



**2024 SANTEE NORTH DAM  
TABLE-TOP EXERCISE**

**September 19, 2024**

# **SANTEE NORTH DAM TABLE-TOP EXERCISE**

## TABLE OF CONTENTS

- I. Introduction
- II. Purpose and Scope
- III. Objectives
- IV. Scenario
- V. Exercise Timeline
- VI. Day's Agenda
- VII. Exercise Participants
- VIII. Attachments

## I. **INTRODUCTION**

Santee Cooper is directed by the Federal Energy Regulatory Commission (FERC) to conduct annual exercises to test emergency preparedness and response in the event of a catastrophic dam breach. In compliance with the FERC directive, this year Santee Cooper will conduct a "Table-top" Exercise of Santee Cooper's Emergency Action Plan for Dam Failure. The exercise will be held on September 19, 2024 from 9:00 a.m. to 1:00 p.m. at Santee Cooper's Operation Center Building in Moncks Corner, SC.

State and local governments should be prepared to test the emergency operation plans that have been developed to support Santee Cooper's Emergency Action Plan. The focus of this year's exercise will be the Santee North Dam, a 4.5 miles long hydraulic filled earthen dam located on the eastern end of Lake Marion.

## II. **PURPOSE AND SCOPE**

While the probability of a catastrophic failure of the Santee North Dam is remote, emergency action plans must be developed, exercised and updated periodically in a realistic manner. A failure or threatened breach of the dam would impact residents, industry, transients and travelers in the potential inundation zones downstream of the dam. An actual break may cause severe damage or degradation to rail and highway bridges and other infrastructure in the flooded areas. Many state, county and municipal government agencies would be immediately involved in both response and recovery efforts.

The focus of this exercise is to ensure the participants are familiar with individual roles, procedures, and responsibilities outlined in the EAP and Santee Dam Site Specific Plan. The "Table-top" exercise will be executed through discussion in a meeting format led by a facilitator from SC Emergency Management Division. Effectiveness will be determined by comments from participants and the impact this feedback has on evaluating and revising policies, plans and procedures. There will be no utilization of equipment or deployment of resources. Therefore, all activities will be simulated and participants will interact through discussion. A scenario will set the scene for the simulated events. The scenario will describe what has happened and what is known up to the time of the exercise.

As the exercise progresses, the facilitator will advance to predefined times after the breach, allowing all parties to accomplish their objectives, regardless of how soon after a breach they would be affected.

### III. **OBJECTIVES**

#### A. Santee Cooper

1. Demonstrate key personnel's knowledge of the EAP.
2. Discuss alert, warning and communication systems and procedures.
3. Discuss and verify accuracy of notification procedures and call-down lists.
4. Discuss methodology for accurate and timely distribution of information to the public.
5. Discuss Santee Cooper's ability to notify key personnel to respond in a timely manner.

#### B. South Carolina and Counties

1. Demonstrate key personnel's knowledge of the EAP.
2. Discuss key personnel's knowledge of the Santee Dam Site Specific Plan.
3. Discuss alert and warning notification procedures.
4. Discuss ability to evacuate the population and secure evacuated areas, including Wildlife Management Areas downstream of the dam.
5. Discuss the preparedness and availability of shelters and sheltering the evacuees.
6. Discuss providing accurate and timely dissemination of emergency information to the public.
7. Discuss direction and coordination of resources.
8. Discuss emergency welfare services for evacuees.

#### IV. SCENARIO

At 9:30 a.m. on September 19, 2024, during a routine patrol a security guard noticed muddy water flowing into the borrow pit just downstream of the Santee North Dam. The security guard recognized that the situation could develop into a serious problem with the dam and immediately contacted the system controller on duty at the Santee Cooper Energy Control Center. At 9:35 a.m., the system controller contacted Mr. John Steed, Supervisor of Lake and Spillway Operations, and asked him to investigate the scene and verify the report.

Mr. Steed arrived at the North Dam at approximately 9:50 a.m. to find a significant amount of water and material exiting the bank of the borrow pit. It was evident at this time that a piping failure of the dam was in progress, causing a large flow of water into the borrow pit and some slumping in the downstream toe area of the dam.

By 10:00 a.m., it became apparent that the magnitude of deterioration and flow was increasing, making attempts to repair the dam ineffective. Mr. Steed contacted the system controller and notified him that the situation was rapidly deteriorating and that a large breach of the dam was probable. An "**Imminent Failure**" alert was declared at 10:05 a.m., indicating that failure is imminent or has occurred.

Within 15 minutes (approximately 10:20 a.m.), the downstream embankment of the dam deteriorated to the point that the crest began to slump and water directly from Lake Marion began to exit through the developing breach. Minutes later, the embankment eroded to approximately 1,000 feet, causing downstream impacts as illustrated in the EAP.

**V. EXERCISE TIMELINE**

Sept. 19, 2024	10:05 AM	"Imminent Failure" declared
	10:20 PM	Dam fully breached
	2:20 PM	T+4 hours [Flood water in Clarendon County]
	6:20 PM	T+8 hours [Flood waters reach Williamsburg County]
	10:20 PM	T+12 hours

Sept. 20, 2024	10:20 AM	T+24 hours [Flood waters reach Georgetown County and Charleston County]
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Sept. 24, 2024	T+5 days	[Flood waters begin to recede]
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Sept. 29, 2024	T+10 days	
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**VI. DAY'S AGENDA**

9:30 - 10:00 AM	Registration and Sign-in
10:00 - 10:05 AM	Welcome / Introduction
10:05 - 10:20 AM	Threat Briefing
10:20 - 11:40 AM	Exercise
11:40 - 12:00PM	Critique
Noon - 1:00 PM	Lunch

**VII. EXERCISE PARTICIPANTS**

A. Santee Cooper

1. General Construction Services
2. Corporate Incident Management Team (CIMT)
3. Energy Control Center (ECC)
4. Corporate Communication
5. Jefferies Generating Station
6. Law Enforcement and Security
7. Power Delivery
8. Renewable Generation
9. Legal
10. Cyber Security
11. Property Management
12. Environmental Services

B. Counties

1. Berkeley County
2. Charleston County

3. Clarendon County
4. Georgetown County
5. Williamsburg County

C. South Carolina State Agencies

1. Emergency Management Division (EMD)
2. Department of Public Safety (Highway Patrol)
3. Department of Social Services (DSS)
4. Department of Natural Resources (DNR)
5. Department of Transportation (DOT)
6. Department of Health and Environmental Control (DHEC)
7. State Law Enforcement Division (SLED)
8. Military Department of South Carolina
9. National Guard
10. Office of State Engineer
11. Division of State Information Technology (DSIT)
12. Department of Labor, Licensing, & Regulation, Division of Fire and Life Safety
13. Forestry Commission
14. Office of Regulatory Staff
15. Energy Office
16. Department of Commerce
17. Office of Public Health Preparedness
18. State Guard
19. Clemson University- Livestock-Poultry Health Programs
20. State Ports Authority

D. Volunteer Agencies

1. Red Cross
2. Salvation Army

E. Federal Agencies

1. Federal Energy Regulatory Commission (FERC)
2. National Weather Service (NWS)
3. United States Army Corps of Engineers (USACE)
4. United States Coast Guard (USCG)
5. United State Department of Justice (USDOJ)
6. United States Navy
7. United States Department of Administration

F. Private Agencies

1. South Carolina Dominion Energy
2. Duke Energy

**VIII. ATTACHMENTS**

1. Map of Santee Cooper Moncks Corner Main Complex