INTRODUCTION

This document provides a list of recommended precautionary measures for persons that are responsible for safeguarding domestic wastewater facilities.

Many wastewater utilities may have developed their own emergency procedures. However, it is hoped that utilities may benefit from this information. In addition, this brochure contains information about assistance the Florida Department of Environmental Protection (DEP) can provide during and after a hurricane.

The following websites provide additional information about hurricane preparedness:

Federal Emergency Management Agency

http://www.fema.gov/

National Hurricane Center

http://www.nhc.noaa.gov/

Florida Division of Emergency Management

http://www.floridadisaster.org/index.asp

StormTracker

The Department has developed a web-site called StormTracker which allows all Florida water and wastewater utilities to report their operational status following significant storm events. The operational status along with the reported needs of a utility are used to not only assess storm damage but to efficiently mobilize resources and distribute aid through FlaWARN. Wastewater incidents or spills which occur as a result of a storm event are still reported to the State Warning Point (1-800-320-0519).

An owner or operator of a utility must contact their local DEP District office in order to obtain the web address for the StormTracker system as well as a username and password for logging into the system. Please note that only a utility may obtain a username and password using their wastewater permit number.

FDEP District contact information is available at:
http://www.dep.state.fl.us/water/wastewater/contacts.htm

If a utility is unable to connect to the Internet after a storm event, their facility's status can still be reported by calling toll-free 1-866-742-0481. Please note that if multiple facilities are being reported, the permit number for each facility needs to be provided. A utility that is in an area affected by a storm event should wait until the storm has passed before logging-into the StormTracker website or calling the toll-free number to report their operational status.

For more information on FlaWARN or StormTracker visit:
http://www.flawarn.org/

For immediate assistance during an emergency, a utility should contact one of the following:

Their local County Emergency Operations Center. Contact information available at: http://www.floridadisaster.org/County_EM/county_list.htm,

The State Warning Point at 1-800-320-0519, or

The Florida Hotline at 1-866-742-0481 and leave a message on the automated answering system.

For more information call DEP at:

Southeast District	West Palm Beach	561/681-6600
South District	Ft. Myers	239/344-5600
Southwest District	Tampa	813/470-5700
Central District	Orlando	407/897-4100
Northeast District	Jacksonville	904/256-1700
Northwest District	Pensacola	850/595-8300

Hurricane Preparedness for Domestic Wastewater Facilities

HURRICANE PREPAREDNESS FOR DOMESTIC WASTEWATER TREATMENT PLANTS

Before the Hurricane:

1. Ensure that updated copies of as built drawings of the facility and collection system are available. These may be invaluable in locating valves, electrical boxes, manholes, force mains, etc.

2. Maintain in good repair all mechanical equipment.

3. Familiarize personnel with hurricane procedures. Be sure that all staff are fully aware of and understand their responsibilities and emergency assignments as well as reporting protocols.

4. Areas subject to flooding should be studied. Areas prone to flooding include pump wells, pipe galleries, outside open tanks, manholes and other similar areas. Any special equipment required when these areas are flooded should be purchased.

5. Prepare a list of key people and how they can be contacted. Maintain accurate employee lists, emergency contact lists, and detailed action protocols. Communication networks can be a real problem after a hurricane. Some type of communication other than the telephone is essential. Portable radios (CBs) or cellular phones are suggested. Make sure extra batteries are available. Develop protocols to follow if telephones fail and cell phones will not work.

6. Power outages may be common after a hurricane. Check all auxiliary and standby equipment. Correct any malfunctions. Battery charges and adequate fuel supplies (10 - 14 day period) to operate auxiliary equipment should be provided. Fill all fuel tanks.

7. Know the electrical requirements of the system that must be powered during an emergency so that you can specify portable generator needs. A general rule when sizing generators to meet minimum demand is multiply the sum of horsepower ratings of the equipment you intend to operate by 1.34. This will yield your minimum kW's required. Experience suggests securing a larger kilowatt generator than required is economical in saving fuel and in stretching manpower and the need for fuel deliveries. Maintain a list of both generator size needed and of electricians capable of safely wiring generators.

8. Check and stock critical spare parts.

9. Check and stock all essential chemical inventories (10 - 14 day period).

10. Check all vehicles for proper operation and fuel.

11. Designate personnel that will be on duty (unless unsafe) during the hurricane and allow time to make arrangements for the protection of their home and family. Make arrangements for the comfort and well-being of personnel to be on duty (coffee, cots, non-perishable food, potable water, emergency supplies, first aid kits, flashlights, etc.).

12. Board up windows and tie down or secure any supplies or materials to prevent them from becoming airborne during the hurricane.

13. Drain wastewater holding ponds as completely as practical after receiving a hurricane warning.

14. Cease shipment of biosolids to a land application site that also is expected to be impacted by the storm. Securely store any biosolids at your facility until the storm is over.

15. Biosolids land application sites should ensure that any biosolids sent to site prior to the storm have either been spread or are stored in a secure manner so the biosolids will not washout and leave the land application site. Any storage should be at a high point of the site and away from water bodies.

16. Secure computers.

17. Large chlorine gas facilities may need to be turned off and secured for safety considerations. An alternative method to feed chlorine should be available.

18. Getting into and out of a facility after the storm has passed may be challenging. Make sure there is an adequate supply of chain saws (including gas and oil), axes, etc., for clearing debris.

INFORMATION ABOUT DEP's ASSISTANCE DURING A HURRICANE

Florida's Water-Wastewater Agency Response Network (FlaWARN)

In recent years, Florida has experienced numerous tropical storms and hurricanes. Being prepared for emergencies is not only essential to every resident of Florida, but also to wastewater treatment utilities. For this reason, DEP assisted with creating the Florida's Water-Wastewater Agency Response Network (FlaWARN).

FlaWARN is a formalized system of "utilities helping utilities" encouraging mutual aid during emergency situations. It can be used during man-made or natural disasters. FlaWARN is made up of Water and Wastewater Utilities across Florida, assisted by regulatory, technical, and law enforcement agencies. The goal of FlaWARN is to provide immediate relief for member utilities during emergencies. The system works by matching personnel with the necessary tools and equipment to both assess and assist the impacted water and wastewater system as quickly as possible until a permanent solution can be implemented.

FlaWARN has developed an Emergency Response & Preparedness manual to assist water and wastewater utilities in developing appropriate procedures to deal with such events.

The manual is available at:
http://www.flawarn.org/resources/uploads/public/Documents/BMPs.pdf

AFTER THE HURRICANE:

1. Survey and assess the damage. List repairs needed and estimate work time to correct the damage. Proceed on repairs according to a priority list.

2. Determine if power loss is local or area wide. If loss is local, check all electrical circuits for shorts or system overload. If loss is area-wide, contact power company and coordinate repair and start-up operations with them.

3. Shut off electrical current to damaged equipment and repair.

4. Flooding of wastewater or biosolids could expose personnel to hazards of waterborne diseases, areas or pockets of toxic and or explosive gases, oxygen deficient areas, or electrical shock. Electrical current to submerged lines or equipment should be shut off. Portable pumps should be provided to aid in the dewatering process. Gas or oxygen deficiency in flooded areas should be checked. Do not enter closed areas alone and ventilate area. Do not use unprotected lights or electrical equipment during clean up operations. Special consideration should be given to preventing contamination of the potable water supply.

5. Coordinate with the local water utility and establish priorities for repairing lines and facilities after a hurricane. The water supply system may suffer major damage resulting in very little flow reaching the lift stations and wastewater treatment facility. Once water service is restored, lift stations and the wastewater treatment facility should be operational. If not, spills or discharge of raw or partially treated wastewater will result.

6. Keep utility customers informed of facilities damage and advise them of associated potential public health or environmental concerns.

7. Provide for lime application of spills.

8. Provide for disinfection of any discharges of raw, partially treated, and fully treated wastewater.

9. Any major damage to the wastewater system should be immediately reported to the local DEP office. Reports concerning any minor damage should be reported as soon as possible after the hurricane. Let the local DEP office know if assistance is needed.