
FEDERAL ENERGY REGULATORY COMMISSION

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NEWS RELEASE

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COMMISSION MOVES TO PROTECT PUBLIC NEAR SOUTH CAROLINA DAM

To protect thousands of people, the Federal Energy Regulatory Commission today told South Carolina Electric & Gas Company (SCE&G) that it must lower the Lake Murray reservoir behind Saluda Dam by 15 feet for about 20 months during construction of a backup dam.

Today's action is part of a broad remediation effort at the dam to ensure that it can withstand an earthquake the size of the Charleston earthquake of 1886. That quake measured 7.3 on the Richter Scale.

The lowering of the reservoir will facilitate the construction of a massive backup dam that is designed to hold up under the impact of another Charleston-size quake, which, experts believe, is bound to occur at some point, even if it is many years in the future.

The reservoir will be lowered by 15 feet to 345 feet prior to any excavation at the site. Excavation is scheduled to begin this fall. The entire project is due to be completed in early 2006.

Chairman Pat Wood, III said, "The safety of the residents of South Carolina is our top concern. This remediation effort will result in a safe structure that will withstand a major seismic event. A major earthquake could be many years away but, at some point, the experts tell us, one can be expected."

The decision to lower the reservoir was reached after FERC staff and experts in geotechnical, structural and earthquake engineering determined that lowering the water level somewhat would reduce risks of dam failure during critical phases of the

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construction of the new dam.

Saluda dam, built in 1930 and located approximately eight miles upstream of Columbia, is a safe structure as it stands today for all non-earthquake forces. It meets the stringent requirements of the Commission's Dam Safety Program. Only under extreme loading conditions, such as the Charleston earthquake, would the dam break and cause flooding downstream.

An environmental assessment (EA) will be prepared to study the impact of the remediation project and identify any measures that may lessen those impacts. Public meetings will be held near the project prior to the issuance of a draft EA to obtain comments from the public on the issues to be addressed in the assessment. A comment period following the issuance of the draft EA will allow further comment. A final EA will then be issued.

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Saluda Dam Remediation

Frequently-Asked Questions and Answers

**Prepared by the Staff of the
Federal Energy Regulatory Commission**

- **What is the problem at Saluda Dam?**

It has been determined that a recurrence of the 1886 Charleston Earthquake (magnitude 7.3 on the Richter Scale) would cause the Saluda dam to fail. Such an earthquake is expected once every 450 years.

- **Why is the dam remediation necessary?**

Lake Murray reservoir contains 2,100,000 acre-feet of water. Failure of the Saluda Dam would cause major flooding for many miles downstream, including the city of Columbia.

- **Why now?**

The Saluda Dam was completed in 1930 and over the years has been modified to satisfy current engineering criteria. In recent years, we have developed a better understanding of the Charleston Earthquake. The dam owner, South Carolina Electric & Gas Company (SCE&G) was directed to determine how this new information would affect its dam. Analyses completed by SCE&G and reviewed by FERC now reveal that the dam would fail under a repeat of the Charleston Earthquake.

- **What is the solution?**

The remediation plan is to build a massive dam of rock with a roller-compacted concrete mid-section, immediately downstream of the existing dam. This would serve as a backup dam and retain the reservoir, if the existing dam ever failed.

- **How long will it take to construct the new dam?**

Construction is scheduled to begin in the Fall of 2002 and be completed in early 2006.

- **Does South Carolina Electric & Gas Company have to do this?**

Yes. SCE&G holds a license to operate and maintain the Saluda Project. The license was issued by the Federal Energy Regulatory Commission, which has jurisdiction over this hydropower project. FERC has ordered that this project be completed for the protection of life and property.

- **Were other options considered? What were they?**

Yes, several options were considered. One option was to permanently return the Saluda River to its original state and remove the dam, which would have robbed the Midlands of a recreational treasure and disrupted the lives of thousands of lake users and residents. This was clearly unacceptable. Another option was to return the Saluda to its original state while removing the existing dam and building a new dam, which was also unacceptable. Another option was to permanently operate at lower lake levels. Another option considered was a process called super jet grouting, in which cement-like support columns would be injected into the dam. This option was not feasible from an engineering standpoint and would have resulted in the closing of Highway 6 that runs on top of the existing dam. The current remediation plan will cause the least disruptions.

- **Will the lake level be impacted by the work?**

Yes, the lake level must be lowered. An independent board of experts reviewing the project recommended that water levels be lowered during the early phases of construction of the new dam. The remediation will require excavation, at the toe of the existing dam, to depths of 60 feet (plus or minus). During this period of excavation and backfilling in the toe of the dam, it is necessary to relieve some of the forces in the dam to maintain adequate stability of the structure. Lowering the reservoir reduces these forces. The board found that the chance for any movement of the materials in the dam is significantly decreased as the lake water level is lowered. Based on those findings, FERC has directed SCE&G to lower water levels to an elevation of 345 feet - 15 feet lower than normal. The water will remain at that level until the first phase of construction (excavation and backfilling of the toe of the existing dam) is complete. This period is expected to begin in the Fall of 2002 and last about 20 months.

- **How long has lowering the lake level been under consideration?**

The need to lower the lake level was just discovered in February 2002. SCE&G has said that it would avoid lowering the lake if at all possible. However, as the results of more studies became available, it was determined that normal water levels are not an option. The risk to downstream life and property is significantly reduced if the reservoir is lowered to Elevation 345 during construction. While lower water levels will create disruption for lake dwellers, businesses and users alike, the safety of the public cannot and must not be compromised.

- **Is it possible the lake will be lowered to less than 345 feet?**

Based on current information, the lake will not have to be lowered below 345 feet. However, if any unanticipated facts or events arise during construction to indicate otherwise, the lake will be lowered to a level that allows for the safe completion of the work. We will not compromise safety. We will keep the public apprised if such an action becomes necessary.

- **Is 345 a lot lower than normal operating levels?**

The elevation typically fluctuates between 350 and 358 feet over the course of a year. The project license allows SCE&G to operate between 345 and 360 feet.

- **Why was 345 feet selected as the appropriate level?**

Once it was determined that the water level needed to be lowered for safety reasons, SCE&G was asked to study the impacts of lowering water levels to 330, 335, 340 and 345 feet. SCE&G determined that elevation 345 is a safe construction level. It has the least impact on lake residents, users and businesses of the options considered, and allows SCE&G to operate within its current license limits. It also has the least impact on municipal water systems serving Newberry, West Columbia and Columbia.

- **How will the lake level be lowered?**

The lake will be lowered by passing the water through the hydropower project. A plan to monitor the dam during the lowering of the reservoir will be developed and implemented. In addition, the reservoir will be lowered no faster than ½ foot per day.

- **When will the lake be lowered?**

The anticipated schedule is that the lake will be lowered in the fall of 2002 and will be at the targeted 345-foot elevation by the time construction begins, which should be in late October or early November.

- **How long will the lake remain at the lower level?**

The project will have several key phases. One phase involves excavating and backfilling in areas adjacent to the downstream toe of the dam, to depths of 60 feet (plus or minus) to reach the bedrock. This work will be done over 20 to 24 months in sections approximately 250 feet long, or slightly less than the length of a football field. The lake

will remain lowered during this entire period. Once the excavation and backfilling phase is complete, the plan is to return the reservoir to its normal operating level. It is expected that the reservoir can remain at normal levels during the other phases of the new dam construction.

- **What are the other phases? How will this massive structure be built?**

The first phase will be an extensive "dewatering" program to remove water from within the dam -- which is common in earthen dams -- to a safe working level. This is the most critical requirement to complete before safely beginning construction. The next phase involves the excavation work in the areas adjacent to the toe of the dam. These sections will then be reinforced with conventional concrete, roller-compacted concrete or soil and rock, depending on the location. Once the areas adjacent to the toe of the dam are fully reinforced, the final construction phase of the new dam will begin.

- **Will the highway remain open during construction?**

Yes. SCE&G is working closely with the Department of Transportation. The highway will remain open, and an additional two-lane segment will be built adjacent to the existing highway, during construction of the new dam.

- **What precautions will be taken during construction should an emergency develop?**

An emergency action plan is in effect now, and will be in effect during construction. This plan has been tested and improved by input from emergency management agencies. There will be another test of the emergency action plan in August 2002. SCE&G works closely with state and county emergency preparedness officials on a regular basis and continues to collaborate on improvements to the communication system.

- **How will the lower lake levels impact marina owners, businesses, recreational areas, boat docks, and fishermen?**

Lower lake levels will impact all of these to some extent. FERC staff will prepare an environmental assessment (EA) to identify and analyze impacts associated with the dam remediation project, including the temporary drawdown, and to identify measures that can be implemented to minimize these impacts.

- **Will affected parties have any input in the Environmental Assessment process?**

Yes. FERC staff will hold public scoping meetings to help identify impacts and potential mitigation measures. A draft Environmental Assessment (EA) will be sent out for public and agency comment and those comments will be considered in the preparation of the final EA.

- **Will the lower level impact people who live around the lake and use wells?**

The lake has been lowered to elevation 345 several times in the past decade, with the most recent occasion taking place in 1996 when the lake level was lowered for treatment of hydrilla an invasive plant species. There was no reported impact to wells during that event. This issue will be considered in the Environmental Assessment.

- **When will the refilling of the reservoir begin?**

When the excavation and backfilling at the toe of the dam is completed, the reservoir will begin to be refilled. SCE&G will be directed by the FERC to develop and follow a plan to refill the reservoir.

- **How long will the refilling take?**

The refilling period will depend on inflow to the reservoir and rainfall.

- **What happens if there is a severe storm event during the excavation stage of construction? Will that raise the lake to a dangerous level?**

No. SCE&G is developing a plan to operate the powerhouse and spillway gates so that in any weather event during the excavation & backfilling stage, the water level will not exceed 345 feet.

- **How will the public be involved?**

Public input is important to FERC. There will be several opportunities for the public to comment on this activity, and to become involved in the environmental assessment process. There will be mailings to affected residents, public notices in local newspapers, periodic informational meetings with local officials, and public meetings to keep the general public well informed.