PORT HEAVY WEATHER ADVISORY GROUP
HEAVY WEATHER PLAN

Revised April 15, 2015

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Tampa Bay Port Heavy Weather Advisory Group

The Tampa Bay Port Heavy Weather Advisory Group (PHWAG) is a sub-committee of the Tampa Bay Harbor Safety and Security Committee. ***PHWAG*** is a group of key maritime stake holders that assist the U.S. Coast Guard, Captain of the Port, Sector St. Petersburg, Florida. The PHWAG has three basic tasks to its mission**.** The first is to review and evaluate the effectiveness of the Tampa Bay Port Heavy Weather Contingency Plan and make recommendations for improvements. The improvements to the plan are made from information and data collected during hurricane season. The second task of the PHWAG is to advise the Captain of the Port (COTP) of critical risk factors to the port during the approach of a hurricane or tropical storm, and infrastructure and maritime industry issues post storm to facilitate the reopening of the port. The group uses an analytical information system that collects and disseminates information to and from the Captain of the Port that is vital for the protection of life, property and the environment. The last task of the PHWAG occurs post storm is to collect information as to the condition of the port, taking into account safety of operation both marine and terminal, local and regional impacts, triage and recovery operational concerns and make recommendations to the COTP as to how best to respond to the post storm conditions towards reopening the port.

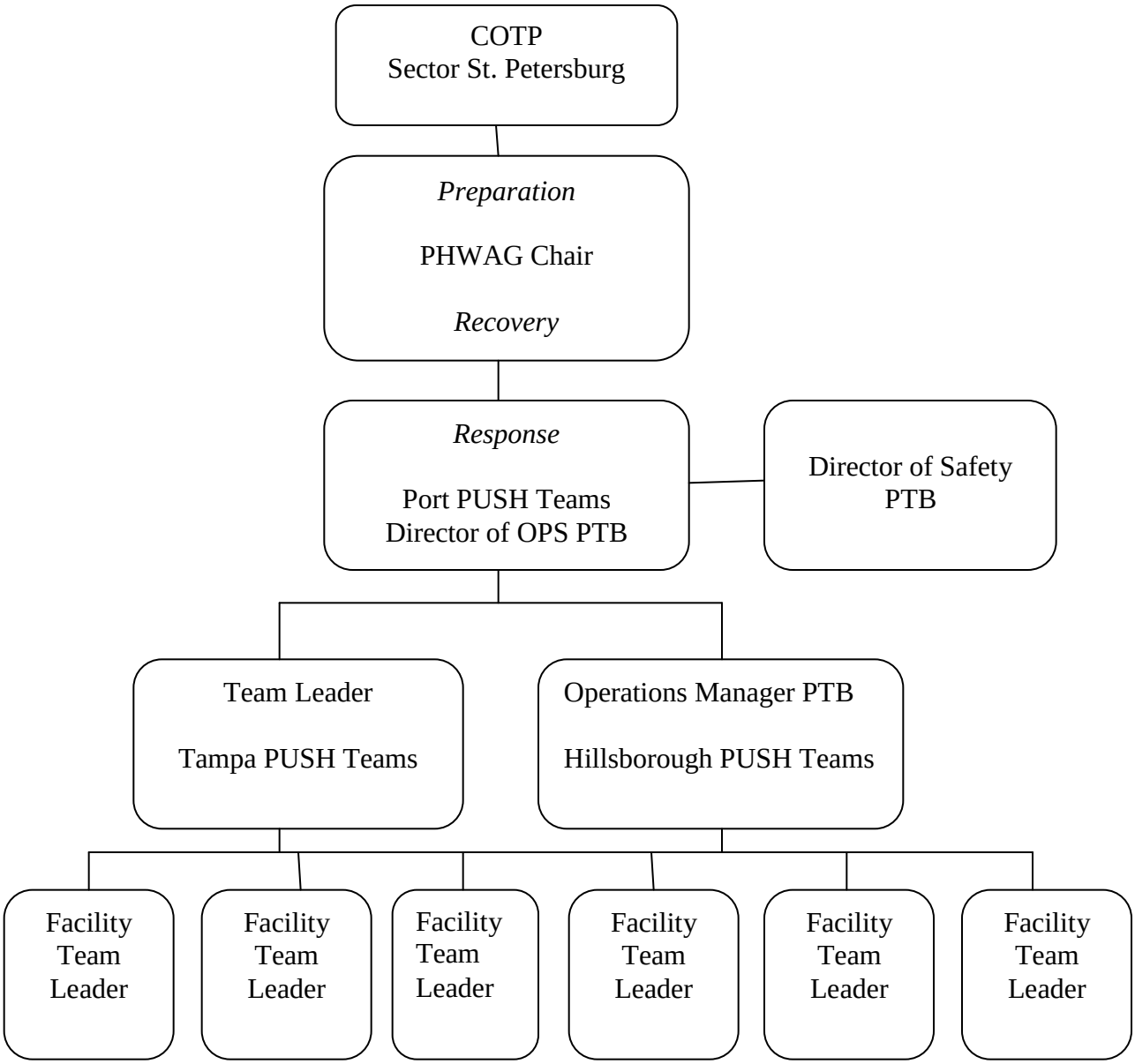
Composition of the Port Heavy Weather Advisory Group

The PHWAG provides representation of the key maritime interests in the commercial port. The current membership includes representatives from: the U.S. Coast Guard, Port Tampa Bay, Manatee Port Authority, the Port of St. Petersburg, Marine Towing of Tampa, Seabulk Towing, the Pilot's Association, National Weather Service Ruskin, vessel owners, terminal operators, ship's agents, vessel masters and facility operators. The representative of the U.S. Coast Guard, the Coast Guard liaison officer, shall act as conduit for the exchange of information to and from the COTP as well as any recommendation made by the PHWAG to the COTP.

This membership and structure of the PHWAG has proven to be effective in responding to storm preparation and post storm recovery. As the response planning and procedures have become more complex as the vision for a planned response has evolved, the membership and structure of the PHWAG has been found to be inconsistent with the task of response. To address

this issue, a sub-committee of PHWAG was formed to specifically address response issues. This subcommittee is comprised of representatives of facilities handling hazardous cargo and representatives of the Port Tampa Bay and will be known as the Port PUSH Team Committee. The leadership of this subcommittee will be filled by the Director of Operations, PTB. When Port PUSH Team Committee responds to a storm it will report its finding to PHWAG. PHWAG will then evaluate the condition of the port area and make recommendations to the COTP as to where response and recovery effort should be concentrated to expedite the port's recovery.

Leadership Chart



Background information on the Port Heavy Weather Advisory Group

The concept of the PHWAG was introduced during a Tampa Bay Marine Advisory Committee meeting in March 1997. The Port Heavy Weather Plan had proven to be inefficient, as there were numerous deficiencies found in the implementation and interpretation of the plan during the previous hurricane season. The necessity to form an advisory group became evident during tropical storm Josephine in the fall of 1996. The problems found during this storm indicated that the Tampa Bay maritime community was flirting with disaster unless changes were made. Commercial vessels were ordered to evacuate the port in the face of gale force winds. During this evacuation one of the vessels ran aground and posed a major environmental threat to the bay. Upon further investigation, it was evident that the port lacked a consistent method of determining port evacuation orders. There is a large economic impact made to the port community when an evacuation is ordered, more so when an evacuation is ordered too early and the impact is ten-fold when the evacuation is ordered too late. It is imperative to conduct a careful analysis of the Tampa Bay area prior to issuing an evacuation order.

Past experience and the need to address future concerns clearly indicated a need for a different approach to addressing the threat of a tropical storm. The Coast Guard experiences significant personnel changes annually, therefore, it is difficult to maintain a level of consistent expertise in determining the threat to Tampa Bay from an approaching storm. Past experience also demonstrated that the Coast Guard is not able to conduct a thorough evaluation of the port in a reasonable time frame or properly evaluate the port's resources. Those who use them on a daily basis can best determine the maximum utilization of the resources. Thus, the maritime stake holders and the Coast Guard formed a partnership known as PHWAG. This group collects information and data to determine the appropriate recommendation to the COTP for the best course of action for pre-storm, during and post tropical storm or hurricane conditions.

Information Systems Available to the PHWAG

The PHWAG has numerous pieces of information to collect from several port and emergency response sources.

As knowledge becomes a central productive and strategic asset, the success of the organization increasingly depends on its ability to gather, produce, maintain, and disseminate

knowledge. Developing procedures and routines to optimize the creation, flow, learning, and sharing of knowledge and information in the firm becomes a central management responsibility. The process of systematically and actively managing and leveraging the stores of knowledge in an organization is called knowledge management. Information systems can play a valuable role in knowledge management, helping the organization optimize its flow of information and capture its knowledge base (Laudon, 1999, p. 371).

- Tampa Bay Pilot's Association provides updated lists of piloted vessel movements and anticipated vessel movements.
- Port Tampa Bay and Coast Guard operate the Tampa Bay Cooperative Vessel Traffic Service (TBCVTS), which tracks all piloted and non-piloted vessel movements and maintains the status of available berths in Tampa.
- The TBCVTS uses a computerized real time information system that tracks commercial vessels on Tampa Bay. The software also provides the mariner with real time tide, current and weather conditions.
- The group also has a software program called HURRTRAK Advanced (PC Weather Products, Inc.), which imports all information supplied by the National Hurricane Center including satellite photographs, with links to all meteorological and other maritime data sources. This program displays charts and graphs of the storm's predicted path and forecasted weather conditions. The program also has an option to create various scenarios for the storm's predicted path. This feature allows the user to anticipate various storm preparation options.
- Port Manatee and the Port of St. Petersburg provide information through "the old fashioned system" human knowledge of the port. This is probably the best method of tracking information in these ports due to the size and physical layout of each port.

Information Collection and Critical Risk Factors

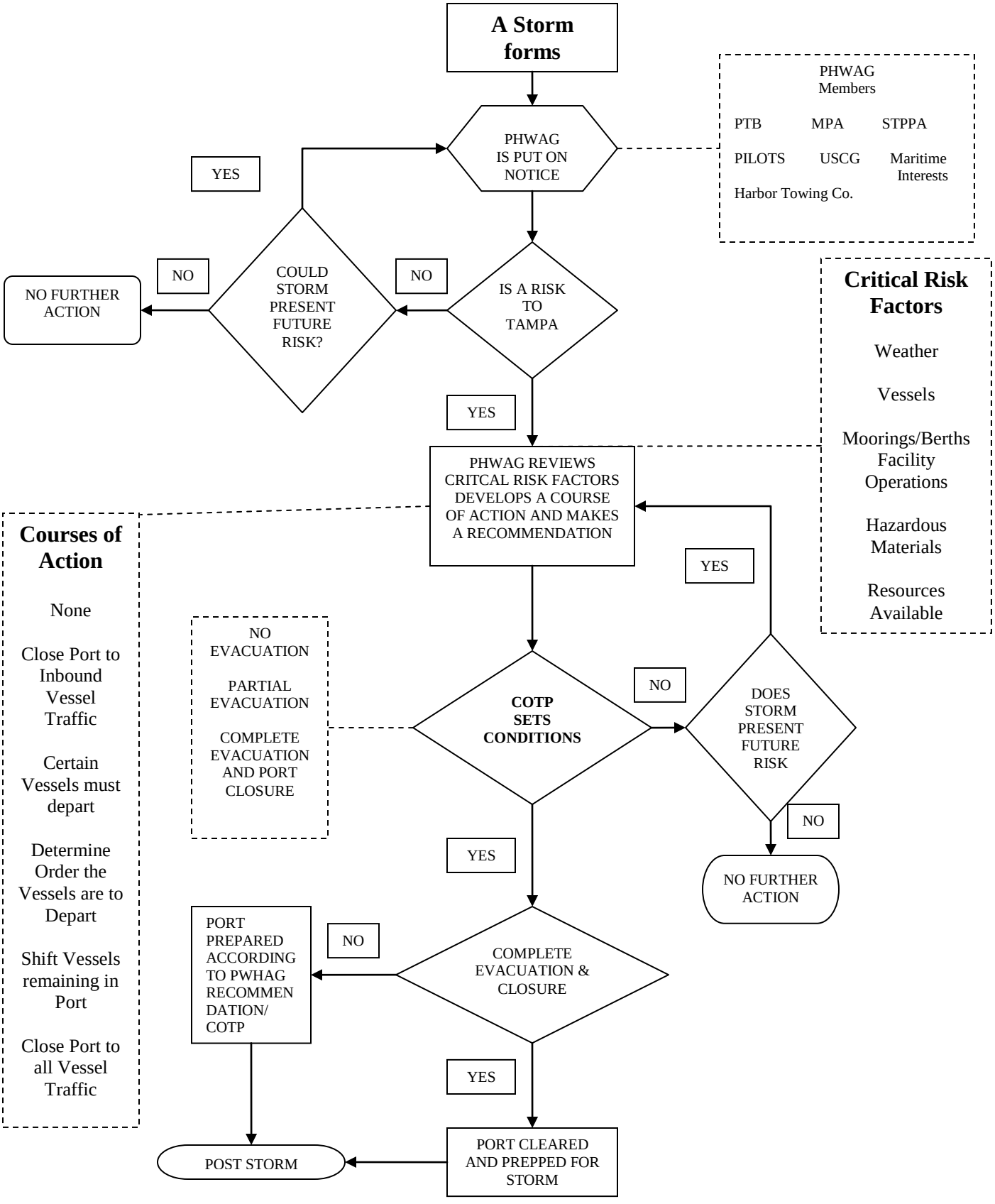
Upon the approach of a hurricane or tropical storm the PHWAG is activated by the COTP through a phone tree. Each member of the group brings information from their realm of expertise to determine the port status. The group ascertains the critical risk factors by analyzing the information collected from all levels and functions of their respective maritime interests. This information is used to evaluate the risk to the port and make recommendations to the COTP, who

determines which, if any vessels must evacuate and the order in which evacuation will take place.

Analyzing the Risk to the Area

Tampa Bay is located in an area subject to tropical storms formed in the Atlantic or Caribbean and adjacent to the spawning grounds of tropical disturbances, which may or may not develop into a tropical storm or hurricane. As a result, the Tampa Bay area is subject to large variations in the time it has to prepare for an approaching storm and determining the risk to the port. This situation requires a systematic approach for collecting and disseminating information required to analyze the critical risk factors in the port. The PHWAG is currently using the information systems described above for collection of information. The group then uses a decision making model to form pre and post storm recommendations to the COTP. Remember each member brings enormous amounts of information with them that offers input into the group's analysis.

PRE-STORM PHWAG DECICISION MAKING MODEL



Each of the information blocks above contains multiple layers of information, which must be gathered and assessed. The decision making model requires minimum criteria for the appropriate determination. The following must be considered prior to making any recommendations to the COTP. These criteria are considered the critical risk factors. The COTP decision will also be based on this decision model.

1. Determine the potential threat of the storm to the area.
2. Determine the time the storm will impact the area.
3. Determine the type of storm that will affect the area.
4. Determine the number of vessels in port, including:
    - size
    - type
    - speed
    - draft
    - special conditions
    - cargo
5. Determine the number of berths available.
6. Determine number of vessels approaching and departing the port.
7. Determine when, if at all, to close the port to inbound vessel traffic.
8. Determine the resources required to assist with vessel movements.
    - Pilots
    - Tugs
9. Determine the minimum safe evacuation time for each vessel.
10. Determine if vessels are going to be ordered out of port.
11. Determine the order of vessel departures.
12. Determine when, if at all to close the port.

Types of Evacuation

There are three types of port evacuation, none, partial and complete. No evacuation means that all of the determinations of the decision steps have been made and the storm either poses no threat to the area or there is not sufficient time to safely evacuate any of the vessels. Partial evacuation means that the weather forecast does not provide sufficient evidence of a serious threat to the area or the threat is such that only certain vessels will be ordered out until the weather forecast changes. Usually slower moving vessels will be ordered out at this time so they will have enough time to avoid the storm path. Complete evacuation means that the storm will impact the area directly and there would be enough time to prepare the port, and order a partial evacuation prior to a complete evacuation. In order to accomplish any type of evacuation, the COTP will issue orders to control vessel movements.

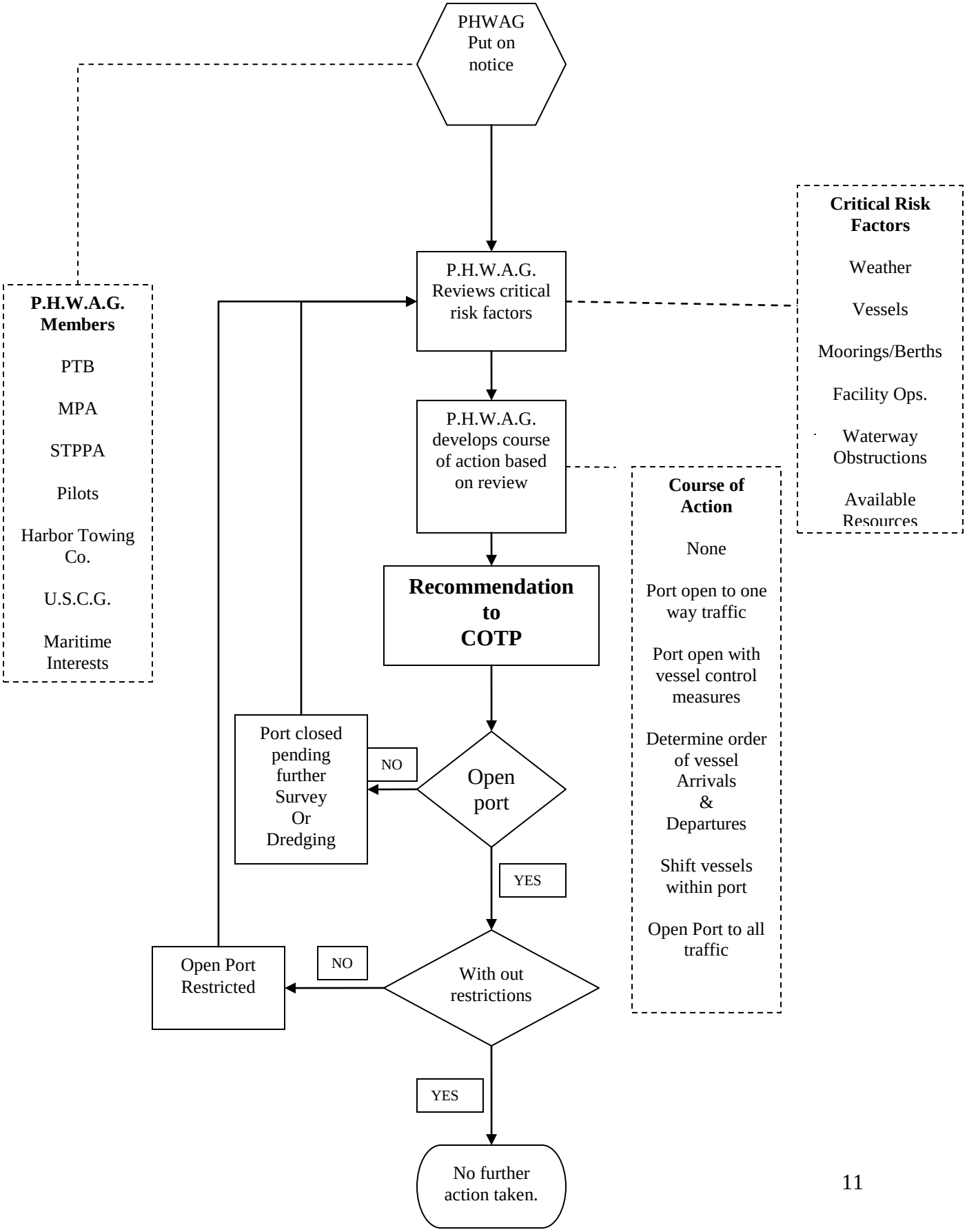
Closing Port to Vessel Traffic

When heavy weather threatens the area, the PHWAG may make a recommendation to the COTP to suspend vessel movements. When such a recommendation is made, PHWAG shall meet with a U.S. Customs representative(s) to lay out plans for reopening the port. **An order by the COTP to close the port to vessel traffic has no direct impact on facility operations. All operations other than vessel movements shall adhere to their heavy weather plans and to orders issued by other government offices.**

Closing of the Port

The imminent threat of a hurricane will cause all activity relating to vessel movements and the loading or discharging of cargo within the port to be suspended prior to the arrival of a hurricane. When the port is about to be closed for a major hurricane, the PHWAG shall initiate the Resource Recovery Plan (Annex A).

POST STORM PHWAG DECISION MAKING MODEL



Each of the information blocks above contains multiple layers of information, which must be gathered and assessed. The decision making model requires minimum criteria for the appropriate determination. The following must be considered prior to making any recommendations to the COTP. These criteria are considered the critical risk factors. The COTP decisions will be based on this decision model.

1. Determine impact of storm on Tampa Bay (waves, flooding, winds)
   - How soon before gale force winds are predicted to depart area?
   - What was the closest point of approach of the storm eye?
   - Where was the area with most impact from storm?
   - What will be the duration of gale force winds?
   - Were there strong enough winds to offset ATON and cause shoaling in the channel?
   - What was the storm surge?
   - Where are potential areas with increased current?
   - Where are potential areas of concentrations of floating debris?
   - Where are potential areas of increased shoaling?

2. Identify critical vessel information.
   - Identify issues with vessels laid up within the port.
   - Identify issues with vessels in Port with berth location.
   - Prioritize vessel movements into/out of the port based on industry issues, navigation concerns and port security.
   - Identify vessels enroute to port and ETA
   - Identify tug availability for assistance and vessel movement requirements.
   - Recommend port opening status and time frame.
   - Are there passengers waiting to be loaded or offloaded on/off cruise ships?

3. Identify critical facility information.
   - Identify and prioritize issues of facility or berth operators/owners.
   - Prioritize power restoration to the port.
   - What is the availability of coal within port?
   - What is the availability of fuel within the port?
   - Are there facilities in critical need of product?

4. Forward post storm recommendations to the COTP.
   - Condition Setting due to weather info after passage of storm
   - Precedence of outbound/inbound traffic based on vessel/facility identified issues.
   - Maneuvering/shifting of vessels in port prior to full port opening.
   - Recommendation for partial or full port opening based on navigation, current and shoaling.
   - Port opening restrictions and full opening will be detailed in PCIB

Types of Port Openings

There are two types of port openings. These are either restricted or open. A restricted port opening means specific vessel controls have been put into place by the COTP based on specific conditions within the port. During a restricted port opening, the COTP will designate PHWAG to resolve all vessel movement conflicts in place of the Vessel Movement Committee (see Addendum I). Once the COTP orders a return to an "open port" status and vessel traffic flow has returned to normal, the Vessel Movement Committee will once again resolve vessel movement conflicts. An open port means there are no vessel restrictions in place other than those already in place prior to the heavy weather. The PHWAG acts as the central point for vessels, facilities and other maritime transportation system users to voice safety, commerce and other issues of a critical nature. The PHWAG will ensure all issues are prioritized and then offer specific recommendations to the COTP for approval.

COTP's Action

Once PHWAG has established a recommendation upon the approach of a storm, the Coast Guard liaison officer to PHWAG shall report directly to the COTP to present the recommendation. The COTP must quickly digest all of the information processed and make the tactical decision on the type of evacuation or opening to order. When an order of evacuation is made, the port must be prepared to secure the port and plan for the storm's impact. The COTP will give general orders to the maritime public in the form of PCIBs. Each PCIB shall give the Port Hurricane Condition. Each Port Hurricane Condition sets a readiness condition upon the maritime community based on the approximate number of hours prior to the forecasted arrival of sustained gale force winds. In some cases COTP orders may address individual interests as to consideration for lay-up, an immediate evacuation order, or other issues which will be issued outside of the PCIB.

The table below provides each of the Port Hurricane Conditions Used by the COTP.

Port Hurricane Condition	When Set
Condition IV	1 Jun - Nov 30 Hurricane Seasonal Alert (Return to this condition after storm passage)
Condition Whiskey	Arrival of sustained gale force winds anticipated within 72 hours
Condition X-Ray	Arrival of sustained gale force winds anticipated within 48 hours
Condition Yankee	Arrival of sustained gale force winds anticipated within 24 hours
Condition Zulu	Arrival of sustained gale force winds anticipated within 12 hours

The table below provides the potential orders the COTP may issue.

Port Hurricane Condition	Potential Action
Condition IV	Recommend preparations for hurricane season
Condition Whiskey	No action, control traffic, suspend vessel traffic
Condition X-Ray	No action, control traffic, suspend vessel traffic
Condition Yankee	No action, control traffic, suspend vessel traffic, suspend cargo operations
Condition Zulu	All traffic and cargo operations suspended (mandatory action)

Upon the setting of each Port Hurricane Condition, the port must be prepared to secure the port and plan for the storm's impact. Each facility is responsible to prepare to secure from loading or discharging operations and each vessel shall prepare to evacuate the port. These preparations should consider the storm impact risk as to the timeliness and extent of the preparations. With each progressive Port Hurricane Condition those preparations should be more extensive and closer to completion as the orders to evacuate or to close the port could be issued at anytime.

The progression of port hurricane conditions may be sequential or may jump up or down depending upon the variability of each storm. The COTP orders issued with regards to vessel evacuations and port closing, as well as the requirements imposed for lay-up plans, will also vary depending on a storm's impact risk.

Once the heavy weather passes, the PHWAG must then make recommendations as to the opening of the port and the priority of vessel traffic movements. These

recommendations will be reported directly to the COTP by the Coast Guard liaison officer. The COTP will then issue an order to the extent of the port's opening. Once the port is able to return to normal operations the COTP will issue a PCIB stating the port has returned to Port Hurricane Condition IV.

It will be up to the Coast Guard under advisement of the PHWAG to strategically carry out the order of evacuation and opening while keeping the COTP apprised of the ongoing conditions. The PHWAG is challenged with continuously monitoring and evaluating these conditions while trying to strategically make the port safe. This process calls for an information system that allows group collaboration of shared knowledge and dissemination of that information and COTP decisions. The current method is to use the system utilized by each member's organization and physically bring that information to the group.

References:

Buffington, M. (February 2000. Port Heavy Weather Advisory Committee Report, Tampa Bay Harbor Safety Committee, Tampa Bay, Florida.

Laudon, K., Laudon, J., (1999). Essentials of Management Information Systems (3rd ed.) Upper Saddle River, New Jersey, Prentice-Hall, Inc.

Annex A Resource Recovery Plan

General

The PHWAG will continue to act as the collection point, a disseminator of information, and advisory to the COTP Sector St. Petersburg during the response and recovery from a hurricane. In general, each facility should create a team to assess damages, mitigate against further loss, and to begin the process of recovery. Each team should have a leader who will be responsible for directing and monitoring their respective team and for communication with PHWAG. For response to storms that were forecasted to be Category III or above, special members from various facilities handling hazardous materials will precede into the port with the assistance of the city and county public works PUSH Teams. The facility team members shall be referred to as Port PUSH Teams. These teams will be accompanied by a U.S. Coast Guard Assessment Team which shall also be referred to as a Port Push Team. The county or city PUSH Teams along with Port PUSH Teams when operating together shall be known as the Port PUSH Team Task Force.

Preparation

Prior to the hurricane season PHWAG shall collect and assemble call lists of Port PUSH Team members and local, state and federal government agencies necessary to the recovery of the port. Primary staging sites outside of the port area shall be identified as well as sites for PHWAG to meet. PHWAG shall also create a list of those vessels remaining in port during the storm with the number of persons to remain onboard.

Upon the final approach of a major hurricane PHWAG shall confirm the temporary location of the COTP and make any last minute updates to contact information. Port PUSH Teams will be notified to assemble in their designated storm shelter. PHWAG shall also place any "alliance ports" on notice.

Response

Port PUSH Teams upon authorization of the Public Works PUSH Teams proceed into the port to begin the assessment of their respective facilities. As these teams enter the port area and begin work they should be guided by Addendum IV Port PUSH Team Safety Plan. In reporting their information these teams should adhere to Addendum III Post Storm Report Plan.

During the initial stages of recovery, the reestablishment of communications will be essential to recovery of the port's area port operational structure. All members of the port community shall use the Communications Plan (See Addendum II) to reestablish communications. Once radio communication becomes possible, PHWAG shall establish communications with the harbor tugs and with manned vessels laid-up for the storm. Leadership within PHWAG shall also initiate communications with the COTP, government agencies, and with any "alliance" ports.

PHWAG shall collect information on port conditions. Information shall be gathered as to the conditions of the channels, including navigational aids, channel depths, and debris, and facilities including structural problems and hazardous material spills. PHWAG will also collect information from the pilots and the harbor tugs as to their capabilities. This information will then be used to determine immediate critical needs and to coordinate the response to high risk areas. PHWAG will also forward any information that will help government agencies in their response and to help direct the efforts towards the port's most critical needs. When assistance is offered by public companies, PHWAG shall endeavor to keep them informed.

Once PHWAG is functioning, meeting times shall be established for information exchanges. PHWAG shall deliberate as to the best course of action to maximize the efficiencies in the recovery effort by looking at debris removal, dredging, aid replacement or repair and structural repairs. PHWAG shall then make its recommendations known to the COTP as to recovery efforts, vessel movements, and lightering areas. Once the COTP has issued directives, PHWAG shall monitor the progress. PHWAG shall also assist in keeping government agencies apprised of ongoing needs and the progress made towards recovery.

Addendum I Controlling Vessel Movement upon Re-Opening of Port

On approach of a storm where a partial or complete closing of the port will disrupt traffic, agents or vessel masters of all vessels calling upon Tampa Bay will be responsible for supplying certain information to PHWAG through the Tampa Bay Pilot office. This information will be used by PHWAG in establishing a traffic list. This traffic list will be established using certain protocols based upon specific needs of the port and the individual vessels with regards to the limitation of assets within the port. Agents or vessels masters failing to meet this informational requirement will take the risk that their vessel will be placed at the bottom of the traffic list.

At the setting of Condition Zulu, the following information is required before a vessel is placed on the traffic list. The Tampa Bay Pilot Notification form found at www.tampabaypilots.com can be used by providing items 2, 3, 4, and 5 in the special instructions portion of the form.

1) Time vessel can start in, depart, or shift

2) Vessel control number

3) Any USCG holds or letters of deviation

4) Identification of hazardous cargo on board

5) Maximum speed in channel (no current)

6) Accurate draft of vessel

7) Length

8) Beam

9) Berth

10) Tug requirements

Once the port has been re-opened to vessel traffic, agents or vessel masters will be required to submit this same information each day by 1700 hours until normal operations are restored. Agents for all foreign vessels will also need to indicate whether a gangway security has been procured. Once normal operations are restored in the port the Cooperative Vessel Traffic Service will again take the lead in monitoring traffic control.

Addendum II Communications Plan

Purpose

The re-establishment of the port operating structure is paramount to the ports overall recovery efforts and communications are essential to that effort. This plan is designed to re-establish a means of communicating with key port personnel while minimizing the expenditure of resources. Once the basic communications have been established, the plan prioritizes information transmissions. The plan further provides for a means of security in the transmittal of information over non-secured lines.

Communication Structure

This plan is structured to allow a flow of information up and down a communication tree. The top of the tree is the COPT and the three EOC's. Team Leaders are located on the next level down. Team Leaders are the PHWAG, representatives from the USCG, and the three port authorities. The next level down the communications tree is made up of the Leaders. Leaders are designated by each facility owner/operator or vessel owner/operator in their respective heavy weather plan

General Instructions

There will be two types of first responders, those who comprise Port PUSH Teams that will follow city or county PUSH teams as part of the PUSH Team Task Force and those who are coming from their homes, shelters, or locations outside of the area. All communications shall be made according to the plan schedule and shall be limited to the specific information called for by the plan. For those using VHF marine radios, Channel 12 will be the designated frequency. Channel 10 will be a backup channel with Channels 65A and 66A as secondary backup frequencies.

Establishing Communications for Port PUSH Teams

When a Port PUSH Team reaches the closest point of entry to its facility as enabled by the city or county PUSH team, the Port PUSH Team shall call the PUSH Team base camp to give notification that they are proceeding to enter their facility. Once a PUSH team enters its facility, it shall again call the PUSH Team base camp to give notification of its intention to remain or to evacuate the facility. For a Port PUSH Team that establishes itself within its facility, communications shall be maintained with PUSH Team base camp until such time as conditions warrant a relaxing of this requirement. The communications procedures outlined in Addendum III shall be used for all radio communications.

Communications During Response

In order to control the flow of information during the response phase after a major storm, reporting times will be established by the COTP. All Leaders and Team Leaders should adhere

to the schedule and only deviate when an emergency exists that calls for immediate action. Leaders will report to the Team Leaders and Team Leaders will report to the COTP and EOC's. Reports should include the number of personnel on site, condition of facility, condition of berths, and immediate needs. As time progresses, the COTP will determine the information to be contained in each report. The COTP and EOC's will provide information relating to recommended routes to the port area, safety information, staging information, and other pertinent information during the initial stages of the response.

Utilization of Established Report Forms

Port PUSH teams shall use the established PUSH Team Report From found in Appendix B for pre-entry and facility condition reports.

Addendum III Post Storm Report Plan

General Reporting Procedures

PUSH Teams will be communicating on VHF radios. Before initiating a call, the airwaves should be clear unless the caller is reporting an emergency. The caller shall clearly state the station being called and then identify themselves. When making a report, the caller shall state that they are ready to report and await permission to proceed from PUSH Team Base Camp. In the event a PUSH Team and PUSH Team Base Camp are unable to communicate, a third party who is receiving both radio signals shall offer to relay information. All communications shall be as brief as possible to keep the airwaves clear for emergencies and to conserve power.

Initial Call In

When a Push Team arrives near the entrance of their facility, they shall evaluate the existing conditions to determine whether they shall enter their facility, remain at the entrance or return to their storm shelter. Once a PUSH Team determines its next course of action it shall complete the boxes 1 through 3 and add any additional comments as necessary on "PUSH Team Report Form." After completion, the PUSH Team shall call PUSH Team Base Camp to make its report. Upon being instructed to proceed with their report, the PUSH Team shall start by saying, "Box 3." The PUSH Team will then read the letter of the first line and the corresponding answer followed by the word "next." Each line shall be read following this same procedure. If there are no notes to pass on, the PUSH Team will say, "Nothing further." If additional information needs to be transmitted then the word "notes" shall be spoken and then the notes slowly read. When all the notes have been read, the word "over" shall be spoken. PUSH Team base will then read the notes back to the reporting team. Once the notes are correctly read back, the PUSH Team shall acknowledge by saying, "Roger, nothing further."

Reporting Facility Condition

A PUSH Team upon entering its facility shall evaluate the condition of its facility. Once an evaluation is completed, the PUSH Team shall complete boxes 1, 2, and 4 including any amplifying comments on the "PUSH Team Report Form." After completion, the PUSH Team shall call PUSH Team Base Camp to make its report. Upon being instructed to proceed with their report, the PUSH Team shall start by saying, "Box 4." The report shall be given in the same manner as in the Initial Call as provided above.

Reporting an Emergency

An emergency is where there is an immediate danger to human life or property. If an emergency exists any communication may be interrupted with exception of another emergency. To report an emergency the word "Mayday" shall be stated three times followed by the name of the facility. When PUSH Team Base Camp responds, "(The name of your facility) this is PSUH Team base, what is your emergency?" Then the PUSH Team with the emergency shall say,

"PUSH Team base this is (name of facility) my emergency is," then give the nature of the emergency.

Safety Checks

Once teams have entered the port, a call will be initiated every 30 minutes to each PUSH Team to assure the safety and welfare of each team. The safety check will also confirm that communications are still possible with each team. Each team will be called by PUSH Team Base stating the facility name followed by the words "safety check." Each team as call shall respond, "This (name of facility) all here." If for some reason one or members are unaccounted for the response shall be, "This (name of facility) (number team members present) present and (number of member unaccounted) absent." The time between Safety Checks may be expanded by PUSH Team Base once it has been determined the port area the level of concern for hazardous conditions has abated.

Addendum IV Port PUSH Team Safety Plan

General

It is the responsibility of each member of a PUSH Team to adhere to their respective company Safety Plan. Furthermore, each Team Leader is to be cognizant, when making any decision to enter a facility or remain in a facility, that obtaining emergency services in response to any accident may take a considerably greater period than would be accomplished under normal conditions.

Entering the Port Area

The Public Works PUSH Team of each PUSH Team Task Force will plow a one lane route into the port area. The accompanying HAZMAT Team will determine if conditions along the route are sufficiently safe to proceed or if conditions within a portion or all of the port area are safe for port PUSH Teams to remain. In order for the Public Works PUSH Team and the HAZMAT Team to have an unobstructed path to move to a safer location, port PUSH Teams maybe ordered wait at a designated place or specific distance behind the of advance of the HAZMAT Team. Once a Port PUSH Team arrives at or near the entrance of their facility, they shall immediately work to clear a space in order to park their vehicle(s) off the path cleared by the PUSH Team Task Force.

Encountering Hazardous Conditions

No one knows exactly what will be encountered when a PUSH Team enters its facility. Team members need to be cautious and alert to the presence of toxic materials, fluids, and gases which may be biological or chemical in nature. As there are numerous petroleum facilities within the port area, team members must be careful to avoid open flames or allowing metal surfaces to come in sudden contact with any material which might cause a spark when flammable fluids or fumes are present. Team members will encounter debris which will include sharp objects that can inflict injury. Team members may also encounter piles of debris which may be unstable making them a danger to cross or to remove. Many structures may at first assessment look sound. A thorough examination should be made around the structure looking for fractures, undermining, or materials placing stress on walls or roofs. When entering structures, a slow and careful examination again should be made to determine the integrity of internal walls, ceilings, and floors. There is also the chance of wild animals and reptiles having been displaced by the hurricane will be encountered within a facility. Extreme caution should be made in approaching these creatures as they have been severely stressed by the storm and their new strange environment. Puddles and standing water may also present problems and should be avoided as not only is there a question of depth of the water but also what hazards lay beneath the surface.

The safest approach to entering a new area is to never assume it is safe until it is confirmed to be so. If toxic or flammable materials are present, inform the PUSH Team Base Camp, using the Communication Plan, that a Hazmat Team is needed and avoid the area until informed the area is safe. If an encountered hazardous condition warrants immediate retreat to a safer area, Base Camp can be informed after a safe location has been reached.

Maintain Personal Health

Each team member needs to take measures to assure their personal health. A lot of effort will be exerted under hot humid conditions with a minimum or absence of shade. Each member needs to schedule rest periods during their activities to avoid becoming overheated. Just as important, team members also need to take the time make sure they are properly hydrated.

Maintain Communications within PUSH Team

It is the responsibility of each PUSH Team member and their respective Team Leader to maintain communications within the team at all times. Communications can be made verbally, by electronics, or by other means. Each PUSH Team shall respond to safety checks made by PUSH Team Base via VHF Channel 12.

Reporting an Accident

Any incident that results in bodily harm to any individual should be passed on to the PUSH Team base camp using plain language. PUSH Team base shall be updated as to the status of the individual whenever the condition of the individual changes for the better or worse. PUSH Team base will notify Emergency Services and keep them abreast of the situation.

Responsibility of PUSH Teams to Each Other

In the event of an emergency, PUSH Teams in close proximity to a facility experiencing an incident should render assistance if possible without endangering themselves.

APPENDIX – A Distances Traveled

Table A - The Vessel

Vessel Speed	Distance to S/B 42 nm	Distance to S/B 24 nm	Distance to Key West 260 nm	Distance to SW Pass 350 nm	Distance to Yucatan Ch. 366 nm
6 kts	7.0 h	4.0 h	43.3 h	58.3 h	61.0 h
8 kts	5.3 h	3.0 h	32.5 h	43.8 h	45.8 h
10 kts	4.2 h	2.4 h	26.0 h	35.0 h	36.6 h
12 kts	3.5 h	2.0 h	21.7 h	29.2 h	30.5 h
14 kts	3.0 h	1.7 h	18.6 h	25.0 h	26.1 h

Table B - The Tropical Cyclone

Forward Speed (kts)	Nautical Miles Traveled in Time			
	12h	24h	48h	72h
5	60	120	240	360
10	120	240	480	720
15	180	360	720	1080
20	240	480	960	1440

APPENDIX – B PUSH Team Report Form

(For Security reasons only PUSH Teams are provided this form.)