

Annex 25 (Tab D - Dam Failure) to the Darlington County Emergency Operations Plan

Primary: Emergency Services Department

Support: Darlington County Fire District, EMS, Sheriff's Office, Lake Robinson Rescue Squad, Hartsville Rescue Squad, Darlington Firemen's Rescue Squad, Society Hill Rescue Squad, Lamar Rescue Squad, Hartsville Police Department, Hartsville Fire Department, Darlington Police Department, Darlington Fire Department, Palmetto Rural Fire Department, SC Highway Patrol, SCDOT, Roads and Bridges, DSS, School District, American Red Cross, Damage Assessment Team, Hazmat Team, Darlington County Water and Sewer Authority

I. Introduction:

- A. A dam failure may occur in Darlington County at any time as a result of neglect, storm damage, earthquakes, flash flooding upstream, catastrophic event (either man-made or natural event) or any combination of the above. This could cause personal injury, death or significant high water damage to property or additional features located downstream.
- B. Dam failures are most likely to occur as a result of significant rainfalls in the county or in adjacent counties.
- C. Dams are regulated by the Federal Energy Regulatory Commission (FERC) and South Carolina Department of Health and Environmental Control (SCDHEC). SCDHEC regulated dams are rated as High (Class I); Significant (Class II); or Low (Class III) hazard. High hazard dams are inspected annually by DHEC, while Significant hazard dams are inspected every three years. Low hazard dams are not required to be inspected, however the area below the dam is checked every three years for new development and possible reclassification. Owners of high and significant hazard dams are required by state law to maintain emergency notification plans.
 1. Class I or High hazard dams are located where failure will likely cause loss of life or serious damage to homes, industrial or commercial facilities, public utilities, main highways and railroads.
 2. Class II or Significant hazard dams are located where failure will not likely cause loss of life but may damage homes, industrial or commercial facilities, secondary highways and railroads or cause service interruptions of public utilities.
 3. Class III or Low hazard dams are located where failure would cause minimal property damage. Loss of life is not expected.

- D. A total of thirteen (13) dams in Darlington County are regulated by SCDHEC. Two (2) of the thirteen (13) dams are rated by SC DHEC as High Hazard (Class I) dams. These dams are the H.B. Robinson Lake dam (or the Robinson dam) and the Prestwood Lake dam. Both lakes are fed by Black Creek and empty into Black Creek. Failure of these dams could result in loss of life and cause serious damage along the Black Creek channel.
- E. Eleven (11) dams are rated as Significant hazard (Class II) dams. Failure of these dams will not likely cause loss of life but may damage homes, industrial or commercial facilities, secondary highways and railroads or cause service interruptions of public utilities. Most of these dams do not have names assigned. See Appendix 1 for a listing of these dams.
- F. One (1) dam is regulated by the Federal Energy Regulatory Commission (FERC) that has the potential to affect Darlington County. This dam is the Yadkin Hydro-Station located on the Yadkin River in Yadkin, North Carolina. A failure of this dam would result in flooding along the entire Great Pee Dee River Basin. The area of greatest impact would be the area around the Town of Society Hill and the river channel running along the borders of Darlington and Marlboro Counties.

II. Mission: To provide an organized and cohesive response to a dam failure incident in Darlington County. To provide the general populace with accurate, reliable and timely emergency public information about an actual or impending dam failure that will avoid the loss of life and minimize property damage.

III. Concept of Operations:

- A. The failure of the H.B. Robinson dam would have the most serious impact on Darlington County affecting the greatest number of citizens. Progress Energy monitors both the inflow at the head waters of Lake Robinson (located in Chesterfield County) and the outflow of water going into the Black Creek spillway. (Black Creek is geographically located in the center of Chesterfield County and feeds into Lake Robinson southeast of the Town of McBee, discharging into Black Creek again in Darlington County. Black Creek then flows through the center of the county, exiting Darlington County near Quinby in Florence County.) Progress Energy notifies the County when it becomes necessary to release water from Lake Robinson. SONOCO Products monitors the water levels on Prestwood Lake and the amount of water discharged into Black Creek. Both companies work in conjunction with the county to coordinate the release of water from both lakes in order to minimize downstream flooding.
- B. The affected area would be in the immediate vicinity surrounding Black Creek, (between the Robinson spillway and Prestwood Lake). Flooding from a dam failure would be most significant in this area.
- C. A failure of the Robinson dam could potentially cause a failure of the Prestwood

Lake dam.

- D. Failure of the Robinson and Prestwood Lake dams will immediately have an adverse effect on two industries and has the potential to adversely effect at least two more industries in the county.
- E. Failure of the Robinson and Prestwood dams would have an impact on home and land owners along Black Creek. The release of water from Prestwood Lake would disperse along Black Creek and its tributaries.
- F. Flooding from failure of the Robinson dam or Prestwood Lake dam would impact the City of Darlington and areas between the City of Darlington and the Florence County line in approximately the same manner as heavy torrential rains. Flooding would tend to be localized to the immediate areas surrounding the creek channel.
- G. Evacuation of personnel will depend on the dam that failed and should result in localized evacuations only.
- H. Shelter operations are not anticipated, however should the need arise, shelters will be opened and operated as needed.
- I. Failure of the FERC dam in North Carolina could pose a risk to Darlington County residents and industries located along the Great Pee Dee River. However, due to the distances involved and low population along the Great Pee Dee River, serious damage is not anticipated.
- J. Notification procedures are in place both with Progress Energy and SONOCO Products to warn the county if a failure of the Robinson or Prestwood dam is threatened or has occurred.
- K. The State of South Carolina has established two (2) threat levels for a dam failure;
 - 1. Condition A – indicates that the failure of a dam is imminent or has occurred.
 - 2. Condition B – indicates that a potential failure situation is developing.
- L. The responsibility for warning notification for either a Condition A or B event is placed on the dam owner. The owner is required to notify the County Emergency Services Office, SCEMD Warning Point and the National Weather Service. The National Weather Service is expected to activate the NOAA Weather radio alert tones if notified that a dam has failed and flooding is in progress.
- M. Progress Energy's Unit 1 (the coal plant) has the primary responsibility for monitoring lake levels. Unit 1 has the responsibility to notify the Unit 2 (Nuclear) Control Room when the safety of the dam is threatened or failure of the dam is

imminent or occurring. Unit 2 has certain safety parameters, that when met, will result in a declared event by HBRSEP. Unit 2 will follow normal notification procedures to both the county and state when either a Condition A or B event is declared.

- N. SONOCO Products monitors the Prestwood Lake dam and has the responsibility to notify the county and state when either a Condition A or B event occurs.
- O. A Condition A declaration by the HBRSEP or SONOCO Products will result in the activation of the County EOC. A Condition B declaration by either industry will result in a limited activation of the EOC.

IV. Responsibilities:

A. Preparedness Phase:

1. Emergency Services Director: Insure that the County's Dam Failure plan is coordinated with Progress Energy and SONOCO Products.
2. All agencies, departments and activities that are assigned and identified with a primary or support role in this annex are responsible for developing and maintaining plans, policies and SOPs necessary to support the implementation of this annex.
3. All EOC Staff and emergency response personnel will integrate NIMS principles into all planning. All EOC staff will complete the IS-100, IS-200, ICS-300 Incident Command courses or an approved equivalent course (IS-195, IS-100LE, IS-100PW or SCFA 16-hour Incident Command course) in addition to the IS-700 NIMS Awareness course and IS-800, Introduction to the National Response Plan courses.
4. All departments and agencies involved in response and recovery activities will insure that as a minimum their personnel will complete the IS-100, IS-200, ICS-300 Incident Command courses or an approved equivalent course (IS-195, IS-100LE, IS-100PW or SCFA 16-hour Incident Command course) in addition to the IS-700 NIMS Awareness course and IS-800, Introduction to the National Response Plan courses.
5. All departments and agencies involved in response and recovery activities that will have personnel in command of various incidents will insure that as a minimum their personnel will complete the IS-100, IS-200, ICS-300 and the ICS-400 Incident Command courses or an approved equivalent course (IS-195, IS-100LE, IS-100PW or SCFA 16-hour Incident Command course) in addition to the IS-700 NIMS Awareness course and IS-800, Introduction to the National Response Plan courses.

6. Annually review the Department of Homeland Security Universal Task List and integrate tasks as appropriate.

B. Response Phase:

NOTE: All incidents in Darlington County will be managed using the National Incident Management System (NIMS) Incident Command System/Unified Command System.

1. Emergency Services Director:
 - A. When notified that a Condition A situation has occurred or is imminent, order a full activation of the EOC.
 - B. When notified that a Condition B situation is developing, consider a limited activation of the EOC.
 - C. Brief the County Administrator on the event that is developing or has occurred and consider the need to issue a Statement of Emergency.
2. ESF-1 – Transportation (School District, Roads and Bridges and SCDOT):
 - A. Coordinate with SCDOT and Roads and Bridges to determine the county and state roads affected by the dam failure and located in the inundation zones.
 - B. Coordinate with ESF-4, 6, 8, 13, and 16 to determine the transportation assistance that may be required to evacuate citizens in the inundation zones.
 - C. Coordinate with ESF-15 for all press releases involving roads and streets that may be closed.
 - D. Assist with the transportation of citizens in the inundation zones to shelters as required.
 - E. Coordinate with ESF-13, 16 and SCDOT to obtain barricades to control traffic in and around the inundation zones.
 - F. Coordinate with Roads and Bridges and SCDOT to insure that structural evaluations are performed on all bridges over waterways that cross Black Creek or waterways fed by Black Creek.
 - G. In conjunction with the SC Central Railroad, insure that all railroad crossing and bridges are evaluated for structural integrity prior to use.
3. ESF-2 – Communications/911 Center:

- A. As soon as notification is received that either a Condition A or B event is threatening or is occurring in the County, immediately notify the Emergency Services Director.
 - B. Be prepared to assist agencies, activities and departments in the response with communications support.
4. ESF-3 – Public Works (Darlington County Water and Sewer Authority):
- A. Determine the impact of the dam failure on water and sewer systems located in the inundation zones.
 - B. Determine if damaged water and sewer systems can be rerouted around the inundation zone.
5. ESF-4 – Fire: (Darlington County Fire District):
- A. In conjunction with ESF-8 and ESF-13, coordinate all ESF-9 – Urban Search and Rescue and ESF-10 – Hazmat operations conducted in and around the inundation zones.
 - B. Determine the impact of the dam failure on fire hydrants and the ability to supply water for firefighting operations in and around the inundation zones.
 - C. Determine if response routes for each fire station located in and near the dam are affected by the flood waters.
 - D. Coordinate with the Cities of Hartsville and Darlington and Palmetto Rural Fire District to insure that their ability to respond to calls are not adversely affected by the dam failure.
6. ESF-6 – Mass Care (DSS, Red Cross, Salvation Army):
- A. If shelter operations are determined to be necessary after a dam failure, coordinate with the School District to open shelters as soon as possible (less than 4 hours) upon notification of a dam failure.
 - B. Consider shelter operations in school facilities that are not used for daily school operations or use other county or municipal facilities that available for use as a shelter.
 - C. Coordinate with the Red Cross to support shelter operations when notified.
 - D. Be prepared to assist with feeding operations at different locations in the county or consider establishing several sites across the county to conduct feeding operations.

7. ESF-8 – Health and Medical Services (EMS and Rescue Squads):
 - A. Determine if any EMS bases or medical facilities are no longer accessible to patients or ambulances due to flooding caused by the dam failure.
 - B. In conjunction with the Roads and Bridges and SCDOT determine which roads in the inundation zones are no longer accessible for EMS or Rescue Squad response or bridges have been determined to be unsafe for vehicle operations.
 - C. Provide medical support to ESF-9 and 10 as necessary to support ongoing search and rescue operations and hazardous materials operations in the county.
 - D. Coordinate with the volunteer Rescue Squads to determine their ability to continue providing medical care in their assigned coverage zones.
 - E. Coordinate with local nursing homes and assisted living facilities to determine if their services are adversely affected by the dam failure.
8. ESF-13/16 – Law Enforcement/Emergency Traffic Management:
 - A. In conjunction with the SC Highway Patrol and municipal police departments reroute traffic as necessary around inundation zones.
 - B. In conjunction with the SCDOT, barricade roads and bridges as necessary to stop the use of unsafe roads and bridges.
 - C. In conjunction with SC Highway Patrol and municipal police departments provide security for areas that may require evacuation.
 - D. In conjunction with ESF-4, 8, 9 and 10 assist with security and manpower during search and rescue and hazardous materials operations in and around the inundation zones.
9. ESF-15 – Public Information:
 - A. In conjunction with Progress Energy and SONOCO Products coordinate the emergency public information program for the County.
 - B. Issue press releases as necessary to announce the opening and locations of emergency shelters.
 - C. If deemed necessary, open and operate the JIC for Darlington County.

C. Recovery Phase:

1. Maintain liaison with the Emergency Operations Center.
2. All agencies will continue to provide disaster relief functions within affected communities until the county can return to normal conditions.
3. Phase down operations as directed by the EOC.
4. Continue those operations necessary to protect people and property.
5. Insure that all agencies maintain records of all costs incurred during the event.

D. Mitigation Phase:

1. Support and plan for mitigation measures.
2. Document matters that may be needed for inclusion in agency situation reports and plans.

V. Administration and Logistics:

- A. Administration: Administrative supplies required to perform duties in the EOC will be initially provided by the Emergency Services Department. However, each department assigned to staff a desk in the EOC should bring enough administrative supplies to perform their functions. Agency requirements for maps will be provided by the Emergency Services Department.
- B. Logistics: Meals for EOC personnel will be provided while on duty in the EOC. The department or agency should provide supplies and resources required to perform the agency or department response mission. It is essential that each agency or department maintain accurate records of all expenses incurred, (payroll, overtime, supplies used or purchased, etc). These records will be required to insure that the County receives the maximum reimbursement from FEMA if Public Assistance is included in a Presidential Disaster Declaration.
- C. Provide a laptop computer for use in the ESF for WEBEOC access.

VI. Annex review and maintenance: This annex (ESF) will be reviewed annually by the primary action agency, department or individual with changes submitted to the Emergency Services Department by November 30th of each year for inclusion into the EOP. Following exercises or actual events the annex will be reviewed to determine if changes are required. If no changes are required, the primary action agency, department or individual will certify to the Emergency Services Director that the annex has been reviewed and changes are not required.

VII. Coordinating Instructions: This annex is effective for planning upon receipt and execution upon order.

Appendices:

Appendix 1. FERC and DHEC Regulated Dams effecting Darlington County

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Appendix 1 (FERC and DHEC Regulated Dams effecting Darlington County) to Tab D Dam Failure to the Darlington County Emergency Operations Plan

Table 1 – DHEC Regulated Dams in Darlington County:

The following data is extracted from a SCEMD memorandum dated, December 28, 1999, County Dam Information (DHEC Regulated Dams in SC). There are thirteen DHEC Regulated Dams in the County.

DHEC Regulated Dams in Darlington County		
DHEC DAM NUMBER	DHEC HAZARD RATING	DAM NAME
D0010	High	Lake Robinson Dam
D0011	High	Prestwood Dam
D3532	Significant	SC No Name 16108
D3517	Significant	Highland Pond Dam
D3511	Significant	Hilton Kings Pond Dam
D3520	Significant	Dogwood Lake Dam
D3512	Significant	SC No Name 16014
D3543	Significant	SC No Name 16013
D3537	Significant	SC No Name 16022
D3523	Significant	SC No Name 16015
D3556	Significant	SC No Name 16002
D4330	Significant	Privette Dam
D3526	Significant	Joe Jefford's Pond Dam

Table 2 – FERC Regulated Dams effecting Darlington County:

There is one (1) Federal Energy Regulatory Commission dam that has the potential to affect Darlington County. This is the Yadkin Hydro-Station located on the Yadkin River in Yadkin, North Carolina. Failure of this dam would result in flooding along the entire Great Pee Dee River channel. The area adjacent to the Town of Society Hill and the area along the entire river channel bordering Darlington and Marlboro Counties would be affected.