

Tabletop Exercise
Hurricane Preparation & Recovery
July 29, 2008, ARC 231-233*

Purpose

Test, validate, and improve hurricane preparations for approaching storm. Deploy JLab procedures in the current incremental approach. These are coupled to the National Weather Service's storm-prediction bulletins and to local conditions that may affect JLab and its staff.

Vulnerability Analysis

Hurricanes and other severe weather have highest risk designation among plausible threats to JLab operations. While historical storm patterns for Virginia show that Category II and higher storms rarely make landfall, storm experience in recent memory indicates there is a potential for significant property damage and disruptions to JLab operations – even with storms below hurricane strength.

Scope

This facilitated exercise convenes the Director's Command Staff (DCS) to prepare the entire Laboratory for a simulated potential evacuation of all staff after securing the facility according to established procedures – transitioning from Hurricane Preparedness Condition 1 (HPC-1) to HPC-3.

Primary Objective:

Re-familiarize members of the Director's Command Staff ⁽¹⁾ with the process and procedures that are deployed to protect Lab property and people in the event of a major storm

Identify any omissions, ambiguities, and other aspects that can be improved in the command-level sequence of actions (per checklists).

Related objectives:

Identify potential weaknesses in ancillary preparations at the division/department/group levels that are triggered by EMT actions or that are needed for EMT planning and decision-making.

Participants

Those routinely involved with assessing current and predicted conditions, making recommendations for Lab status, implementing preparations, and publicizing that information:

T. Hassler (Exercise Facilitator)	J. Kelly (Exercise Coordinator)	C. Leemann
W. Akers	R. Barbosa	M. Dallas
D. Dowd	R. Durham	D. Golembeski
P. Hunt	A. Hutton	M. Lewellen
M. Logue	D. Magaldi	S. Mallette
B. Manzlak	W. Oren	J. Scarcello
D. Skopik	J. Sprouse	J. Turi
R. Whitney	J. Williams	E. Winslow
T. Johnson & P. Stroop (Administrative Support)	W. Twigg (Virginia Department of Emergency Management Regional Coordinator)	

*One of two designated site incident-command locations.

Duration

Approximately three hours (9:00 a.m. – 12:00 p.m.)

Terminology

- ⁽¹⁾ Adjunct to this exercise, the name for Jefferson Lab's incident command structure, Director's Command Staff, has been changed. It is now termed the **Jefferson Lab Emergency Management Team (EMT)**. That title will be used in this report.

Resources

- Tables configured as a large rectangle with seating for 15-20. Additional seating for 10-15.
- Regular EMT supply cabinet contents
- Twenty copies of complete set of Hurricane Preparation Checklists.
- Twenty copies of revised booklet Quick-Reference Guide, *Managing Emergencies at Jefferson Lab*
- Laptop or other means to project screen images of action checklist and illustrative information

Safety Considerations

No special safety considerations are applicable to this exercise.

Starting Scenario

We are in hurricane season, and JLab is at **Hurricane Preparedness Condition (HPC) 1**. It is a regular scheduled workday. Lab operations in progress: 2 halls receiving beam, users staying in Residence Facility, user collaboration meeting scheduled a week from today.

An approaching Atlantic tropical storm system progressively strengthens as it approaches the eastern seaboard. It is deemed likely to grow into Category-1 or higher hurricane. JLab emergency management affiliates have been monitoring the storm for several days. "Today" the National Weather Service issues a Tropical Storm Watch for an area that includes Newport News. This is the starting point for the exercise.

Facsimiles of weather maps are found as Exhibit 1.

Sequence of Events

See Exhibit 2.

Note: Prior to the initiation of the programmed exercise, actions from last year's hurricane tabletop were reviewed to verify satisfactory completion or whether additional action was needed.

Three items were so identified: Items 3b, 8, 9. They are listed as the first two entries in the Actions & Follow-Up for this year's exercise.

Conclusions & Lessons Learned:

JLab's hurricane preparation and decision-making processes are sound and may be expected to work as intended in an actual event.

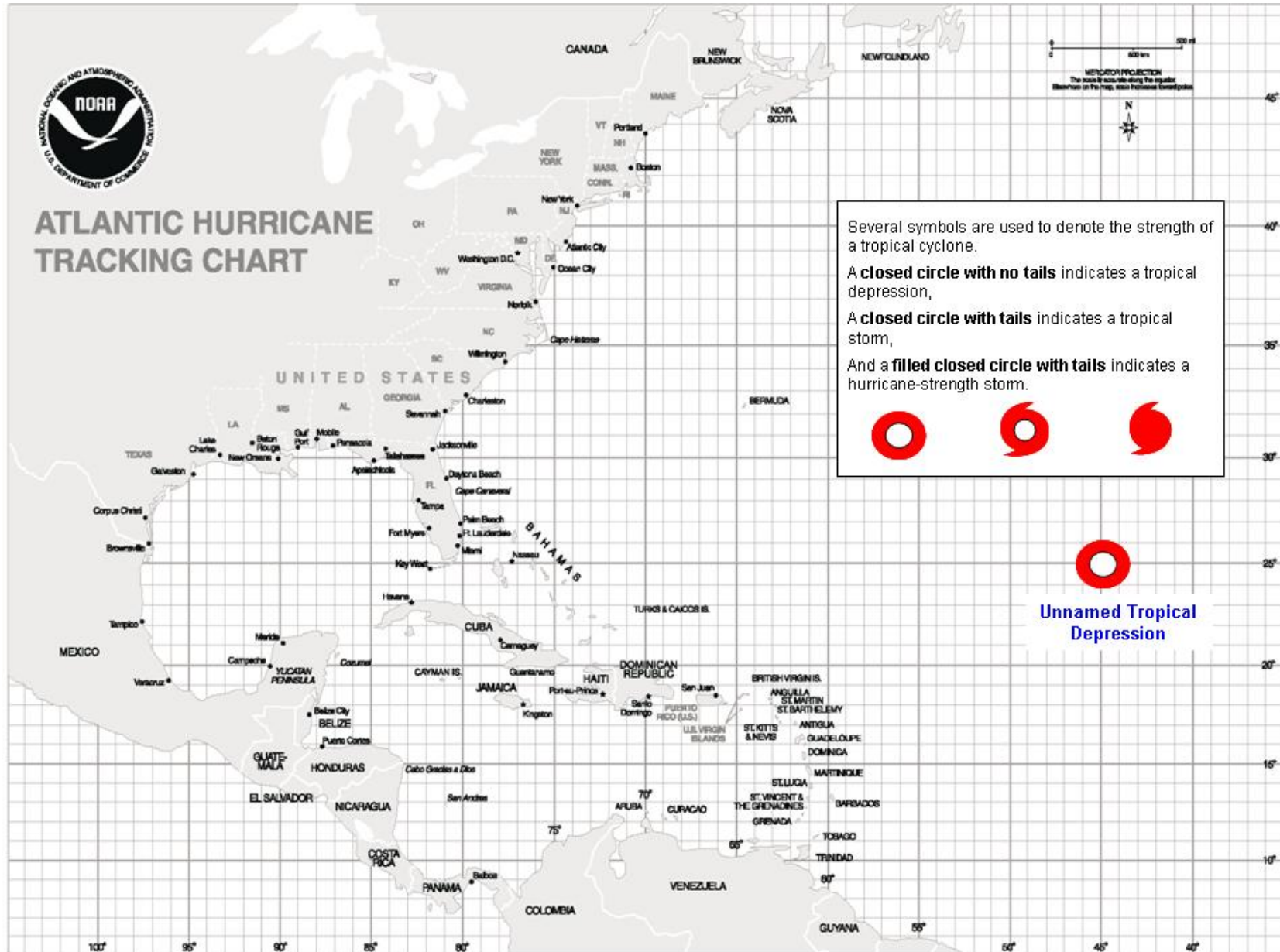
There is considerable confusion/debate about some of the EMT checklist details. Most of this relates to the timing of the EMT convening and making decisions about Lab shut-down – relative to the timing of major weather bulletins from the National Weather Service, the time required for

remaining Lab preparations, and possible regional evacuations or other transportation challenges. This aspect needs to be explained better in the EMT checklist and in information available to Lab staff.

The EMT as it is presently constituted involves too many people for efficient decision-making. There is a widely used model, based upon the National Incident Management System (NIMS), which uses a multi-tiered structure. This scheme defines a core group of decision makers and a larger number of key subject-matter experts who have specific operational knowledge and the authority to implement the actions as determined by the core group. This second group does not necessarily convene with the core group, but they are available in person or electronically as needed. A reconfiguration of the EMT should be explored as part of the re-write of JLab's emergency management policy and procedures to align with the DOE Order.

See Exhibit 3, "Action Items," for more detail.

Exhibit 1 – Tracking Charts for Hurricane





ATLANTIC HURRICANE TRACKING CHART

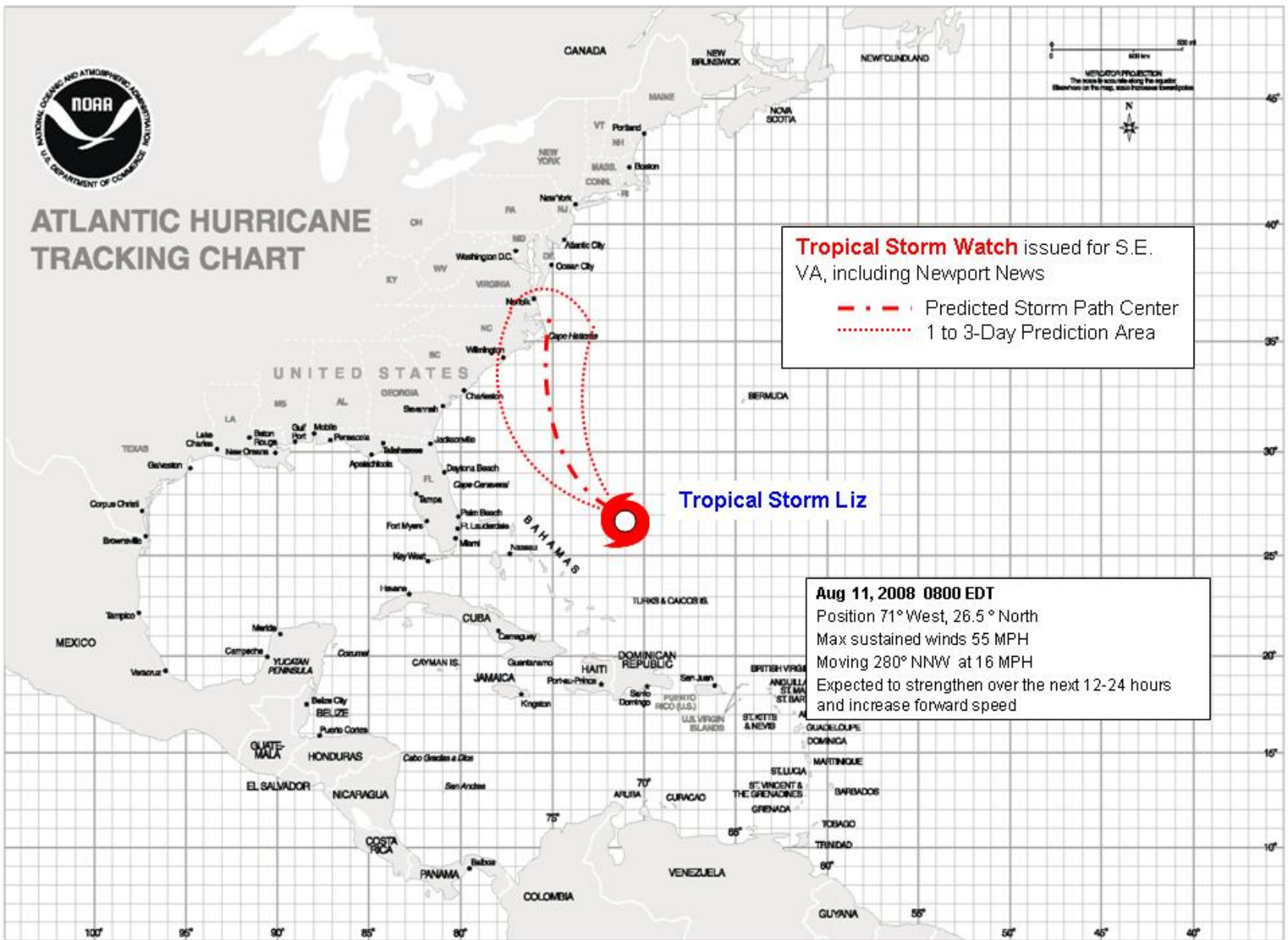


Tropical Storm Watch issued for S.E. VA, including Newport News

- - - Predicted Storm Path Center
- 1 to 3-Day Prediction Area

Tropical Storm Liz

Aug 11, 2008 0800 EDT
Position 71° West, 26.5° North
Max sustained winds 55 MPH
Moving 280° NNW at 16 MPH
Expected to strengthen over the next 12-24 hours and increase forward speed



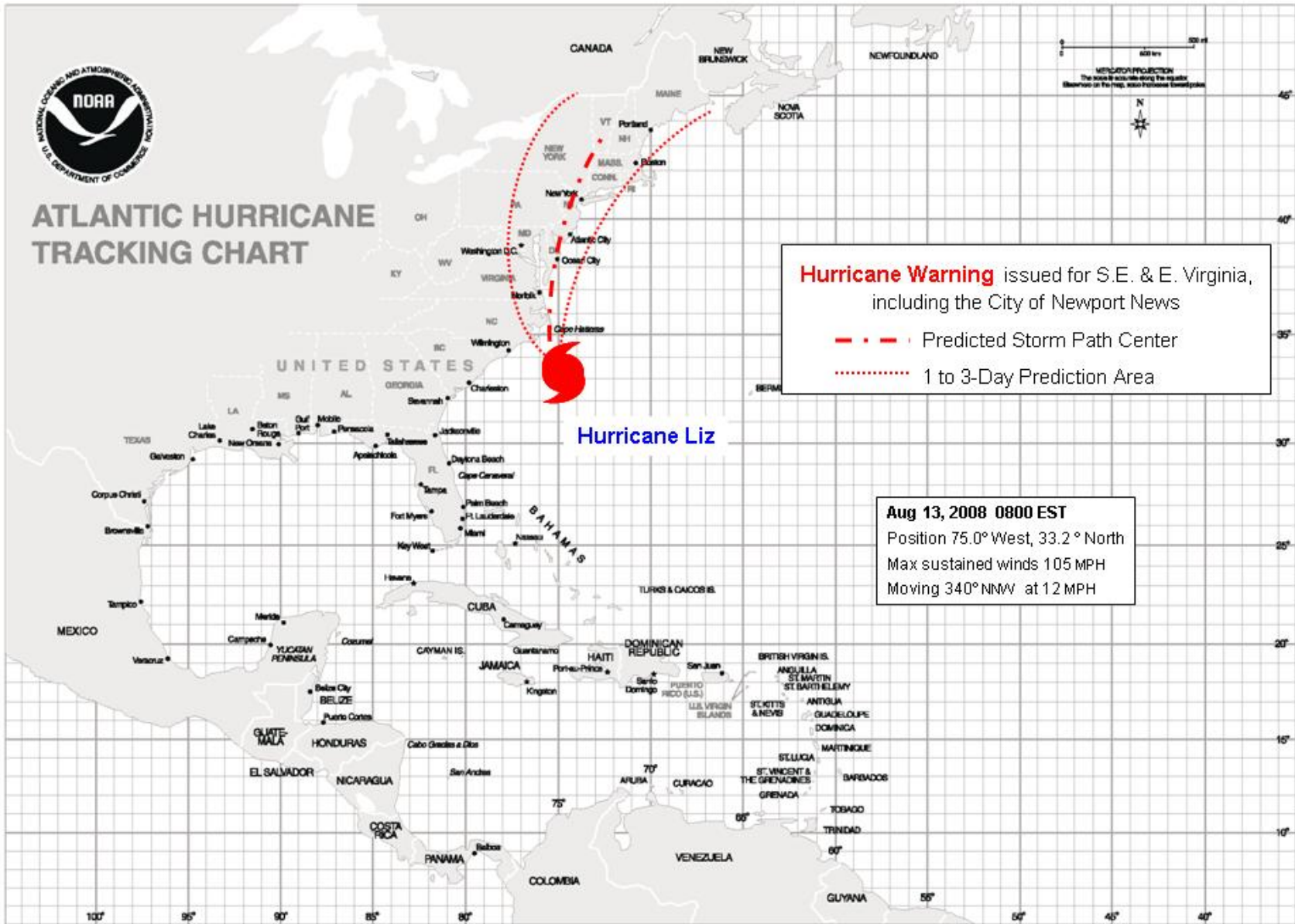


Exhibit 2 –Hurricane Preparation Checklist

Emergency Management Team (EMT) Checklist – Hurricanes & Tropical Storms

Triggering Event	Actions	Performed or Reported by Whom?
<p style="text-align: center;">HPC-1</p> <p style="text-align: center;">Monday, August 11, 2008, 0800 hrs</p> <p>National Weather Service issues Tropical Storm Watch for areas that include JLab.</p>	<input type="checkbox"/> FM is alerted to condition	JLab Weather Advisor
	<input type="checkbox"/> Convene SWT	Emergency Manager (EM) or Facility Manager (FM)
	<input type="checkbox"/> Assess approaching storm and determine the level of impact on Jefferson Lab operations Evaluate anticipated path and time of probable landfall. Recommendation to FM to initiate HPC-2 preparations	SWT
	<input type="checkbox"/> Advise DIR or COO on situation; recommend convening EMT	FM
	<input type="checkbox"/> Decision to convene EMT	Chief Operating Officer (COO) or Lab Director (DIR)
	<input type="checkbox"/> Determine EOC Location	EM or Public Affairs Officer (PAO)
	<input type="checkbox"/> Ensure room is set up: furniture reference materials, telephone, writing materials, etc.	EM
	<input type="checkbox"/> Ensure that adequate staff is present in the EOC to handle the event.	FM or EM
	<input type="checkbox"/> Ensure equipment is in proper working order.	EM & CO
	<input type="checkbox"/> Assign individuals to keep the status boards current.	EM
	<input type="checkbox"/> Alert EMT members by group page and telephone	PAO or Communications Officer (Co)
<p style="text-align: center;">HPC-2</p>	<input type="checkbox"/> Decision to initiate HPC-2 preparations	EMT
	<input type="checkbox"/> Checklist owners initiate preparations for their respective groups/areas.	Respective ADs
	<input type="checkbox"/> Implement communications resources per Command & Control Communications Plan.	CO

HPC-2 (Cont'd)	<input type="checkbox"/>	Update Essential Personnel lists as required	EMT Members
	<input type="checkbox"/>	Needs of users and other guests	User Services, Staff Services
	<input type="checkbox"/>	Modifications to up-coming Lab-hosted events, planned travel, etc.	User Services, Staff Services, Travel Office (CFO)
	<input type="checkbox"/>	Distribute emergency preparation materials to all staff per standing procedure and by request	FM
	<input type="checkbox"/>	Check-in by groups on their preparation status	ADs
	<input type="checkbox"/>	DOE HQ notification.	TJSO
Tuesday, August 12, 2008, 0800 hrs NWS issues Tropical Storm Warning	<input type="checkbox"/>	SWT is reconvened	EM or FM
	<input type="checkbox"/>	SWT evaluates anticipated path and probable time of landfall. Recommendation to FM to initiate HPC-3 preparations and evacuation within ____ hours.	SWT
	<input type="checkbox"/>	Reconvene EMT?	COO or Lab Director
	<input type="checkbox"/>	Report status of HPC-2 preparations (checklist items)	EMT Members
	<input type="checkbox"/>	Decision to initiate HPC-3 preparations and prepare for site evacuation.	EMT
	<input type="checkbox"/>	Initiate division-specific notification processes where applicable.	Respective ADs
	<input type="checkbox"/>	Update Jefferson Lab staff and users on the current state of the event, the expected impacts, and when to expect additional information.	PAO or Communications Officer
Wednesday, August 13, 2008, 0800 hrs NWS issues a Hurricane Warning for southeastern Virginia	<input type="checkbox"/>	FM is alerted to condition	JLab Weather Advisor, SWT
	<input type="checkbox"/>	Recommendation to ED to initiate HPC-3 preparations	FM
	<input type="checkbox"/>	Determine time(s) for staff to depart from site. Factor in transportation issues in the vicinity.	EMT
	<input type="checkbox"/>	Reconvene EMT?	COO or Lab Director

<p>Wednesday, August 13, 2008, 0800 hrs (Cont'd)</p>	<input type="checkbox"/>	Issue site evacuation order. Include info on where to get Lab status information and unambiguous statement about no entry before officially reopened.	PAO or Communications Officer
	<input type="checkbox"/>	Report status of HPC-3 preparations (checklist items)	EMT Members
	<input type="checkbox"/>	DOE HQ notification.	TJSO
	<input type="checkbox"/>	Remaining site preparations: <ul style="list-style-type: none"> - Emergency generators - Telecom - Computer Center 	ADs
	<input type="checkbox"/>	Implement Post Orders for Security	Security Manager
	<input type="checkbox"/>	Make provisions for communication between COO, FM should regular telephone service be disrupted.	CO
<p>Thursday, August 14, 2008, 0800 hrs</p>			
<p>Friday, August 15, 2008, 0800 hrs</p> <p>Storm has passed.</p> <p>Blue skies, mostly sunny, light SW breeze.</p>	<input type="checkbox"/>	Damage assessment by Facilities Management & Logistics	FM&L
	<input type="checkbox"/>	Initial condition report to COO	FM&L
	<input type="checkbox"/>	Remediate damage, clear debris, restore utilities, isolate areas unsuitable for occupancy, etc. Arrange for subcontractor services as needed.	FM&L, Procurement
	<input type="checkbox"/>	Decision on re-opening.	DIR or COO
	<input type="checkbox"/>	Assessment of system, equipment damage	ADs
	<input type="checkbox"/>	Announcements for Lab re-opening status	PA or CO

EXHIBIT 3
ACTION ITEMS: from HURRICANE PREPAREDNESS TABLETOP EXERCISE
July 29, 2008

Issue & Proposed Action	Additional Information	Action By:	CATS Entry?	
			Milestone/Task Tracking System?	
			Complete by date	
1.	a) Establish a central point of contact (POC) at the Lab for arranging bus transportation for users during a Hurricane (M. Hightower), and for students (J. Tyler), and publicize this to those affected. b) "Plan B" – a local emergency shelter – needs to be identified also.	The "recipe" for planning and arranging guest transportation should be captured on a Preparation Checklist or added to an existing one. A BPA or similar purchasing agreement needs to be established with a commercial coach service. OR confirm feasibility of using GSA vehicles to transport users and students who have no means of transportation to a designated shelter. List of designated emergency shelters in vicinity of JLab will be posted on (or linked from) JLab Emergency Management webpages.	DO/SS/ScEd	(a) Y 10/31/08
			EM	(b) Y 9/30/08
2.	Check the status on CATS item MOA-2007-19-04 "Mirror site for web available?" Status updated in requested in 2 weeks to Mike Dallas and Mary Logue. Once final arrangements have been made will need to publicize, communicate via web (communications page), all-staff email, weekly briefs, etc	Mirror site now operational	CIO	Complete.
3.	Review and update the checklists on a regular schedule. (Emerg. Manager calls for updates every year ~May 1.)	Add a second call for updates at the conclusion of hurricane season. Set up recurring CorpTime calendar note to remind EM ~week prior to both checklist update calls. "Field verify" representative sample of checklists' completion during hurricane season.	EM	Y 12/1/08

4.	<p>Revisions to EMT/EMT pamphlet:</p> <p>a) Add the Engineering and FEL group to the EMT. They will also need to be added to the Hurricane booklet.</p> <p>(b) Add Rhonda Barbosa's cell phone the booklet: 310-2764 as a means of preferred communication.</p>	<p>Make revisions to primary lists of EMT members, phone lists, text-paging groups, etc.</p> <p>Incorporate revised membership in re-write of pamphlet and EH&S Manual chapter.</p>	EM	<p>Y</p> <p>9/30/08</p> <hr/> <p>12/31/08</p>
5.	<p>Review the frequency of JLab staff updating their personal information via the My Page tool in JList to ensure that we are attempting to contact our employees at the most current contact number.</p>		HR & CIO	<p>Y</p> <hr/>
6.	<p>Establish the proper trigger for a HPC-3 status. Determine the different Emergency Action levels.</p>	<p>Revise and simplify Hurricane Preparedness process and graphics to indicate "default" EMT decision times are correlated to NWS bulletins and advance warning times. Objective: Ensure JLab has sufficient time to complete its preparations and evacuate site before regional evacuations may be initiated.</p> <p>Incorporate in re-write of pamphlet and EH&S Manual chapter.</p> <p>Ensure flow charts and other "quick references" are consistent with primary sources.</p>	EM	<p>Y</p> <p>12/31/08</p> <hr/>
7.	<p>Check with Hampton Roads Department of Emergency Management to see what their evacuation plan is.</p>	<p>Per Newport News Emergency Operations Plan and the timetable for Hampton Roads Hurricane Traffic Plan, regional evacuation actions would commence approximately 12 hours after JLab procedures call for a decision to evacuate the site. See Exhibit 4.</p> <p>Include this information in revisions to checklists, pamphlet, and EM Plan re-write.</p>	EM	<p>Y</p> <p>(12/31/08)</p> <hr/>

8.	Update the emergency contacts, essential personnel lists in mail and phone lists.	In addition to current contact lists sent with May 1st call for HPC-1 preparations, add a second call for winter weather essential personnel lists ~December 1. Also schedule severe weather refresher discussion for All-Managers Meetings and/or DSC at about these same times.	EM & All divisions	Y 12/31/08
9.	Revision of the Administrative policy that details during an evacuation: please “bag your PC” etc. at the office level. Covering computers, printers, etc. with a bag and neglecting to unplug the equipment is marginally beneficial at best. Policy originated in era when many more office trailers were on site.	CIO recommends not bagging computers as a site-wide preparation. Potential fire hazard exceeds risks from uncovered equipment. Propagate this information now to checklist owners, safety wardens, and ES&H staff. Include in all-staff announcements about weather-related Lab closure/evacuation.	EM/	Y 12/1/08
10.	Former Facility Managers and Mary Logue need to meet with John Kelly and Ed Winslow to discuss checklist/timeline for actions.	A. Hutton, R. Whitney, Mont Recommend adding R. Sprouse and T. Hassler if available.	EM (Schedule meeting)	Y (In CorpTime for 9/18/08)
11.	Check into the possibility of using the CEBAF center vault to store RadCon tools during a Hurricane. This will ensure that they are here onsite when we return to work.	Per CIO, security considerations preclude this option. B. May proposed using the same location in the Test Lab that is used for staging IH instruments prior to evacuation.	Radcon & CIO	NA
12.	Recovery Phase: Add RadCon to the essential personnel lists.	K. Welch composed list in consultation with V. Vylet and sent it to EM for web posting. Recompose into PDF format and submit to webmaster for posting.	EM	Y 9/30//08
13.	Add the Residence Facility to the Emergency communication list so that they can receive	Verify e-mail service within domain. Position a JLab text pager at the Residence	CIO	Y 10/15/08

	important all-staff emails.	Facility so they receive all-staff notices about weather conditions. Ensure ResFac is informed when changes are complete.		
14.	Complete all notebooks for all members of the Emergency Management Team.	Also purge "DCS" references where they are encountered in notebook contents.	EM	Y 10/31/08
15.	Change the name of the Director's Command Staff to the Emergency Management Team (EMT)	a) Make changes in all active documentation (on-line information, working documents, etc.) except for ES&H Manual EM chapter. b) This is under revision per DOE 151.1C implementation, and EMT will be used in re-writes.		Y a) 10/15/08 b) 12/31/08
16.	Define {EOC} table arrangement.	Revise the EMT along the National Incident Management System model. This will likely reduce the number of primary members. Once this is complete, conduct briefing for these individuals and those designated as secondary members.	EM	Y 10/31/08
17.	Make sure that the Facility Manager has a notebook.	See Item 14		NA
18.	Checklist changes: a. Under HPC-2, re-word "distribute emergency prep...to FM <u>&L</u> " not FM b. Under HPC-2, Add SWT to the evening meeting as well (Meet the morning and		EM	Y 10/15/08

	afternoon) c. Add “send an All- Staff communication to the staff 48 hours prior to storms potential landfall date and time.”			
19.	Evaluate VADEM Regional Coordinator’s suggestions concerning “concierge support” for essential personnel.	Select an ad hoc working group, led by HR, to assess need, elements of such a service, and how it would work in practice.	HR	Y By 12/1/08 (the transition date from hurricane to winter weather preparedness)

Abbreviations:

- DCS – Director’s Command Staff
- EMT – Emergency Management Team (EMT)
- DIR – Lab Director
- FM – Facility Manager
- PA – Public Affairs
- CIO – Chief Information Office
- EM – Emergency Manager
- Wx – Weather
- SWT – Severe Weather Team

Exhibit 4
Regional Evacuation Strategy:

From City of Newport News Emergency Operations Plan (EOP):

Procedure 18, Evacuation

In order to gain the maximum benefit of this traffic control plan, the order to evacuate must be made no less than 24 hours before the projected onset of tropical storm force winds (34-knots/39 mph).

First, an evacuation must be conducted in two distinct, but overlapping phases with plans in place for a possible I-64 lane reversal:

PHASE ONE – Implemented at least 24 and no later than 14 hours prior to the onset of tropical storm force winds

Phase One will consist primarily of the evacuation of populations deemed most “at risk” in the cities of Hampton, Poquoson, Virginia Beach and Norfolk, as well as the counties of York, the Middle Peninsula (Mathews, Gloucester and Middlesex) and the Northern Neck (Northumberland, Westmorland, Lancaster and Richmond).

PHASE TWO – Implemented at least 14 hours prior to the onset of tropical storm force winds until the evacuation is terminated

Phase Two will consist primarily of the evacuations of secondary “at risk” populations of the Peninsula including Newport News, the remainder of Hampton, as well as the Southside cities of Chesapeake, Portsmouth and Suffolk.

This Hurricane Traffic Control Plan has been designed to set the stage for an I-64 lane reversal and will easily segue into implementation of the same. To assist in the evacuation, the plan includes an outline for using all interstate lanes west of the Hampton Roads Bridge Tunnel flowing in an outbound direction towards I-295 in Richmond.

Secondly, traffic must be metered onto the interstate system in order to smooth flow and help prevent over-saturation. Ramp metering will minimize the time necessary for vehicles to clear the Hampton Roads region once on the interstate system. Some ramps may be closed. Access to closed ramps will be limited to use by emergency vehicles only.

The eastbound tunnel of the Hampton Roads Bridge Tunnel (I-64) will be closed to all traffic during Phase One of an evacuation. Motorists traveling on I-64 East will be diverted at I-664 toward the Monitor Merrimac Memorial Bridge Tunnel heading south.

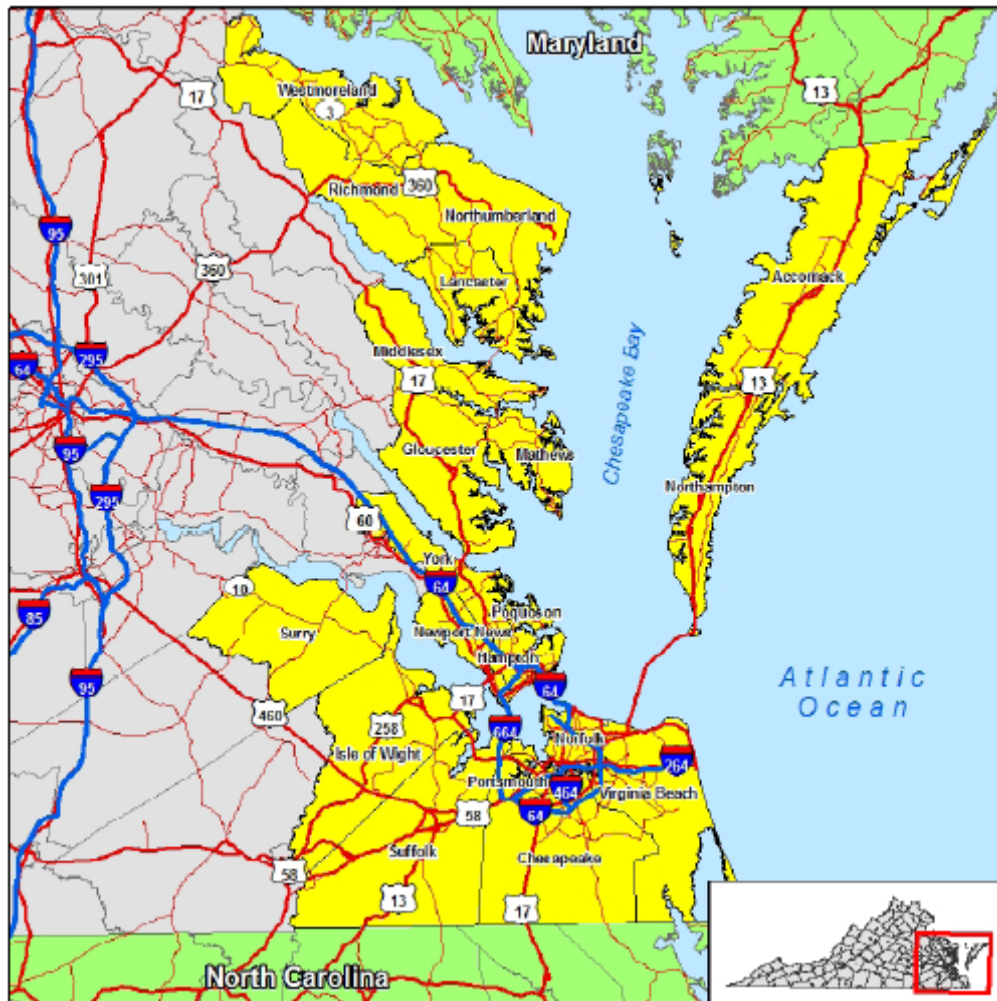
B. For the purpose of coordination, this Plan assumes that any ordered evacuation of local military bases will precede (or conform to) the timing and routing of the evacuated population of the area in which the base is located: ex. NAS Norfolk will evacuate with the City of Norfolk; Langley AFB will evacuate with Hampton (inland), etc. Accordingly, VDOT will work with affected state and federal agencies to communicate the tenets of this Plan.

C. A traffic evacuation of the Hampton Roads area will be difficult. More than 27 hours will be needed to completely evacuate potential traffic volumes generated by the "at risk" population. In less severe storms, smaller populations (including tourists) or partial evacuations will be easier

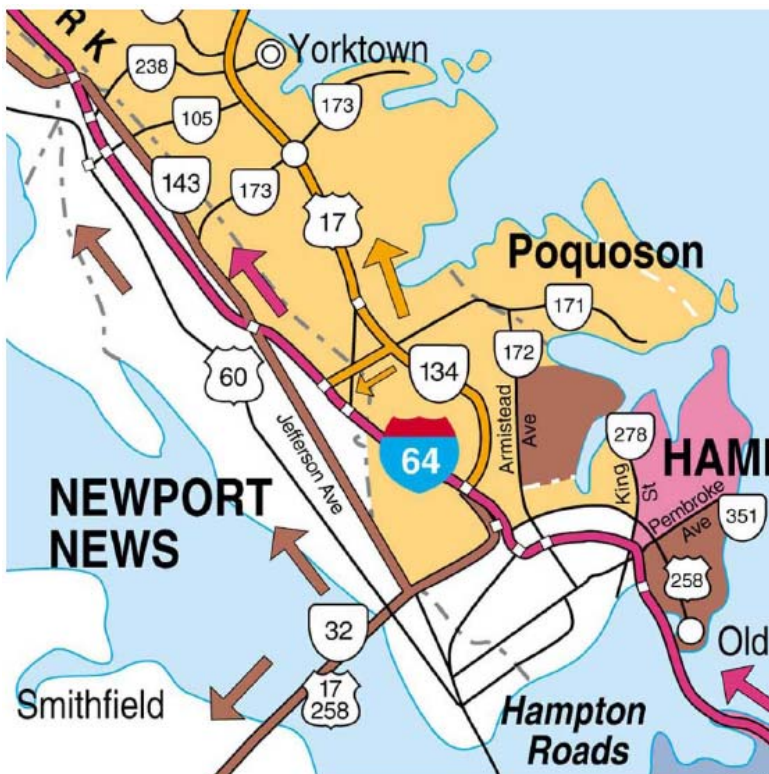
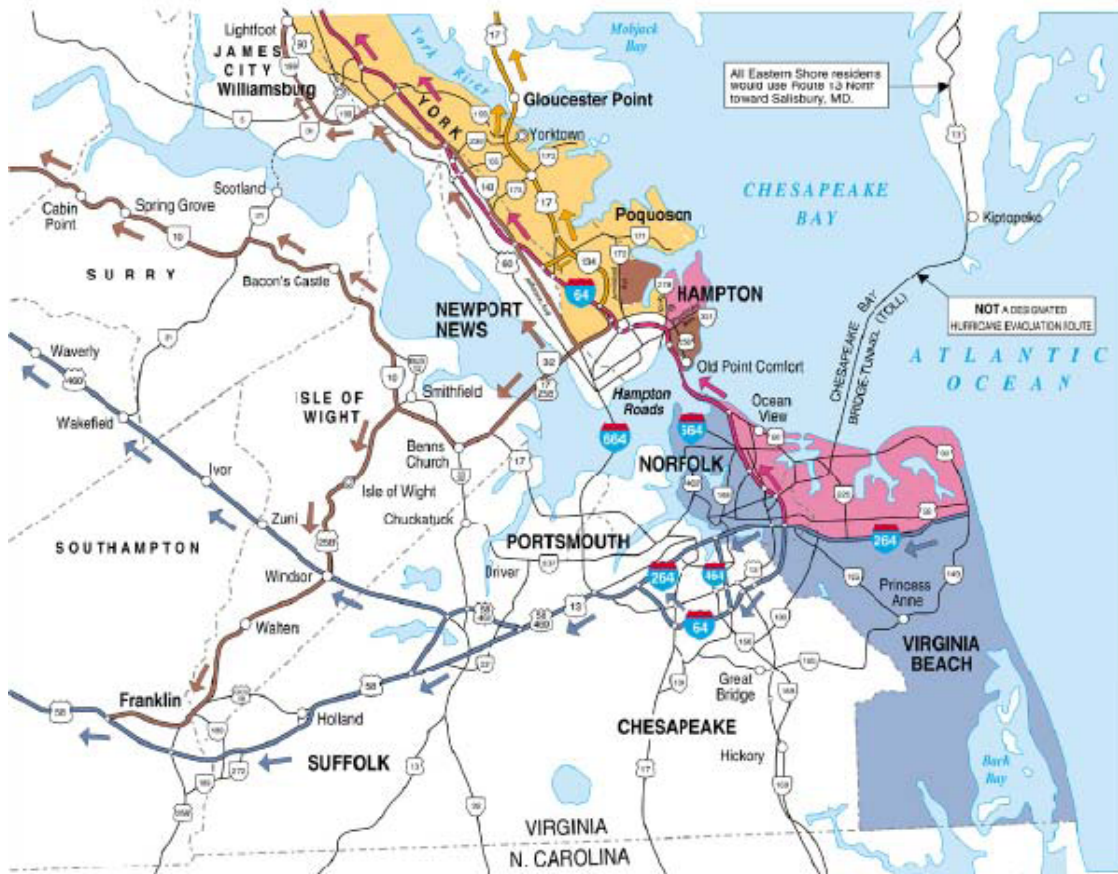
and may require less time. Nevertheless, the tenets of this plan will be in effect for smaller evacuations as well.

D. Recognizing that it is likely minimum evacuation time may be available at best, approximately half of the "at risk" population might not be evacuated. In this case, there will come a point in time when Virginia State Police must terminate an evacuation effort. At this point, local emergency services coordinators should expect that motorists will seek refuge.

Map of Risk Area

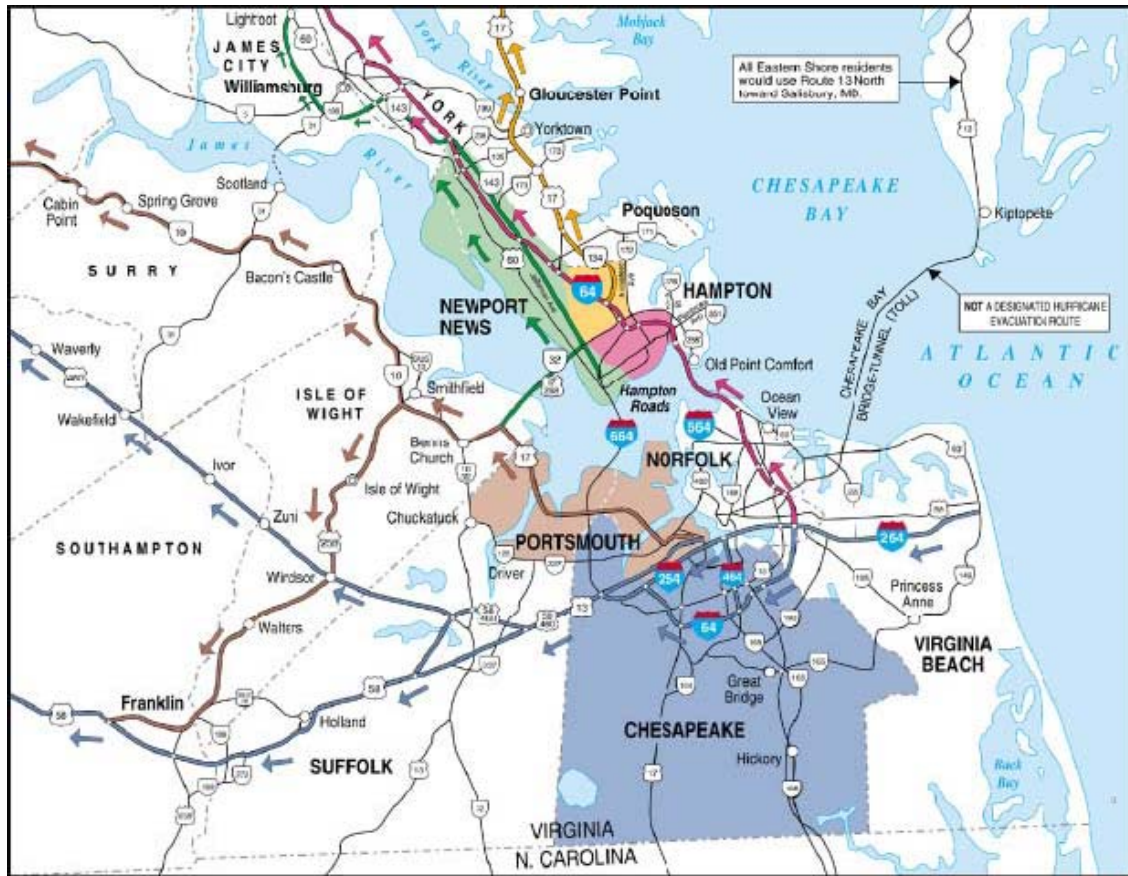


Phase One – Region

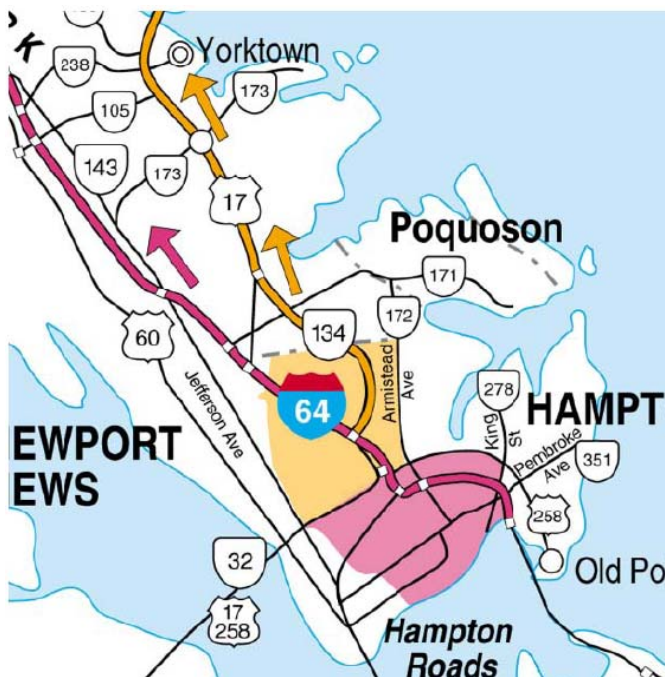


Phase One – Peninsula
(Evacuation of Hampton, York County, & Poquoson)

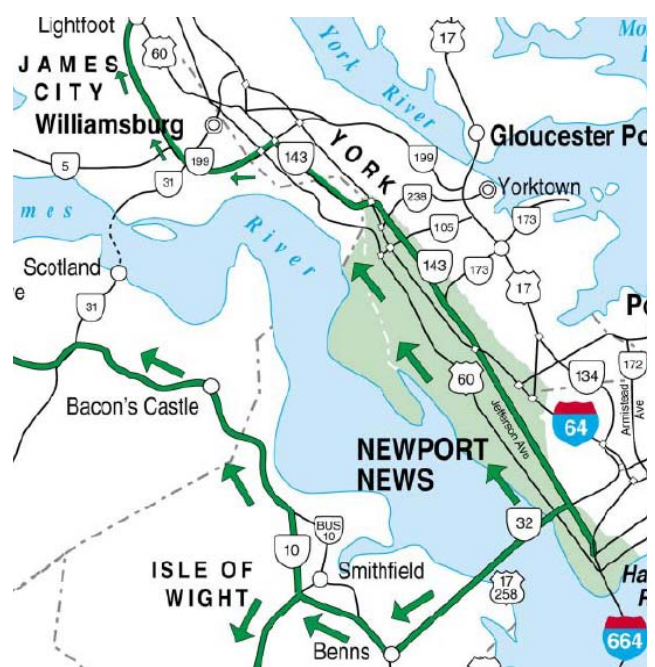
Phase Two – Region



Phase Two – Hampton



Phase Two – Newport News



Section IX. Concept of Operations, B., 4.

Newport News Residents are encouraged to use Route 143 West (Jefferson Avenue) to Route 199 (around Williamsburg), to Route 60 West or Route 258 South across the James River Bridge to Route 258/32 in Isle of Wight.

Source: Commonwealth of Virginia Emergency Operations Plan
Hurricane Emergency Response Plan – Hurricane Traffic Control Plan, June 2006

<http://www.vdem.state.va.us/library/plans/hurrplan/index.cfm>