with the detailed plans and procedures of operation drawn in accordance with this agreement by the technical heads of the fire departments or forces involved, and

d. Forthwith dispatch such apparatus and personnel as, in the judgment of the senior officer or authorized representative receiving the call, should be sent, with complete instructions as to the mission, in accordance with the terms of this agreement.

2. The rendering of assistance under the terms of this agreement shall not be mandatory, and the parties assume no responsibility for failure to respond to requests for assistance or for failure of equipment or personnel in any particular instance where assistance is rendered.

3. Each party to this agreement waives all claims against the other party or parties for compensation for any loss, damage, personal injury, or death occurring in consequence of the performance of this agreement.

4. Unless otherwise provided herein, the costs incurred by a party in furnishing fire protection and responding to any actual or potential emergency, for or on behalf of the other party, shall be borne by the party providing the protection or responding to the emergency.

5. The technical head of the fire department or force of the requesting service shall assume full charge of the operations, but if he specifically requests a senior officer or other authorized representative of a fire department or force furnishing assistance to assume command, he shall not, by relinquishing command, be relieved of his responsibility for the operation; provided, that the apparatus, personnel, and equipment of the agency rendering assistance shall be under the immediate supervision of and shall be the immediate responsibility of the senior officer or authorized representative of the fire department or force rendering assistance.

6. The chief fire officers and personnel of the fire departments or forces of both parties to this agreement are invited and encouraged, on a reciprocal basis, to frequently visit each other's activities for guided familiarization tours consistent with local security requirements and, as feasible, to jointly conduct pre-fire planning inspections and drills.

7. The technical heads of the fire departments or forces of the parties to this agreement are authorized and directed to meet and draft any detailed plans and procedures of operation necessary to effectively implement this agreement. Such plans and procedures of operations shall become effective upon ratification by the signatory parties.

8. This agreement shall become effective upon the date hereof and shall remain in full force and effect until cancelled by mutual agreement of the parties hereto or by written notice by one party to the other party, giving thirty (30) days notice of said cancellation.

IN WITNESS WHEREOF, the parties hereto have executed this agreement at _____ on the day and year first above written.

_____

_____

APPENDIX D

MEMORANDUM OF UNDERSTANDING

FIRE DEPARTMENT AND US NAVY

Memorandum of Understanding.

Between the
Seattle Fire Department

and

Commanding Officer, U.S.S._____

_____
Date

This memorandum of understanding outlines the policy of the Seattle Fire Department with regard to fire fighting operations aboard Naval Vessels while under construction, conversion, or repair in the City of Seattle.

1. All accidental or hostile fires should be immediately reported to the Fire Department by dialing 911. This procedure should be followed regardless of the size of the fire, and whether or not the fire has been extinguished. Failure to report such fires is violation of Section 11.301 of the Uniform Fire Code.

2. The Seattle Fire Department fully recognizes that Naval Vessels are Federal property and that the Commanding Officer is responsible for what takes place on his ship and has authority to carry out that responsibility. Additionally, the Fire Department will not board the vessel against the wishes of the Commanding Officer or his designated representative (Command Duty Officer).

3. If, in the opinion of the Seattle Fire Department Officer in Charge and the Naval Officer in Charge, it is necessary to commit Fire Department manpower and equipment, such manpower and equipment shall remain under the command of Seattle Fire Department Officers. Members of the U.S. Navy shall be under the command of their own Officers.

4. If the Fire Department's assistance is necessary, the first arriving Fire Officer should immediately be briefed concerning location and status of the fire and will request to be escorted to the fire location to make an assessment of the amount of equipment and manpower that should be committed to combat the fire.

5. The Fire Department shall work in a spirit of cooperation with the crew of the vessel in order to extinguish the fire. However, should a disagreement regarding fire fighting operations occur between the Fire Officer in Charge and the Naval Officer in Charge, and such disagreement cannot be immediately resolved, the Seattle Fire Officer in Charge shall withdraw Fire Department personnel and equipment to the pier, and prevent extension of fire from the vessel.

_____
Claude Harris
Chief of Fire Department

_____
Commanding Officer,
U.S.S._____

APPENDIX E

Waterfront Facility Checklist for Portsmouth Harbor MFCP

1. Location/Name_____
2. Type of Pier_____
3. Dimensions of Pier_____
4. Isolation from Combustible Facilities_____
5. Proximity to Population_____

6. Depth at Dock_____
7. Bottom Composition_____
8. Bottom Contour_____

9. Pier Combustibility_____
10. Substructure Construction_____
11. Substructure Protection_____
12. Superstructure Construction_____
13. Superstructure Protection_____

14. Normal Ship Side to Dock_____
15. Max. Vessel Length/Wt/Gross Bbl._____
16. Turnaround Time_____
17. Mooring Lines/Wires_____
18. Quick Release Hooks_____
19. Vessel or Terminal Gangway_____
20. Products Handled_____
21. Sizes and # Pipelines_____
22. Max. Receive Rate_____
23. Load Bunkers_____
24. Load Water_____

25. Dock/Vesel Communication_____
26. Ship/Shore Safety Checklist_____
27. Emergency Shutdowns_____
28. Fire Pumps_____
29. Water Storage_____
30. Dry Hydrants_____
31. Wet Hydrants_____
32. Water Flows_____
33. FF Equip_____
34. Intl. Shore Conn._____

35. Vessel Access_____
36. Fire Lanes_____
37. Telephone-No Coin Req._____
38. Electrical Equip_____
39. Electrical Shutoffs_____
40. Staging Areas_____
41. On Scene Command Post_____
42. Availability of Electricity_____

43. Allow Welding at Dock/Notify Fire Chief_____
44. Allow Tank Washing_____
45. Fire/Pier Security_____
46. Pier Availability for Extended Periods_____

APPENDIX F

USCG WATERFRONT FACILITY SURVEY GUIDELINES

2. Elements Of A Survey. The following list contains a sampling of information gained from waterfront facility surveys:

   a. Owner and operator names;

   b. Emergency phone numbers;

   c. Facility purpose;

   d. Cargoes handled (capacity);

   e. Firefighting equipment;

   f. Pollution abatement equipment;

   g. Emergency equipment;

   h. Physical security equipment (e.g., guards, fences, lighting, and access control/restrictions);

   i. Physical description of facility (tanks, berths, buildings, pipeli water intakes and permitted discharges, etc.);

   j. Special features (cranes, tugs, etc.) of aerial photographs; and

   k. Operations manuals, where required.

   Completed surveys are reported as an element of the PES/MER Quarterly Activities Report (QAR), Form CG-4957.

APPENDIX G

NATIONAL RESPONSE TEAM(NRT) LEVEL GUIDELINES

Planners should consider whether to have categories of response actions based on severity. The severity of an incident influences decisions on the level (or degree) of response to be made. This will determine how much equipment and how many personnel will be called, the extent of evacuation, and other factors.

The following chart summarizes who and what are involved in three typical emergency conditions. Information about the three response levels should be provided to special facilities (e.g., school districts, private schools, day care centers, hospitals, nursing homes, industries, detention centers).

Response Level	Description	Contact:
I. Potential Emergency Condition	An incident or threat of a release which can be controlled by the first response agencies and does not require evacuation of other than the involved structure or the immediate outdoor area. The incident is confined to a small area and does not pose an immediate threat to life or property.	Fire Department Emergency Medical Services Police Department Partial EOC Staff Public Information Office CHEMTREC National Response Center
II. Limited Emergency Condition	An incident involving a greater hazard or larger area which poses a potential threat to life or property and which may require a limited evacuation of the surrounding area.	All Agencies in Level I HAZMAT Teams EOC Staff Public Works Department Health Department Red Cross County Emergency Management Agency State Police Public Utilities
III. Full Emergency Condition	An incident involving a severe hazard or a large area which poses an extreme threat to life and property and will probably require a large scale evacuation; or an incident requiring the expertise or resources of county, State, Federal, or private agencies/ organizations.	All Level I and II Agencies plus the following as needed: Mutual Aid Fire, Police. Emergency Medical State Emergency Management Agency State Department of Environmental Resources State Department of Health EPA USCG ATSDR FEMA OSC/RRT

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