
SOUTH FLORIDA WATER MANAGEMENT DISTRICT



EMERGENCY MANAGEMENT: HURRICANE FREDDY EXERCISE AFTER-ACTION REVIEW

Audit # 00-13

**Prepared by
Office of Inspector General**

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MGT 08-06F

August 18, 2000

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RE: Emergency Management:
Hurricane Freddy Exercise After-
Action Review Audit # 00-13

This audit was performed pursuant to the Inspector General's authority set forth in Chapter 20.055, F.S. The audit focused on the annual emergency operations exercise conducted by Emergency Management. We evaluated activities in the Emergency Operations Center, communications and data management, field operations and intergovernmental cooperation. Field work was conducted during June and July, 2000.

Sincerely,

Allen Vann
Inspector General

AV/dd
Enclosure

c: Frank Finch

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INTRODUCTION

The Director of Emergency Management requested this review of the Hurricane Freddy Exercise. An emergency management system was established at the District in 1992 following the lessons learned from Hurricane Andrew. Prior to that time, the District did not have a formal plan of action for handling emergencies. Subsequently, the District's Emergency Management (unit) was established. It currently consists of three people: a Director and two support staff.

<i>Emergency Management Budget</i>				
<i>Fiscal Year</i>	<i>FTEs</i>	<i>Ad Valorem</i>	<i>Other Dedicated Sources</i>	<i>Total</i>
<i>1998</i>	2.20	\$186,812	\$64,762	\$251,574
<i>1999</i>	2.20	\$205,621	\$131,000	\$336,621
<i>2000</i>	2.20	\$224,301	\$387,566	\$611,867
<i>2001(Proposed)</i>	3.00	\$542,938	\$750,000	\$1,292,938

Organizationally, the office reports to the Deputy Director for Water Resource Operations. During emergencies the Director of Emergency Management reports directly to the Executive Director.

The office is responsible for developing and administering the District's Emergency Management Plan. These operational procedures developed by the Director of Emergency Management, in collaboration with all of the District's business units, are essential to assure that needed personnel, equipment, supplies and other resources are obtained and effectively used during a natural or man-made disaster.

The District's Emergency Management Plan lays out an Incident Command System, which includes an elaborate organizational structure, that District staff is required to follow to facilitate managing emergency activities. This system departs greatly from how the District is organized during normal operations.

During certain types of emergencies, and based upon specific guidelines, the Executive Director, in consultation with the Director of Emergency Management, will order the activation of the Emergency Operations Center (EOC). The EOC is the nerve center for response and recovery activities. Emergency Management staff notifies appropriate key staff to report to the EOC and commence mobilization of the appropriate units in accordance with the Plan.

Because of the unique design of the emergency response system, the District's Emergency Management Plan requires an annual exercise be conducted. These annual exercises, when successful, help management evaluate and enhance the system and prepares staff for actual events.

OBJECTIVES, SCOPE & METHODOLOGY

After Hurricane Irene impacted the District in mid-October of 1999, the Office of Inspector General assisted management in preparing an After-Action Assessment.¹ The review focused on determining how well the District's water control facilities operated, particularly in areas impacted by the storm. While the report was event specific, many recommendations were made to enhance operations and infrastructure.



This current review focuses on an exercise designed to simulate a devastating hurricane impacting most of the District.

The objectives of our review were to evaluate:

- Emergency Operations Center Activities,
- Communications and Data Management,
- Field Operations, and
- Intergovernmental Cooperation.

Our scope was limited to the one-day hurricane exercise conducted on June 16, 2000, and the planning leading up to that simulated event.

The methodology used in performing our review included:

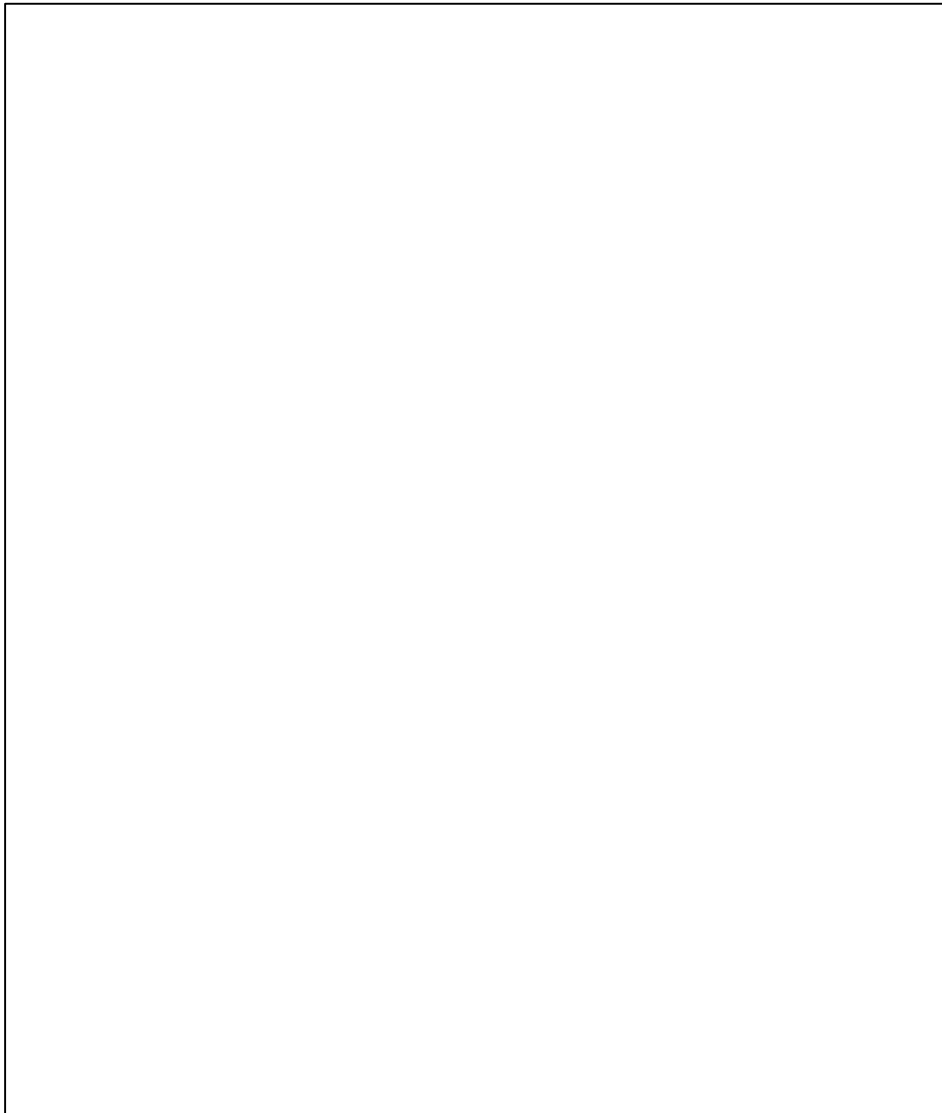
- Physical observation of EOC activation and activities,
- Review of documentation generated during the exercise,

¹ See Hurricane Irene After-Action Assessment Report, dated December 9, 1999.

- Evaluation of the performance of the EM2000 messaging system,
- Evaluation of other communication systems,
- Extensive debriefings of key internal and external “players,” and
- Review of personnel training records.

Our examination was a limited scope review based upon the specific request for advisory service from the Director of Emergency Management. We relied heavily on assessments and characterizations made by key staff during interviews and follow-up discussions. While much of this testamentary evidence was corroborated, it still lacks the sufficiency that other forms of documentary evidence would have provided. As a result of the aforementioned limitations, we do not represent that this review constitutes an audit in accordance with generally accepted government auditing standards.

Exhibit I



EXECUTIVE SUMMARY

The Hurricane Freddy Exercise was well planned and received good support from the executive management team and enthusiastic participation from the staff. The exercise provided an excellent opportunity to test communications and data management systems and provided staff with necessary practice and training.

The exercise included an abnormally high number of incidents and messages, which quickly overwhelmed the system. Most participants agreed that during an actual emergency activation information flows into the EOC at a slower pace and is more manageable. Also, during an actual activation there are far fewer people within the EOC. In order to maximize the benefit of future exercises, we would extend the exercise to two days and reduce the number of participants in the EOC at any one time.

For regular EOC operations we identified the need to appoint team leaders, fine tune staffing assignments, and hold staff more accountable for their EOC responsibilities through formal inclusion in their annual job evaluations. There is also the need for more equipment and specialized training. Good training courses have been developed, but closer monitoring by the Office of Emergency Management would ensure that people are receiving the right kind (and amount) of training.

During the exercise, 135 messages were entered into the EM2000 system. Of the 135 messages recorded in the system during the exercise, we found only eight that were marked "complete." We examined over half of the incoming messages, and noted numerous instances of incomplete fields and/or missing data in individual records. Key EOC staff attempting to act on messages expressed their frustration with the incomplete nature of messages and their inability to determine who to talk to in order to get additional information needed to complete an action. We have offered eight recommendations towards improving the performance of the system and also made several recommendations to improve backup and redundant communications.

Because field conditions were not simulated, the benefit of an exercise is more limited for field personnel than EOC staff. Alternative training exercises for field personnel should be developed to supplement the exercise. Our interviews of Secondary Assessment Teams and Mutual Aid Response Units resulted in some good suggestions for improved operations that can be adopted for an actual activation.

Our review of the District's interaction with outside agencies highlighted the need for additional planning with the Corps of Engineers to resolve differences in operating procedures. Reaction time to simulated field conditions was inadequate. In addition, communications with the Section 298 Districts were poor and highlighted the need to revisit those practices.

Details of our findings and recommendations are presented in the sections that follow.

Exhibit II



FINDINGS AND RECOMMENDATIONS

EMERGENCY OPERATIONS CENTER

For the Hurricane Freddy Exercise the primary Emergency Operations Center (EOC) at the District's West Palm Beach headquarters was activated. Physically this includes the B-1 Auditorium (see EOC floor plan in Exhibit I on Page 3), Governing Board Chambers, the Operations Control Center Room and the Cafeteria Conference Room. During full activation the EOC is organized and functions in a manner similar to the National Interagency Incident Management System. During an actual activation departmental operations not supporting the emergency are normally suspended. Each of the District's organizational units is responsible for ensuring that personnel are identified and trained to meet the staffing needs of the EOC.

The EOC, as it is currently organized, contains multiple interdepartmental sections, each responsible for discrete functions during activation. Because there are so many sections, an elaborate communications and reporting system has been developed to pass information and orders between the groups and document information being received and action planned or taken. Communications during the exercise were cumbersome and slow. In part, this was a result of the organizational structure of the EOC. The EOC is organized and staffed as follows:

<i>EOC Unit</i>	<i>Responsibilities</i>
<i>Director, Emergency Management</i>	Supervises EOC Operations.
<i>Executive Team</i>	Provides policy and direction.
<i>Operations Officer</i>	Supervises over all Inter-Departmental Emergency Response Teams.
<i>Missions Officers</i>	Responsible for categorizing and assigning messages/missions internally and externally in the District's EOC. Provides overall management of the Message Center.
<i>Message Center Coordination</i>	Responsible for recording and tracking messages for the Missions Officers.
<i>Safety Officer</i>	Evaluates threats to life and property.
<i>Public Information Officers</i>	Point of contact for the media and other agencies

<i>EOC Unit</i>	<i>Responsibilities</i>
<i>Citizen Information Line</i>	Takes messages from the public (this group was not activated for the exercise).
<i>Liaison Officers</i>	Oversees all liaison activities, including staff assigned to County/State EOCs, obtain intelligence or situation information and respond to requests from other agencies.
<i>Disaster Analysis and Planning Section</i>	Responsible for information management (the collection, evaluation, and dissemination of information about the development of the incident, status of resources, and demobilization of the incident).
<i>Operations Support and Coordination Section</i>	Coordinates response support to field command to include such tasks as repairs to facilities and structures, road clearances, debris clearance, flood control, building and structure inspection, repair to communications, and incident site traffic control.
<i>Resources, Logistics and Finance Section Coordinators</i>	Provides all the support needs to the incident, for example: tracks costs, issues emergency contracts, and other procurement activity.
<i>Emergency Operations Center Facilities, Supplies and Equipment Unit</i>	Responsible for setting up and maintaining EOC facilities, including the B-1 Auditorium, communications and computer equipment.
<i>Legal</i>	Provides legal advice and services.
<i>Operations Control Center</i>	Responsible for water control systems and weather reports.
<i>Support staff</i>	Provides administrative support, clerical, runners, etc.

An organizational chart of the EOC is presented in Exhibit II on Page 5.

Planning

Emergency Management deserves credit for preparing a well-planned exercise. Considerable detail was provided to District participants. In addition, a number of Section 298 Districts and local governments and the Army Corps of Engineers were invited to participate. Prior to the exercise the Office of Emergency Management posted on the intranet (IWEB) a description and scope of the exercise, major sequence of events, charts, maps, forecasts and forms/reports to be used by the participants. All of the participants interviewed reviewed the material posted on the IWEB. The consensus of opinion was that

the materials were very good and helpful in preparing for the exercise. In fact, most participants indicated that they also reviewed their Suggested Operating Procedures prior to participating in the exercise.

The Director of Emergency Management provided schedule time for staff briefings. These briefings consisted of reports from the Director of Emergency Management, Operations, the District meteorologists, the EOC teams, and each Field Station and Service Center. In practice, the briefing reports from the EOC teams, Field Stations, and Service Centers were somewhat disjointed and difficult to follow. There was no standard format followed for the reports.



Some key participants indicated that because of the level of detail posted on the IWEB and schedules subsequently handed out, that the amount of spontaneity to simulated situations was reduced. For example, the exercise schedule² instructed the Water Controls Operations Officer in the Control Room when to “request mobilization of the Streamgaging Team to (TBD) locations” rather than to test whether he would do this on his own. Participants interviewed suggested that the schedules should only have been shared with the Simulation Team so that situations fed to the participants would have required more independent decision-making. According to the Director of Emergency Management, the schedule was designed to assure that certain features of the EOC plan were tested.

Personnel Issues

Consideration should be given to holding the exercise over a two-day period. There were too many people participating in the exercise, even taking into account the midday shift change. Some participants indicated that because of the large number of people that turned out for the



² Hurricane Freddy Exercise - Timeline Major Sequence of Events

exercise that they did not get an opportunity to practice their skills but rather observed. At the message center, clerical staff were rotated out every two hours to allow everyone to practice. Most participants interviewed indicated that the exercise was worth-while, but was no substitute for the actual experience of a real emergency activation.

Some personnel assignments may need to be revisited. For example, the role of Mission/Operations Officers per the SOP are quite distinct. However, at the exercise the duties were combined and some participants expressed concern about the background and experience of those assigned to review messages and assign them. The Operations Officer, according to the SOP, provides supervision over all Inter-Departmental Emergency Response Teams³ in the EOC and continuously monitors the effectiveness of the EOC. In contrast, the Missions Officer has the critical job of assessing messages and determining how and to whom they are to be assigned. Combining these two roles may have created confusion and expectations beyond the skill sets of those assigned. According to key EOC participants, the role of Missions Officer requires knowledge and experience with the canal conveyance system as well as secondary and tertiary systems that interact with it. Not only do the Mission Officers need to have a thorough knowledge of the conveyance system, but also the topography surrounding the canals and structures so that critical decisions and choices are made expeditiously. Because of this lack of common knowledge and experience, it was reported that there was hesitation and disagreements on how to handle particular situations. The Director of Emergency Operations needs to establish some recruiting criteria for assigning people in the EOC.

According to the Message Center Coordinator, there may have been some confusion by District managers when the request for support people went out prior to the exercise. Many of the people assigned were professional types with less administrative skills and were not used during the exercise. In contrast, support staff assigned to the Operations Control Center (Control Room) to provide “administrative support” didn’t understand the operations or terminology being used. Also, clerical people required additional supervision from Control Room staff to review and triage reports. Assigning professionals with engineering type background and knowledge of the canal conveyance system to provide administrative support to the Control Room during an emergency might prove beneficial. Presumably, professionals would have

³ Disaster Analysis and Planning Section, Operations Support and Coordination Section Resources, & Logistics and Finance Section Coordinators

greater ability to help in the decision making process and won't require as much supervision.

One issue identified by the Director of Emergency Management was the need to appoint team leaders for each of the Inter-Departmental Emergency Response Teams in the EOC. During an activation of the EOC, a coordinator should be designated, for each shift, as the lead for each group. The lead coordinator should be responsible for the overall activities of the group, resolve any issues, and make assignments.

During the exercise, the Executive Director stressed to the entire staff the importance of both the exercise and their participation in emergency operations. This message could be reinforced if, at a minimum, key staff members involved in emergency operations are held accountable through their annual evaluations on their attendance and performance at exercises and actual emergency activations. The Director of Emergency Management and Team Coordinators should provide input to Primary Evaluators of key staff members prior to completion of EOC staff's annual evaluations so as to facilitate holding personnel accountable for their performance.

Training

We reviewed personnel training records for 31 key EOC and Field people and found that all signed up for some training related to emergency operations. This ranged from minimal training taken by some, to extensive training taken by others. The Office of Emergency Management has developed numerous training courses relating to emergency operations. However, while staff is encouraged to attend, the Office of Emergency Management does not monitor staff training to assure that all personnel assigned to EOC (or field) activities are availing themselves of an appropriate level of training for their area of assigned responsibility. Additional comments on specific training needs are addressed in the other sections of the report.

Equipment

Additional communications and information were provided within the EOC by access to the internet, the GIS support team, maps and displays posted on the walls, and the periodic briefing reports. The overhead projector (Elmo) and video screen were also available for displaying



information. But, aside from the camera projection of the activities within the room, the Elmo and video screens were infrequently used to present information within the EOC.

The majority of feedback received from participants in the exercise indicated that there is a need for additional computers and printers within the EOC. Additionally, GIS staff needed color printers and faster computers. EOC staff expressed the need for a copier to be located within the EOC.

Information which would be helpful to have on hand includes: a list of equipment and vehicles available for dispatch, comprehensive telephone listings of field contacts, lists of 298 Districts and DAT rosters, and employee listings.

Additional observations about equipment needs are contained in other sections of the report.

Recommendations

- 1. Consider expanding the exercise to two days, enabling more shift changes and thus more even participation.**

Management Response: Emergency Management concurs with the recommendation to expand the exercise to two days. This recommendation will be made to the Executive Team for discussion and approval. Expansion to a two-day exercise will provide for fewer people in the EOC at one time, however; some units such as the Executive Team, Emergency Management, Water Operations as well as Field Stations and Service Centers will need to participate on both days.

Responsible Division: Executive Director and Director of Emergency Management

Estimated Completion Date: October 30, 2000

- 2. Reduce the level of detail provided to participants in the exercise and instead provide the detailed schedules to the simulation teams for gradual dissemination during the exercise.**

Management Response: The amount of detail provided to participants in an exercise is dependent upon the objectives of the exercise play. The detailed schedules provided in Hurricane Freddy were necessary to ensure certain play was injected into the exercise to

facilitate certain objectives. Future exercises will consider the objectives of the exercise to determine the level of detail provided to participants.

Responsible Division: Emergency Management

Estimated Completion Date: Not required

3. Maintain sign in/sign out sheets for personnel in the EOC.

Management Response: During an actual activation, the security office does maintain a record of persons entering the EOC as per Emergency Management's Access Authorization List. Entry into the EOC requires a District ID. This automation provides a printout of persons entering the EOC and the Operations Control Room. In addition, a sign-in sheet is maintained by security at the entrance of the EOC. A decision was made not to exercise the EOC access due to the cost of guards and the fact that this procedure has been exercised each year in the past.

Responsible Division: Corporate Resources, Security Section

Estimated Completion Date: Completed

4. Establish criteria for staffing positions within the EOC and Control Room.

Management Response: Emergency Management concurs with this recommendation and has begun to establish criteria for the following positions:

- Operations Officer
- Missions Officer
- Message Takers
- Message Trackers
- Control Room Message Trackers
- Section Message Trackers
- Interdepartmental Section Chiefs

In addition to staffing criteria, expected outputs for each position and required training will be established for each position.

Responsible Division: Emergency Management

Estimated Completion Date: October 1, 2000

5. Appoint team leaders for each Interdepartmental Team.

Management Response: Emergency Management concurs with this recommendation. Section Leaders are designated as "Chief" and will be responsible for the overall coordination of their respective team. This will include shift assignments for Coordinators, team membership, team organization and functions, staff assignments, and training.

Responsible Division: Emergency Management

Expected Completion Date: Completed

6. Employees with critical emergency responsibilities should, as part of their annual evaluation, be evaluated for their participation in emergency activities. Primary evaluators should obtain input from the Director of Emergency Management or Lead Team members.

Management Response: Emergency Management concurs with this recommendation. Discussion with the Manager of Employee Development has begun regarding the implementation of this recommendation. As the District proceeds with the development of the new performance appraisal system, emergency management responsibilities will be included as an evaluated criteria.

Responsible Division: Human Resources Department

Estimated Completion Date: January 2002

7. Each team in the EOC should develop a standard briefing report format to display status of their responsible areas, objectives, and critical issues or concerns. These reports should be displayed within the EOC using the projection system.

Management Response: Emergency Management concurs with this recommendation and has begun working with ITD to standardize briefing reports that will provide decision-makers with critical data in a quick and efficient manner. A design meeting is scheduled for August 16, 2000.

Responsible Division: Emergency Management with assistance from the Information Technology Division

Estimated Completion Date: September 1, 2000

8. **Monitor, on an annual basis, the amount and type of training courses that EOC personnel take.**

Management Response: Emergency Management concurs with this recommendation. Employee Development will provide Emergency Management with training data from the Ross system on a quarterly basis. Emergency Management will contact the supervisors of personnel behind on training requirements.

Responsible Division: Emergency Management with assistance from the Human Resources Department

Estimated Completion Date: Completed

9. **The Field Stations and Service Center should follow a District-wide "checklist" for reporting. This list could include items such as status of personnel, communications (voice/data), facilities-buildings, facilities-water control structures, availability of resources (people, equipment, . . .), and critical issues or concerns.**

Management Response: Emergency Management concurs with this recommendation and has developed a list of critical elements of information needed from field units during briefings. ITD has agreed to take this information and develop a standard form. A design meeting is scheduled for August 16, 2000.

Responsible Division: Water Resource Operations and Chief of Staff

Estimated Completion Date: September 1, 2000

10. **Reassess the equipment needs of the EOC and provide additional equipment as indicated.**

Management Response: It was conveyed that the additional equipment needed is a copier and a copier will be moved into the EOC once it is activated. Additional computers have also been purchased for the Message Center. The laptops from the "Checkout Pool" will be

reallocated to the EOC sections for word processing and internet connection.

Responsible Division: Emergency Management with assistance from the Corporate Resources Group

Estimated Completion Date: Completed

COMMUNICATIONS & DATA MANAGEMENT

Communications and data management are critical links to activity in the field and the agencies that manage secondary systems, local and state governments and the US Army Corps of Engineers, who is responsible for key parts of the primary system. Therefore, we evaluated the use of the District's EM2000 messaging software system and the availability of internet and other supporting software. We also observed the management of the flow of data in and out of both the Emergency Operations Center (EOC) and Operations Control Center (Control Room), and assessed the adequacy of the redundant communications systems.

Information Management & Evaluation of the EM2000 Messaging Software System

The EM2000 messaging software is used to manage information received from various sources during an emergency activation. EM2000 activity generally starts with information flowing into phone operators. They use the EOC Message Form to manually record the information. Runners then take the forms to the Message Center for data entry into the EM2000 messaging system. The Control Room entered messages received from the field into the system directly from their logbook. An assigned message data entry person in the control room assisted them in inputting data. Messages from the various teams were entered directly by team members at the teams' tables.



Next, the EOC messages were assigned by the Mission/Operations Officer to the most appropriate team(s). (Only the Mission/Operations team is allowed to assign messages.) Once electronically received by the assigned team(s) the messages were brought to the attention of the responsible team member(s) for action and/or message response.

In addition to EM2000, team members utilized telephones at their location to coordinate activities in response to messages assigned by the

Missions/Operations Officers or received from other teams. Team members were also observed moving from table to table within the EOC to discuss and coordinate activities "face-to-face".

While the EM2000 system appears outwardly to be effective, entry of data into the system from the various sources was inconsistent and needs considerable improvement. During the exercise, 135 messages were entered into the EM2000 system. Of these, we found only eight that were marked "complete."

We examined over half of the incoming messages, 73 messages in all, and noted numerous instances of incomplete fields and/or missing data in individual EM2000 records. Messages in the system were missing necessary data because the information was not recorded on the EOC Message Form by the intake person. There were instances where there was no "message taker name", "date" or "time" on the input form.

Also, necessary data that was on the manual message form was not entered into the EM2000 record. Critical information, such as the "on-scene contact's" name or "attention to" never made it from the manual message form to the EM2000 record. Similarly, EM2000 records were missing "message taker's name", "date", and "time" that were readily available on the manual form.

We received comments from key EOC staff attempting to act on messages expressing their frustration with the incomplete nature of messages and their inability to determine who to talk to in order to get additional information needed to complete, follow-up with, or close an action.



We noted that the fields on the EOC Message Form do not align well with the EM2000 input screen. New messages were accepted into the system despite the missing fields of information. EM2000 needs to be modified so that new messages cannot be entered until all required fields have been entered. Some free form text fields on the EOC Message Form (such as the "Identify Problem" section) simply did not provide enough room for a message taker to adequately describe the incident.

During the exercise the message numbering system failed but was restored by technical support staff. In addition, after a correction for missing numbers was made, there were still gaps in the numbering sequence of new messages.

EM2000 messages were bottlenecked at the Missions/Operations Officer desk initially with all assigned staff absent to attend a briefing in the Governing Board Chambers. It is a common practice that all messages, regardless of severity, are assigned through the Missions/Operations Officers. One interviewee offered the following observation, "we need to determine whether or not it is necessary for the Mission/Operations Officers to have to see and assign all messages."

Although there were several opportunities for EM2000 training, some of the support staff were not prepared enough to use EM2000 to be effective in their assigned roles. Technical support staff provided "on the spot training" to resolve many of the problems with the system user.⁴ Of greater concern was that team coordinators were distracted and bogged down because they were handling EM2000 message traffic and report preparation activities thus losing focus on actual EOC mission related activities that needed their unique expertise. More of the administrative work could be shifted to team members leaving the coordinator free for more substantive work. Team Coordinators should be encouraged to delegate tasks and concentrate on providing leadership and performing higher level decision-making activities.

In order to review the activities associated with a particular incident (subject) or the activities of a particular team, it would be useful to have some standard reports including a "parent/child" reporting of message history. At the conclusion of an event, or upon deactivation, the data contained in EM2000 can be used to produce printed copies of the messages, situation reports and incident action plans.

EM2000, Internet, and MS Office 97 software tools were available at all team tables and personal computers (PC) in the EOC. PC's were networked with EM2000 running on a protected server located in the Control Room area. However, the use of the word processing, presentation, and spreadsheet software programs, required the use of the same PC used for EM2000 messages. Provision for additional PC's, including laptops, (not necessarily networked) for this work activity would allow for the messaging system to be monitored while necessary reports, presentation, or other PC activities were being developed at the team tables.

⁴ In order to facilitate quick technical support issues and to assist the users with the use of the technology in the EOC, technical support staff made available in the EOC a "EOC Computer Users Guide". This guide included the names, phone numbers, and pictures of the assigned EOC technical support staff for EM2000, PC's, Servers and Unix.

Subsequent to the exercise there have been meetings with the Director of Emergency Management and the EM2000 support staff to review issues with EM2000 raised at the exercise and to prioritize corrective actions.

Recommendations

- 11. Redesign the EOC Message Form to correspond in format to the EM2000 input screen.**

Management Response: Emergency Management concurs with this recommendation. ITD has been provided with the corrected form and the EM Tracker has been modified to resemble the paper form to the degree possible and practical.

Responsible Division: Emergency Management with assistance from the Information Technology Division

Estimated Completion Date: Completed

- 12. Identify “minimally required fields” on the form, and restrict the acceptance of incomplete records into EM2000 system.**

Management Response: Emergency Management concurs with this recommendation. The identification of “minimally required fields” has been completed with the ITD staff. Changes to the system have been completed.

Responsible Division: Information Technology Division

Estimated Completion Date: Completed

- 13. Each message should be sequentially numbered with no gaps in the numbering sequence.**

Management Response: Emergency Management concurs with this recommendation. ITD staff is in the process of repairing the system.

Responsible Division: Information Technology Division

Estimated Completion Date: On-going

- 14. Each team table in the EOC should have trained and dedicated EM2000 data entry person assigned to constantly monitor and respond to messages.**

Management Response: Emergency Management concurs with this recommendation. Section Message Tracker positions have been established (see response to recommendation #4, page 12). Message Center training has been scheduled for the week of August 9 – 15, 2000. All Senior, Staff and Administrative Resource Associates have been designated to take this training.

Responsible Division: Emergency Management with assistance from the Information Technology Division

Estimated Completion Date: Completed

- 15. Training, along with annual refresher courses, in the use of EM2000 should be mandatory for dedicated EM2000 data entry staff.**

Management Response: Emergency Management concurs with this recommendation. Please see response to recommendation # 4, page 12). EM 2000 training will be required on EOC staff training plans. ITD will offer classes on a quarterly basis throughout the year, and will track participants.

Responsible Division: Office of Emergency Management with assistance from the Information Technology Division and Human Resources Department

Estimated Completion Date: On-going/Quarterly training.

- 16. Post event reports should be produced from EM2000 to document messages, situation reports and incident action plans so that an audit trail is created.**

Management Response: Emergency Management concurs with this recommendation. The responsibility for producing a "hard copy" report of all of the EM2000 data related to the incident will be given to the Information Technology Division. In addition to archiving all the data for each incident, the printing of a "hard copy" report will be added to this function.

Responsible Division: Information Technology Division

Estimated Completion Date: September 1, 2000

- 17. Templates for standard team reports should be made available in the EM2000 system.**

Management Response: Emergency Management concurs with this recommendation. Standard forms are already in existence for the Incident Action Plan and Situation Report. ITD is working on developing these forms electronically into the EM 2000 system.

Responsible Division: Information Technology Division

Estimated Completion Date: October 28, 2000

- 18. Additional PC's (including laptops) should be assigned to each team table for team administrated activities.**

Management Response: The Computer Systems and Support Department will move all PC Checkout Pool laptops to the EOC during activation.

Responsible Division: Information Technology Division

Estimated Completion Date: Completed

- 19. Evaluate whether it is necessary for the Mission/Operations Officer(s) to see and assign all messages.**

Management Response: Emergency Management concurs with this recommendation. The EM 2000 system has been modified so that "Information Only" messages will be sent directly to appropriate recipients. The Missions Officer will assign only resource requests.

Responsible Division: Emergency Management

Estimated Completion Date: Completed

Backup/Redundant Communications Systems

In the Control Room there were hot line phone communications, low band VHF communications, Maintenance Party Line (MPL) radio communications, access to the State Emergency Communications (ESATCOM), and a Radio Amateur Civil Emergency Service (RACES) radio station. With the exception of the ESATCOM, all stations were manned and tested during the exercise.

The exercise started with the District's primary communications systems (10-digit and 4 digit) down and a microwave tower in Fort Lauderdale down. (Some locations did have 4-digit service.)

The District 4-digit analog hot line phones (one per site) were operational and both the Low Band VHF and MPL radio communications were operable. The Low Band VHF was used with the following regional channel assignments.

<i>Channel 1</i>	<i>Channel 2</i>	<i>Channel 3</i>
B-1 (Primary)	B-1 (Primary)	S-5A (Primary)
OKE	KIS	S-2
WPB	CLE	S-127
MIA	FTL	S-3
BCB (to MIA)	HOM	S-129
FTM (to BCB)	S-331 (to HOM)	S-4
		S-131
		S-6
		S-133
		S-7
		S-135
		S-8
		S-140
		S-9

There was some confusion by the VHF radio users as to what channels to listen to or broadcast on. It was reported that the Miami Field Station had some difficulties as a result of listening on the assigned channel 1 but broadcasting on channel 2. Both of these channels are monitored as "primary" by the Control Room in West Palm Beach. Also, there was some communication confusion generated when Pump Station S-8 was attempting to contact Fort Lauderdale directly rather than their primary site S-5A. Without

schedule broadcast times some broadcasts from the stations "walked-on" the transmissions of others.

The MPL radio, which is on a licensed frequency from the FCC, uses the District's microwave towers to relay signals from field vehicles to field vehicles and/or the Control Room in West Palm Beach. This provides District-wide radio communication for the field. There are no MPL radios (except in vehicles) at the Field Station or Service Center facilities. There was a reported period of time when there was no one assigned to monitor the MPL radio in the Control Room.



During the exercise a temporary tower was erected in Fort Lauderdale to replace the tower that was down. The District's emergency operations trailer (MARU) was set up at the Fort Lauderdale Field Station. There were two minor problems encountered at the trailer:

- In order for the telephones to work, the trailer had to be powered down and repowered.
- Initially there was no assigned staff at the trailer location.

Subsequent to the exercise additional observations and recommendations for the District's emergency operations trailer and the Control Room were made and documented by an involved technical support staff member.

Recommendations

- 20. The Field Stations and Service Centers should have a clearer understanding of their assigned channels, primary site, and scheduled broadcast times.**

Management Response: Emergency Management concurs with this recommendation. ITD will schedule training for the field stations regarding emergency radio use. Additionally, the EOC has established a "Communications Cell" to monitor "radio" use during activation.

Responsible Division: Water Resource Operations and the Chief of Staff

Estimated Completion Date: September 15, 2000.

- 21. Both assigned staff and communications support staff should accompany the MARU Trailer to the set-up location.**

Management Response: Emergency Management concurs with this recommendation. WRO/ Fleet Services and West Palm Beach Field Station with ITD Radio Communications unit will develop an SOP for the MARU deployment.

Responsible Divisions: Water Resource Operations and the Information Technology Division

Estimated Completion Date: October 1, 2000.

FIELD OPERATIONS

Effective field operations are critical to the success of an emergency operation. Field personnel act as the eyes and ears of the EOC by providing reliable first-hand information regarding the condition of the system and the extent of damage. In addition, field crews establish a base of operation at or near the disaster site and supply the skills necessary to correct system failures. Field personnel provide other important functions such as calculating repair costs required for FEMA reimbursement, gathering information on the state of secondary systems, and capturing rare peak flow data near District structures. Following is a table that summarizes the types of field operations that the District deploys during emergencies:

<i>Field Unit</i>	<i>Responsibilities</i>
<i>Field Incident Commanders</i>	The in-charge person at the scene of an incident. The primary responsibility of the Incident Commander is to ensure that each division on the scene can carry out its responsibilities.
<i>Rapid Impact Assessment Teams (RIAT)</i>	Perform initial impact assessments and report that information to the EOC's Operations Support and Coordination Section.
<i>Rapid Response Teams (RRT)</i>	Assist in recovery efforts in a geographic area other than the one that they are assigned to.
<i>Damage Assessment Teams (DAT)</i>	Perform cost estimates and prepare forms for FEMA reimbursement.
<i>Secondary Assessment Teams (SAT)</i>	Provide an accurate assessment of secondary systems and impacts to communities within the District's boundaries.
<i>Rapid Response Streamgaging Teams (RRST)</i>	Capture rare peak flows that occur immediately following a big storm event such as a hurricane.
<i>Mutual Aid Response Unit (MARU)</i>	A converted 48 foot semi-trailer that serves as a mobile command center during recovery efforts.

Based on our review of the Hurricane Freddy exercise, it appears that the value of such an exercise to field personnel is somewhat limited. While many of the field personnel were required to report to their respective field stations during the exercise, nothing short of an actual emergency event would prepare them for the type of conditions that would actually exist in the field or the duties that they would be required to perform. For example, the exercise provided no opportunities for RIAT team participation. (The RIATs exercised at a table-top

training session prior to the exercise.) The RRT teams were provided with some very limited participation in the exercise. Nonetheless, the exercise did serve to highlight some opportunities for improved communications and coordination of the newer teams such as the SAT and RRST teams. Further, the exercise provided an opportunity for some fine-tuning for a more established team such as the DAT. Details follow.

Field Incident Commanders

The Field Incident Commander is the in-charge person at the scene of an incident. The primary responsibility of the Incident Commander is to ensure that each division on the scene can carry out its responsibilities.

Field Incident Commanders are appointed by the Director of Emergency Management or the Executive on Duty and must have completed training in the Incident Command System. Unless otherwise specified, the Director of the Regional Field Station within whose area of coverage the incident occurred will assume the responsibilities of the Field Incident Commander.

Upon arriving at an incident scene, the Incident Commander should:

- assess the situation and identify hazards,
- develop objectives,
- ensure appropriate safety and personnel protective measures,
- develop an action plan and priorities, and
- in coordination with the Emergency Operations Center, contact appropriate divisions/offices or personnel with the expertise and capability to carry out the incident action plan.

We obtained copies of the documentation that was prepared by West Palm Beach Field Station personnel regarding the establishment of their Incident Command. Based on our review of such documents, it appears that the exercise was taken very seriously. We noted documentation that indicated that all phases and objectives of the Incident Command System were addressed. For example, we noted documentation that indicated that the situation had been initially assessed and continued to be assessed throughout the exercise. We noted that the Field Station had developed a prioritized list of objectives along with an action plan. We noted where appropriate contact had been made with the EOC, and we noted that safety and well being considerations of Field Station personnel was pervasive throughout the documentation.

While the Field Incident Command posts appeared to be operationally effective, one problem, however, was reported. The Field Incident

Commanders report directly to the Field Command Liaisons stationed in the EOC. During the morning of the exercise, the Field Command Liaisons did not have a computer or an administrative support person to enter the data that was coming into them. A computer was supplied in the afternoon and they supplied their own administrative support person, which helped to solve the problem. The inability of Field Incident Commanders to communicate effectively with the EOC renders them ineffective. We have been told that these two issues are being addressed by the Director of Emergency Management as a deficiency and will be rectified in the future.

Rapid Response Teams

Rapid Response Teams (RRT's) consist of field station employees who are designated to be sent to other locations to assist in recovery efforts if needed. Team members include excavation/earthmoving operators, fleet technicians, craft supervisors, electricians, facility maintenance mechanics, structure maintenance mechanics, and others who could assist in the heavily impacted areas of the District. RRT team members were asked to report to the field



stations prepared as if this were a real event. In only one instance were we made aware that there was an attempt to actually deploy RRT's during the exercise. The Homestead Field Station had assembled an RRT to be sent first to Miami and then further up to the more heavily impacted Ft. Lauderdale area. Because of radio communication problems they were unable to move the RRT to Ft. Lauderdale in a timely manner. (A more through discussion of the radio communication appears earlier in the report on page 22.) In addition, the Homestead Field Station Director expressed a need for better maps of the areas that they could potentially be sent to.

Rapid Impact Assessment Teams

The Regional Field Station Directors serve as the leaders of the Rapid Impact Assessment Teams (RIAT) and are responsible for performing initial impact assessments and reporting that information to the EOC's Operations Support and Coordination Section.

For purposes of the Hurricane Freddy exercise, the RIAT reports were prepared by the Field Station Directors prior to the exercise, during a table-top training exercise. They were documented in “extent of play” memoranda that were sent to the Director of Emergency Management. The resultant RIAT reports were read aloud in the EOC on the morning of the exercise. The type of things noted in the RIAT reports consisted of operational problems such as canal blockages, damage to infrastructure, communications problems being encountered, etc. Because this was an exercise and there were no real situations to assess, it was not possible to evaluate the performance of the RIAT teams. However, based on our interviews with Field Station Directors it appears that they understand their role as RIAT team leaders.

Damage Assessment Teams

The Damage Assessment Teams (DAT) are comprised of qualified professional and technical personnel who are responsible for estimating the cost to repair disaster related damage. This cost data is then submitted to the Federal Emergency Management Agency (FEMA) for reimbursement. There are eight DAT teams, one for each field station and the Big Cypress Basin, each having approximately 20 members.

The fact that this was an exercise severely limited the extent to which DAT team responsiveness could be evaluated. After an actual hurricane, the DAT teams would be deployed, in potentially adverse conditions, in order to assess damage to District infrastructure. For purposes of the exercise it was suggested that the DAT team leaders physically report to their assigned field stations. In lieu of this, the team leader and assistant team leader could each be available at the field station for half of the exercise. The only other task that the DAT team leaders were required to perform was a “call down”, whereby the team leaders (or assistant team leaders) attempted to contact the other team members. This means that the extent of some DAT team members’ participation in the exercise was limited to answering a telephone call.

We found that not all DAT team leaders reported to their respective field stations. This was especially true because doing so would have required substantial travel time. In all but one instance the DAT team leaders performed the “call down.” Most of the team leaders that we spoke to were satisfied with the results of the call down. One team leader was only able to reach six team members. In the one instance where a call down was not performed it was because phone communication was down for purposes of the exercise. Per discussion with the team leader, in the event that team members do not receive a call, they are supposed to report to the field station.

For purposes of the exercise none of the team members reported to that field station. However, to their credit, DAT team leaders did more than was required of them for the exercise, such as:

- divided contacted team members into groups,
- deployed DAT teams into the field,
- reported conditions into the EOC, or
- gave team members a hypothetical damage project and prepared a project worksheet as practice.

Overall most of the feed back that we received from team leaders was positive; however, opportunities for improvement were also identified. One of the team leaders thought that it might be helpful to provide more information about safety issues, evacuated areas, and radio communication to the DAT leaders. Another DAT team leader learned from the exercise that it might be beneficial for him to stay at the field station and remain in contact with the EOC and deploy teams to assess damage, as opposed to him going out and preparing Damage Assessment Reports himself. Yet another team leader learned that it would be beneficial to make some contact with team members prior to the call down because he had trouble reaching many of the team members. Debriefings should be held where experiences can be shared collectively.

While several of the DAT team leaders reported that their participation in the exercise proved valuable, the exercise did little, if anything, to prepare regular DAT team members for an actual hurricane. Further, it is unlikely that expanding DAT team participation in hurricane exercises would prove beneficial. There is no real damage to assess, as such; the only value that would result from having DAT team members physically report to their field stations during the exercise would be to gain familiarity with their assigned areas. One of the DAT team leaders suggested that this would be superficial at best. As an alternative, some other form of training exercise (not necessarily concurrent with the annual hurricane exercise) should be provided to all DAT team members that will give them some practice performing damage assessments. This will also serve to re-familiarize them with the forms that they will be required to complete.

Secondary Assessment Teams (SAT's)

The Secondary Assessment Teams (SAT) are new.⁵ They take the place of the Community Assessment Teams. SAT teams are staffed with Environmental Monitoring and Assessment Department professionals not involved in the immediate emergency response. The purpose of SAT teams is to assess secondary systems and impacts to communities within the District's boundaries, to gather intelligence necessary for the EOC to properly allocate resources, and to mitigate against future damage.

The SAT teams participated fully in the exercise and reported to their respective field stations. We interviewed several SAT team leaders who felt unprepared for the exercise. They were unfamiliar with the areas that they were assigned to and unfamiliar with some of the tools that they would be using during an actual event. Further, there seems to be somewhat of a communications gap between the SAT teams and field station personnel. This is primarily due to the fact that these teams are new and have never received any training regarding their SAT team duties. Upon completion of the exercise the SAT team leaders provided feed back to the SAT coordinators. Following is the feedback that was received:

- SAT team leaders had difficulty communicating to the SAT coordinator in the EOC.
- Many of the Field Stations were unaware of the SAT and their mission during a storm event. Since the SAT team SOP was only recently developed this is to be expected and should improve with better communication.
- Many of the teams had to travel long distances to reach their survey areas. In an actual hurricane, storm damage would make it even more difficult to travel to survey areas.
- The main form of communication was by cellular phone. In an actual storm event there is a strong possibility that the cellular phones will be out and the only form of communication will be two-way radio. Many of the teams were not familiar with the District radio system.
- Team leaders were not familiar with their survey areas.

⁵ See the Suggested Operating Procedures dated April 2000.

- Team leaders were concerned that in a major storm event some areas would be unsafe to travel through due to storm damage, flooding, downed power lines, or unruly crowds.
- Team leaders indicated the need for bilingual team members, particularly in Miami-Dade County.

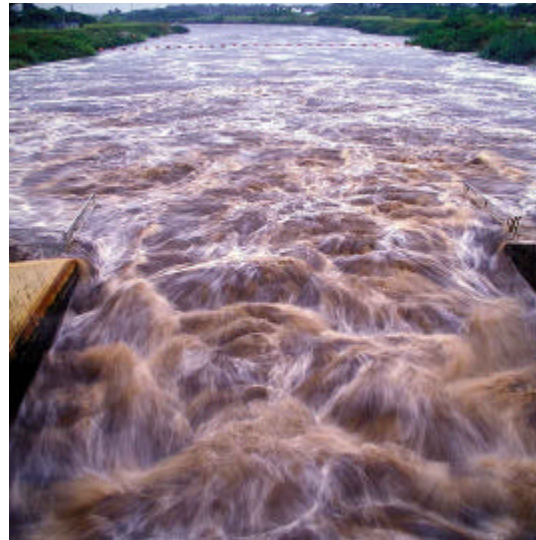
Additionally, the SAT coordinators have come up with recommendations to improve the effectiveness of the SAT Program:

- Team leaders should communicate with Field Station Supervisors and go over the mission of the SAT teams and the activation policy of the Field Station. An individual from the field station should be appointed to be a point of contact between the SAT Teams and the Field Station Supervisor. This individual should have a good working knowledge of the local area to assist the SAT teams.
- All SAT members should become familiar with two-way radio use.
- The SAT teams should work out a relay system to get messages to the SAT Coordinator. There is an SAT team liaison that is not assigned to the EOC. A system can hopefully be worked out to get reports to the liaison and have that individual deliver the messages to the EOC.
- Provide training to SAT team members to include First Aid/CPR and a course on electrical safety.
- SAT team leaders need to be given the authority to determine on their own whether an area is safe to travel through even if it goes against a request by the EOC. The person on the ground will have a better idea on what the local conditions are.
- The SAT teams should identify team members that are bilingual and keep this in mind when deploying the teams.

Rapid Response Streamgaging Teams

The primary objective of the Rapid Response Streamgaging Team (RRST) is to capture rare peak flows that occur immediately following a big storm event such as a hurricane. Typically, big storm events are prevalent in South Florida. Consequently, most of the District canals reach peak flows almost simultaneously. In order to measure these rare high flows, it is necessary that

the District concurrently deploy as many streamgaging crews as possible. Hence the need to engage all stream-gaugers and engineers in the Hydrology and Hydraulics (H&H) Department, as well as other engineering associates in H&H with experience in streamgaging. Employees from other divisions may be included as streamgaging training becomes available. The customer of this data is the Control Room who uses it to make better operational decisions. The Control Room determines where and when the measurements need to be taken.



The District has always performed streamgaging immediately after big storm events. However, this activity is now a part of the emergency operations. According to the team coordinators, no teams were physically deployed into the field. They did, however, report to their assigned field station.

The RREST teams identified several opportunities for improvement. They were not able to secure the additional vehicles or cell phones needed. We have been informed that the vehicle issue has been resolved and that the teams will attempt to secure cell phones at an earlier point (condition 3) of an emergency event. We also learned that some of the team members did not have directions to the field station that they were assigned to report to. Aside from showing up at the field station there is little else that will help the team members prepare for a real event.

Mutual Aid Response Unit

The Mutual Aid Response Unit (MARU) is a 48-foot trailer that has been transformed by the District into an field command post on wheels. The District is the first of the state's five water management district's to have such a unit. The self-contained unit is able to respond to disasters in remote areas and is capable of providing food, water, shelter, and sanitation for five personnel for up to five days following a disaster.

The trailer was purchased and outfitted by District craftspeople using a \$50,000 grant from the State of Florida Division of Emergency Management. It took nine months to transform the former moving van into the mobile field office. The vehicle contains computers, air conditioning, a 20KW quiet generator, short-wave radio and satellite-connecting phones and faxes.

The MARU trailer was mobilized at the Ft. Lauderdale Field Station prior to the exercise. Normally, the trailer would be dispatched out of the area when the District is in Condition 3 (48 hours prior to the onslaught of tropical storm winds). The trailer would then be moved to where it was needed after the storm had passed. One person was assigned to set up the trailer; however, it remained unmanned during the exercise. According to the individual who set it up, all tests were run successfully except for the ESAT satellite. This individuals lengthy comments will be provided to the Director of Emergency Management under separate cover.

Recommendations:

- 22. Determine an appropriate level of participation for each of the various field operation teams.**

Management Response: Emergency Management agrees with this recommendation. While the exercise cannot exceed the staff available to organize and manage the exercise play, all teams should perform periodic training to keep members current. Accordingly, team exercises will be developed with the assistance of Emergency Management. The annual exercise will focus on different objectives each year and may or may not provide a level of participation for all team members.

Responsible Division: Emergency Management

Estimated Completion Date: On-going

- 23. Where participation in the exercise provides a limited benefit, Emergency Management, with assistance from the Team Coordinators, should design and conduct alternative training tailored to the specialized teams.**

Management Response: Emergency Management concurs with this recommendation. (Please refers to the response to Recommendation #22.). Specialized training sessions have been scheduled with the Damage Assessment Teams, Secondary Assessment Teams, and Streamgauging teams. A training curriculum is also being developed for these teams. (Please refer to response to recommendation #8).

Responsible Division: Emergency Management

Estimated Completion Date: August 20, 2000 and then will be on-going.

24. **Consider the recommendations for improvement made by the SAT team leaders and the MARU personnel. Codify such recommendations into the appropriate Suggested Operating Procedures.**

Management Response: The SAT teams and MARU personnel have been organized under the specialty teams unit of the Operations Support and Coordination Section of the EOC. The teams are organizing and establishing SOPs regarding personnel selection, skills, training and equipment.

Responsible Division: Water Resource Operations Group and Information Technology Division

Estimated Completion Date: October 1, 2000

INTERACTION WITH OUTSIDE AGENCIES

The Hurricane Freddy exercise was designed to test coordination with secondary drainage districts (Section 298 Districts), state and local governments and the US Army Corps of Engineers (USCOE) before, during and after the simulated storm event. In total, there are approximately four hundred Section 298 Districts, local governments, and other government entities within District boundaries. They vary in size and sophistication. Some have complex drainage systems including pump stations and structures while others are fairly simple. During prior storm events, the District has geographically divided teleconference calls to ensure that communications were available for all affected Section 298 Districts and local governments.

Prior to and during the hurricane, participants took part in teleconference calls with the District, in which weather conditions and other operational aspects were discussed. For expediency, roll call was not taken after the first teleconference call. Participants in the first call included seven Section 298 Districts and local governments and except for a few, all District field stations and service centers. After the hurricane, participants simulated various problems to test the District's Emergency Operations Center. Almost all outside participant communication was via telephone. Although the exercise intended to test low band radio communications at participating Section 298 Districts, the radios had not arrived and this test will be rescheduled for a later date.

We surveyed five of seven Section 298 Districts and local governments that took part in the exercise to get an outside perspective of what went right and what could be improved. Based on their feed back, the Section 298 Districts and local governments agreed that conference calls prior to the storm event were excellent. Information provided during these calls was useful and timely. Some of the Section 298 Districts and local governments took this opportunity to test the readiness of their operations for a hurricane event. The survey participants also commented on other areas of the exercise that could be improved. We also received feedback from the state's EOC representative.

In addition to the lessons learned from this exercise, the recent experiences from Hurricanes Mitch and Irene have helped to refine the coordination process with these outside agencies and local governments. The District, and some local governments and Section 298 Districts have prepared and amended Suggested Operating Procedures manuals that provide a blueprint for how they will operate during an emergency. Although the District's first priority is regional emergencies and the secondary drainage districts are

concerned with local problems, it is an interconnected system that relies on cooperation from, and coordination with, all of the systems' operators for it to work effectively.

Secondary drainage districts must operate their system of canals and pump stations in accordance with District permits. Any deviation requires District approval. Depending on the amount of rain from the storm event, it is critical for the secondary drainage districts to stay in close contact with the District. Operating their drainage system to the maximum capacity, and at times depending on the nature of the event, this has meant a request to discharge more water than allowable under their permit.

To test secondary communications, the Section 298 Districts and local governments were requested to communicate with the District EOC rather than calling the Control Room directly for this exercise. In previous storm events, secondary drainage districts communicated directly with control room staff. One Control Room staff member was assigned responsibility for the Section 298 Districts and local governments, which could be overwhelming when considering the aggregate number of these entities within District boundaries. The results of communicating with the EOC indicate that they did not have the same comfort level when communicating directly with the Control Room decision-makers. In their opinion, they did not receive timely feedback that would have put them at ease. The Section 298 Districts and local governments are very comfortable with the District's Control Room personnel. They singled out the Department Director, the Operations Manager, the Lead Engineer and Senior Supervising Professional as highly competent and knowledgeable of secondary drainage systems and the overall system. Even for the pre-storm conference calls as long as they were talking with Control Room personnel they felt comfortable. When talking to an EOC operator, they didn't get the same comfort level. They were unsure of the EOC message taker's experience and the message's priority.

The Section 298 Districts' apprehensions appear warranted. One Section 298 District left a message at approximately 9:00AM but the name of entity was incorrectly transcribed. As a result, the District could not react to the Section 298 District's message. On another occasion the EOC message taker was unsure whether to record the Section 298 District's message in the system for prioritization. Other Section 298 Districts participating in the exercise found the District's response to be adequate and timely.

On an overall basis, we noted from this exercise and previous actual storm events that staff from the Control Room is heavily relied upon for decision making during storm events. We also observed that staff was asked to

address nonessential type problems. The few Control Room personnel may be taxed beyond their limits in a major storm event requiring an extensive recovery period.

The pre-storm teleconferences with the USCOE and the District identified operating differences that should be resolved so that everyone is “on the same page” when a major storm event occurs. For example, the USCOE takes over operation of lock structure S-310 from the District based on the USCOE’s SOP. However, the timing of when the USCOE takes over and when District contract personnel vacate the structure is different, which may cause the structure to be unoccupied for a considerable period of time. It is essential that this structure be operational for boats seeking safe harbor.⁶ Other issues were discussed and are in the process of being resolved.

We also surveyed the District’s Public Information Officer (PIO) and Liaison Officer. The PIO is the spokesperson for the District with responsibility for coordinating media and other agency activities. The Liaison Officer oversees activities in County/State EOCs. They thought the exercise was excellent and it gave them the opportunity to practice their skills under simulated hurricane conditions.

The exercise also simulated a major event at the Herbert Hoover Dike. Early after the hurricane passed, the District received a report of a problem with the dike. Since this event could have catastrophic results, a primary objective of the exercise was to evaluate coordination between the District and the USCOE in assessing the situation and developing an action plan.

According to the USCOE, and Control Room Logs, the Herbert Hoover Dike Condition 4 piping event was radioed in at approximately 9:00AM. However, the chronological messages reviewed indicate that there is nothing in the EM2000 system documenting that a radio transmission occurred at that time reporting the problem. Approximately 5 minutes later a message from the Palm Beach County EOC indicated that there was a boil, which is a serious problem, at the base of the dike near the southern edge of Lake Okeechobee near Pahokee, Belle Glade, and South Bay. An employee from the USCOE stated that they would be communicating regularly with the District if a real high water situation existed at Lake Okeechobee.

From the time the problem was reported through the County’s EOC, the District did not respond directly to the USCOE until one hour and forty-five minutes later according to the USCOE. In addition, it took until 11:36AM, for

⁶ Also see the Hurricane Irene After-Action Report, dated December 9, 1999.

the District's EOC to announce the situation and categorize it as priority one. At a minimum the prioritization of the message should have been faster than two hours and thirty minutes, which is the time from when the problem was called in, to the time the EOC announced that it was a priority one. Based on messages that originated internally concerning the Dike, the District was aware of the urgency of the situation. However, there was confusion as to the actual nature of the problem that was never clarified. Originally it was labeled as a boil and then a breach. In either event, one would reasonably expect that the situation should have been a high priority item almost immediately after it was reported and there should have been follow-up calls to clarify the information. It doesn't appear that the internal workings of the EOC expeditiously determined a course of action.

Recommendations

- 25. Call-intake personnel in the EOC need additional training to ensure that calls from secondary drainage districts are transcribed correctly and are expeditiously routed to the Control Room.**

Management Response: Emergency Management concurs with this recommendation. (Please refer to response to recommendation #14, and #15, page 20). Designated message takers will be assigned to the Control Room and will receive additional training from Control Room staff.

Responsible Division: Emergency Management

Estimated Completion Date: September 1, 2000.

- 26. Follow-up with the USCOE to resolve issues identified during the exercise. Ensure that during a storm event the District is able to communicate with the USCOE.**

Management Response: Management concurs with this recommendation. The USCOE is presently reviewing the federal protocols for operational transition to local sponsors. No schedule has been identified by the USCOE for a resolution of this issue. The SFWMD presently publishes on the District' external web site the Onslaught and Offset times for various wind force categories for the major geographic areas within the District boundaries. This medium will be the most effective means to insure that the most current information is available to the USCOE to facilitate their decision making process. Furthermore, direct telephone communication between USCOE

Jacksonville District headquarters, SFWMD headquarters, USCOE South Florida Operations Office and the SFWMD Okeechobee and Clewiston Field Stations will be held upon reaching the Condition 3 trigger to insure adequate coordination time is available for the transition of operations.

Responsible Divisions: Emergency Management and the Operations Division

Estimated Completion Date: August 31, 2000

27. Reschedule testing of low band radio communications with participating Section 298 Districts.

Management Response: Emergency Management concurs with this recommendation. 298 Districts have ordered and are awaiting the arrival and setup of equipment. Training will occur immediately thereafter.

Responsible Divisions: Water Resources Operations Business Group with assistance from Information Technology Division

Estimated Completion Date: October 1, 2000

28. Ease the workload of Control Room staff by minimizing nonessential duties such as pre-storm conference calls to Regional Service Centers or other groups.

Management Response: Management concurs with this recommendation. Although it is necessary that the Water Operations Division be represented on the 298 conference calls, the coordination of those calls should be assigned to either Service Center or regulatory staff.

During EOC activation, the Operations Control Center staff will retain responsibility for:

- Coordinating Field Station and USCOE conference calls.
- Assisting the Emergency Manager in Executive Office briefings.
- Citizen Information Hotline staff operational briefings.

During EOC activation, other recommended EOC organizational entities should assume responsibility for:

- 298 District/Local Government conference calls (Logistics Section and Regulation Division staff).
- EOC briefings & presentations (Planning Section).

Operations Division staff will attend all Conference Calls and EOC briefings to answer questions. Division staff will provide operational information to the Planning Section for preparation of the EOC Briefing Presentations. OCC meteorologists will continue to brief the EOC as in past events.

Responsible Divisions: Emergency Management, Operations Control Division, and Chief of Staff

Estimated Completion Date: August 20, 2000

29. Develop a contingency plan to rotate key Control Room personnel.

Management Response: Rotation of OCC personnel is a key component of the Operations Control Division's existing Suggested Operating Procedures (SOP). In general, the staff is divided into two teams: a "Response" team and a "Recovery" team. The communication and coordination issues brought to light in the Hurricane Irene and Hurricane Freddy Exercise after action reports indicate that better attention needs to be paid to operational coordination and problem resolution. To facilitate this, it is necessary to modify the organization of the OCC during EOC activation. However, the proposed modification will not require changes to the activation teams identified in the Division's SOP.

Accordingly, we will formalize the position of "OCC Mission Officer" to triage and coordinate messaging, agency contacts and problem resolution within the OCC. Professional staffers excluding programming staff, meteorologists or key water managers would staff the position on an 8-hour rotation under Level 1 activation. Prior to and immediately after the storm, the Recovery Team's Water Manager, OCD Manager, OCC Supervisor, and Lead Environmental Scientists would staff this position. During the event, the OCC Supervisor and the OCD Manager would staff this position on 12-hour rotations.

Responsible Division: Operations Division

Estimated Completion Date: August 15, 2000

30. Develop procedures that recognize critical situations and streamlines action.

Management Response: Emergency Management concurs with this recommendation. This issue will be included in the EM 2000 training and Section training. The EM 2000 system already identifies an urgent message. This issue is a training matter.

Responsible Division: Emergency Management

Estimated Completion Date: On-going. To be included in all training sessions.