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Dominion Energy South Carolina, Inc.
DESC Power Generation
220 Operation Way, MC B223, Cayce SC 29033
DominionEnergySC.com

June 27, 2025

Debbie-Anne A. Reese, Secretary
Federal Energy Regulatory Commission
ATTN: OEP/Division of Hydropower Administration and Compliance
888 First Street, N. E.
Washington, D. C. 20426

Subject: Dominion Energy South Carolina, Inc.
Saluda Hydroelectric Project, FERC Project No. 516
License Article 31 Annual Report

Dear Secretary Reese:

Dominion Energy South Carolina, Inc. (DESC), Licensee for the Saluda Hydroelectric Project, FERC Project No. 516, hereby files electronically for Commission approval the 2024 Annual Operations Report and proposed Guidelines for Operation of the Saluda Project for Dissolved Oxygen Management in 2025. As required by the provisions of Article 31, DESC has developed the Guidelines in cooperation with South Carolina Department of Environmental Services (formerly SC Dept. of Health and Environmental Control), South Carolina Department of Natural Resources, U.S. Fish and Wildlife Service, National Marine Fisheries Service, South Carolina Coastal Conservation League and American Rivers (stakeholders). Correspondence is included in Attachment 1 and a copy of the April 15, 2025 meeting notes with the stakeholders is included in Attachment 2. Comments to the report were received during the meeting. All comments were incorporated into the report. No other comments to the report were received.

Should the Commission or its Staff have any questions concerning the proposed Guidelines, please contact the undersigned at (803) 217-7322 or raymond.ammarell@dominionenergy.com.

Sincerely,

Raymond R. Ammarell, P.E., Manager
Dam Safety and Hydro Compliance
Chief Dam Safety Engineer (South Carolina)

AIB/ab

Enclosures

c: I. N. Griffin/J. W. Miller/H. E. Delk, Jr./SH File/Corporate Records
A. Rollins/O. Owen
O. Brown/J.E. Brown, Jr./R. Casey
W. Wenerick - SCDES
P. Raabe – American Rivers
B. Stangler – Congaree Riverkeeper
M. Olds – USFWS
E. Miller/J. Bettinger - SCDNR
K. Mack – NMFS
T. Allred - SCCCL

Attachment 1

Agency/Stakeholder Correspondence

From: Amy Bresnahan (DESC Generation - 8)
Sent: Tuesday, April 1, 2025 1:11 PM
To: Gerrit Jobsis <gjobsis@americanrivers.org>; praabe@americanrivers.org; Rusty Wenerick (weneriwr@dhec.sc.gov) <WENERIWR@dhec.sc.gov>; MillerE@dnr.sc.gov; Jason Bettinger <BettingerJ@dnr.sc.gov>; Kevin Mack <kevin.mack@noaa.gov>; fritz.rohde <fritz.rohde@noaa.gov>; Taylor Allred <taylora@scccl.org>; Melanie Olds <melanie_olds@fws.gov>; Congaree Riverkeeper <crk@congareeriverkeeper.org>
Cc: Raymond Ammarell (DESC Generation - 8) <RAYMOND.AMMARELL@dominionenergy.com>; Orville Owen (DESC Generation - 8) <ORVILLE.OWEN@dominionenergy.com>; Andrew Rollins (DESC Generation - 8) <andrew.rollins@dominionenergy.com>; Milton Quattlebaum (DESC Generation - 8) <MILTON.QUATTLEBAUM@dominionenergy.com>; Caleb Gaston (Services - 6) <caleb.gaston@dominionenergy.com>; Paul Vidonic (Services - 6) <paul.vidonic@dominionenergy.com>; Andy Sawyer <andy@remiwq.com>; James Brown (DESC Generation - 8) <JAMES.E.BROWN@dominionenergy.com>; Oscie Brown (DESC Generation - 8) <OSCIE.BROWN@dominionenergy.com>; Rhett Casey (DESC Generation - 8) <rhett.casey@dominionenergy.com>; Paul R Stewart (DESC Generation - 8) <paul.r.stewart@dominionenergy.com>
Subject: Saluda Hydro Article 31 draft report and annual meeting

All,

Please review the attached draft 2024 Operations Report and be prepared to discuss during the annual Saluda Project Article 31 meeting. Note that in this year's report we removed much of the historical data that was repeated year after year.

Below is the link to the Doodle poll for a date/time to have the annual meeting via MS Teams. Please respond at your earliest convenience as the dates are for April.

https://doodle.com/group-poll/participate/dRjgWoLd

Thank you.
Amy Bresnahan, P.E.
Power Generation, Civil Engineering
Dominion Energy South Carolina

601 Old Taylor Road, Cayce, SC 29033
Mailing Address: 220 Operation Way, MC B223, Cayce, SC 29033
O: (803)217-9965 C: (803)206-4667

-----Original Appointment-----
From: Amy Bresnahan (DESC Generation - 8)
Sent: Sunday, April 6, 2025 12:26 PM
To: 'Gerrit Jobsis'; 'praabe@americanrivers.org'; 'Rusty Wenerick (weneriwr@dhec.sc.gov)'; 'MillerE@dnr.sc.gov'; 'Jason Bettinger'; 'Kevin Mack'; 'fritz.rohde'; 'Taylor Allred'; 'Melanie Olds'; 'Congaree Riverkeeper'; Raymond Ammarell (DESC Generation - 8); Orville Owen (DESC Generation - 8); Andrew Rollins (DESC Generation - 8); Milton Quattlebaum (DESC Generation - 8); Caleb Gaston (Services - 6); Paul Vidonic (Services - 6); 'Andy Sawyer'; James Brown (DESC Generation - 8); Oscie Brown (DESC Generation - 8); Rhett Casey (DESC Generation - 8); Paul R Stewart (DESC Generation - 8)
Cc: James Miller (DESC Generation - 8); Henry Delk (DESC Generation - 8)
Subject: Saluda Project Article 31 Annual meeting
When: Tuesday, April 15, 2025 2:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

Please review the attached draft 2024 Operations Report and be prepared to discuss during the annual Saluda Project Article 31 meeting on Tuesday, April 15. Note that in this year's report we removed much of the historical data that was repeated year after year.

Amy Bresnahan, P.E.
Power Generation, Civil Engineering
Dominion Energy South Carolina

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Tenant key: dominionenergy@m.webex.com

Video ID: 116 740 725 1
More info
For organizers: Meeting options | Reset dial-in PIN
Dominion Energy does not consent to the recording of this meeting unless stated otherwise.
Privacy and security

From: Amy Bresnahan (DESC Generation - 8)
Sent: Monday, May 19, 2025 9:40 AM
To: 'Gerrit Jobsis' <gjobsis@americanrivers.org>; 'praabe@americanrivers.org' <praabe@americanrivers.org>; 'Rusty Wenerick (weneriwr@dhec.sc.gov)' <WENERIWR@dhec.sc.gov>; 'MillerE@dnr.sc.gov' <MillerE@dnr.sc.gov>; 'Jason Bettinger' <BettingerJ@dnr.sc.gov>; 'Kevin Mack' <kevin.mack@noaa.gov>; 'fritz.rohde' <fritz.rohde@noaa.gov>; 'Taylor Allred' <taylora@scccl.org>; 'Melanie Olds' <melanie_olds@fws.gov>; 'Congaree Riverkeeper' <crk@congareeriverkeeper.org>; Raymond Ammarell (DESC Generation - 8) <RAYMOND.AMMARELL@dominionenergy.com>; Orville Owen (DESC Generation - 8) <ORVILLE.OWEN@dominionenergy.com>; Andrew Rollins (DESC Generation - 8) <andrew.rollins@dominionenergy.com>; Milton Quattlebaum (DESC Generation - 8) <MILTON.QUATTLEBAUM@dominionenergy.com>; Caleb Gaston (Services - 6) <caleb.gaston@dominionenergy.com>; Paul Vidonic (Services - 6) <paul.vidonic@dominionenergy.com>; 'Andy Sawyer' <andy@remiwq.com>; James Brown (DESC Generation - 8) <JAMES.E.BROWN@dominionenergy.com>; Oscie Brown (DESC Generation - 8) <OSCIE.BROWN@dominionenergy.com>; Rhett Casey (DESC Generation - 8) <rhett.casey@dominionenergy.com>; Paul R Stewart (DESC Generation - 8) <paul.r.stewart@dominionenergy.com>
Subject: Saluda Project Article 31 report and notes for review

Please see the attached documents related to Article 31. The report is in track changes mode to show edits that were made after the meeting on April 15, 2025. Also attached is the draft meeting summary. Please review and return any comments to me by June 19, 2025.

Amy Bresnahan, P.E.
Power Generation, Civil Engineering
Dominion Energy South Carolina

601 Old Taylor Road, Cayce, SC 29033
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Attachment 2

Article 31 2024 Operations Review Meeting

April 15, 2025 Meeting Notes

Article 31 Saluda Hydroelectric Project, P-516
2024 Operations Review Meeting
April 15, 2025

ATTENDEES:

Bill Stangler (Congaree Riverkeeper)
Jason Bettinger (SCDNR)
Fritz Rohde (NMFS)
Taylor Allred (SCCCL)
Rusty Wenerick (SCDES)
Andy Sawyer (REMI)
Kevin Mack (NMFS)
Oscie Brown (DESC)
Rhett Casey (DESC)
Ray Ammarell (DESC)
Amy Bresnahan (DESC)
Caleb Gaston (DESC)
Jim Miller (DESC)
Randy Stewart (DESC)
James Brown (DESC)
Andrew Rollins (DESC)

These notes serve to be a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.

American Rivers was invited to the meeting but did not attend.

Dominion Energy South Carolina, Inc. (DESC), Licensee for Saluda Hydroelectric Project, FERC Project No. 516 conducted this meeting via Microsoft Teams.

Amy Bresnahan opened the meeting clarifying that the 2024 Annual Report on Water Quality and Aeration Operations at the Saluda Project had been revised this year to remove a majority of the historical information that has been repeated in the previous years' reports. Taylor Allred with Coastal Conservation League requested that DESC share the data that was removed from previous years in case there are new people in the group.

Andy Sawyer reviewed the updates to the draft of the 2024 Annual Report on Water Quality and Aeration Operations at the Saluda Project. First going over section 1.1, Overview of 2024 Aeration Operations, noting that the dissolved oxygen (DO) standard for the Lower Saluda River (LSR) was maintained for 97% of the time during 2024. There were two periods when USGS 02168504 was less than the standard of 4 mg/L, August 4 - 8 and September 27 – October 4.

Andy reviewed the figures in section 2 explaining inflow to Lake Murray for the most part was a normal year with some high flow events that affected temperature and DO in the reservoir. It was noted that the Saluda Hydro operated for lake level management and to maintain downstream flow and DO levels throughout the low DO season and it was not used for reserve during 2024. In section 2.3 he reviewed the figures showing temperature and DO profiles that were collected in the forebay of Lake Murray during 2024. He noted that the continuous USGS monitors are temporarily out of service and would be reinstalled once the work at the intake towers is complete. Andy then reviewed the Figure 6 graph explaining the data from USGS gage 02168504 immediately downstream of the Saluda Hydro powerhouse and the USGS gage 02169000 further downstream.

In section 3.0 he discussed the details of the 2024 operations. The report explains that Units 1 – 4 have declined in DO uptake in recent years and the use of Unit 5 at low output to provide good DO uptake was used in combination with a smaller unit which discharges cooler water from the lower-level intakes. The DO excursions were explained that both excursions were in response to high levels of rainfall in the Saluda Basin from Hurricanes Debbie and Helene. He then discussed the graphs detailing the periods when DO excursions occurred and the summary of excursions at each of the USGS gages on the LSR with no excursion occurring at the Columbia Gage.

The group then reviewed the "Recommendations for 2025". Ray Ammarell discussed with the group how utilizing the spillway during the summer and fall releases aided in balancing the DO and temperature for the increased flow release in response to the hurricanes. He proposed to add to the Recommendations utilizing a partially opened spillway gate in addition to using the smaller units in summer releases to maintain DO. Ray shared with the group a project that is currently underway at Saluda Hydro to install a blower to input additional air into Unit 1 during generation.

Bill Stangler brought up how pulsing flows also allow for DO recovery during a higher release but asked if using the spillway has become the preferred method over pulsing moving forward. Ray stated that the pulsing is intermittent, yet the use of the spillway provides sustained DO at higher levels. During the 2024 high flow releases Ray felt that the pulsing would not have enabled them to keep up with the high inflow. The two hurricanes during 2024 were the first events significant enough to test usage of the spillway to augment the DO and balance temperatures in the Lower Saluda River and it had good results. Discussion followed regarding how DESC Biology obtained DO and temperature readings just downstream of the spillway entrance and how DESC would work on future events to monitor DO and temperature in the LSR as this occurs below USGS 02168504.

Jason Bettinger noted that the use of the spillway went well although there was an initial temperature spike yet overall, a good first attempt. Ray discussed his thoughts on the temperature spike at the beginning of the release and elaborated on brief operational issues that occurred on the second event.

Taylor Allred inquired about availability of generation data, decisions on how Saluda is dispatched and if there have been any major changes over the years that could affect DO. Ray explained that Saluda Hydro is run primarily for reserve generation as needed and when it's run as non-reserve, it's mostly to manage lake level. During low DO season Saluda is available for reserve generation only unless there is a need to generate for a high flow event. During 2024 Saluda Hydro was not dispatched for reserve as DESC uses Fairfield Pump Storage more often to fulfill the necessary reserve calls. There were further discussions on how Saluda Hydro has been dispatched over the years.

Next Ray gave the group an update on upgrading of the units. Currently two units are on order, and he explained the details of the hydraulic properties of the new runners. Oscie Brown, Plant Manager, updated the group on the installation of a blower on Unit 1 as an

interim to improve aeration. This recommendation came from a whitepaper by the Electric Power Research Institute, Inc. (EPRI). Once installed it will tentatively be tested during the next planned recreational flow release on May 17.

Taylor requested the whitepaper from EPRI. DESC will check with EPRI about sharing the paper but currently can not without the permission from EPRI.

No other discussions so the meeting was adjourned.

Action Items:

- DESC to share previous year's report with historical data in it to the group for reference.
- DESC to add temperature data to the report that was obtained by DESC Biology during the high flow responses noted.
- DESC will check with EPRI on sharing whitepaper.

2024 Annual Report on Water Quality and Aeration Operations at the Saluda Project

Saluda Hydroelectric Project

Dominion Energy®

Columbia, South Carolina

Prepared by: Andy Sawyer, Reservoir Environmental Management, Inc

March 2025

2024 Annual Report on Water Quality and Aeration Operations at the Saluda Project

Saluda Hydroelectric Project

Columbia, South Carolina

Prepared by: Andy Sawyer, Reservoir Environmental Management, Inc

March 2025

2024 ANNUAL REPORT ON WATER QUALITY AND AERATION OPERATIONS AT THE SALUDA PROJECT

SALUDA HYDROELECTRIC PROJECT

DOMINION ENERGY SOUTH CAROLINA, INC.
CAYCE, SOUTH CAROLINA

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2024 ANNUAL REPORT ON WATER QUALITY AND AERATION OPERATIONS AT THE SALUDA PROJECT

SALUDA HYDROELECTRIC PROJECT

DOMINION ENERGY SOUTH CAROLINA, INC.
CAYCE, SOUTH CAROLINA

1.0 INTRODUCTION

As required by Section 8.5 of the Offer of Settlement on Complaint Regarding Water Quality in the Lower Saluda River ("Settlement Agreement"), submitted to the Federal Energy Regulatory Commission on May 19, 2004 and approved by the Commission in an order issued on July 15, 2004, as modified by an order issued on December 21, 2004, Dominion Energy South Carolina, Inc. ("DESC") (formerly South Carolina Electric & Gas Company ("SCE&G")), as the licensee for the Saluda Hydroelectric Project ("Saluda Project" or "Project") has prepared this annual summary of the following topics:

1. Dissolved Oxygen ("DO") and other water quality monitoring results for Lake Murray and the Lower Saluda River ("LSR");
2. A preliminary evaluation of the implementation of the prior year's Operating Plan; and
3. Preliminary recommendations for the coming year's Operating Plan.

This report will present the results of water quality monitoring, as based on data obtained from the United States Geological Survey ("USGS"),[1] for the period June 1 through November of 2024 which is the timeframe when low DO near the lake bottom can result in low DO releases to the LSR. Then, an evaluation of maintaining the goal of the water quality standard, as expressed in Sections 9.2 and 9.3 of the Settlement Agreement will be presented, subject to the conditions identified in Section 9.3.

[1] As with any *in-situ* continuous monitor, anomalous readings occur from time to time, due to equipment fouling or malfunction. If the USGS determines the data are suspect through their Quality Control/Quality Assurance Program, that data may be ignored, appropriately adjusted, or otherwise dealt with according to their final determination. It is acknowledged that the USGS data is reported initially as "provisional." DESC will use it subject to the data error issues discussed here.

The following background considerations are restated from the 2004 Operating Plan, the initial operating plan submitted in compliance with the Settlement Agreement:

- The Company is committed to complying with the DO standard for the Saluda River downstream from Saluda Project to the extent practicable. Factors affecting the ability to ensure continuous compliance include:
    - the limited capability for aeration of water released through the turbine units;
    - the requirement that SCE&G manage water levels in Lake Murray for project safety and other reasons;
    - the need to use Saluda Hydro for the special operating needs specified under Item 9.3 of the Settlement Agreement; and
    - the need to meet SCE&G's reserve obligation to maintain electric load-generation balancing and management of local voltages and system frequency in real time.
- Generators sometimes fail, and generation failures generally are unpredicted and sudden, upsetting the load-generation balance. Because electricity cannot be stored, any sudden reduction in generation cannot be handled by an inventory, as might happen in most other kinds of business. Instead, generation losses must be met by reserve generation that can be dispatched instantly, before voltage sags or frequency excursions lead to local or widespread blackouts. The Company is a member of the Virginia-Carolinas Southeastern Electric Reliability Council sub-region ("VACAR"), whose members are bound in a reserve-sharing agreement by which each has agreed to assist any other member in generation emergencies. As part of its obligations as a member of VACAR, SCE&G must employ its reserves to meet its own generation emergencies before calling on assistance from other VACAR members, and it must be constantly ready to provide reserve generation to other VACAR members. Generally, the reserves required to be maintained by SCE&G are in the range of 190-200 MW, which matches the capacity of the Saluda Project and its ability to respond quickly to any generation outage on its system.

During the low DO period of 2024, DESC implemented the operating plan summarized below, consistent with the guidelines contained in Appendix A:

- The plan addressed the limited objectives identified in the settlement agreement, i.e., doing what reasonably could be done to improve the likelihood that stream-specific DO standards would be met in the LSR, while, at the same time, not constraining in any manner DESC's ability to use the Saluda Project to meet its reserve obligations.

1.1 OVERVIEW OF 2024 AERATION OPERATIONS:

The DO was above the State standard for approximately 97% of the time during 2024. The aeration systems currently in place reflect implementation of best attainable turbine venting systems for the original units at Saluda Hydro.

The DO measured by the water quality monitor (02168504) maintained by the USGS some 760 yards (2280 ft) downstream from the project's powerhouse was less than the instantaneous standard on two occasions when the flow through the Saluda Project was greater than flow levels at which current turbine aeration can attain the DO standard:

1. August 4 through August 8, DO less than 4 mg/L for 95 hours
2. September 27 through October 4, DO less than 4 mg/L for 172 hours

All excursions are summarized in Section 3.0 following the presentation of the excursions.

2.0 SUMMARY OF 2024 OPERATIONS AND WATER QUALITY MONITORING

2.1 WATER MANAGEMENT AND RESERVE OBLIGATIONS

The gauged inflows and pool level elevations of Lake Murray over the period of assessment are presented in Figures 1 and 2, respectively.

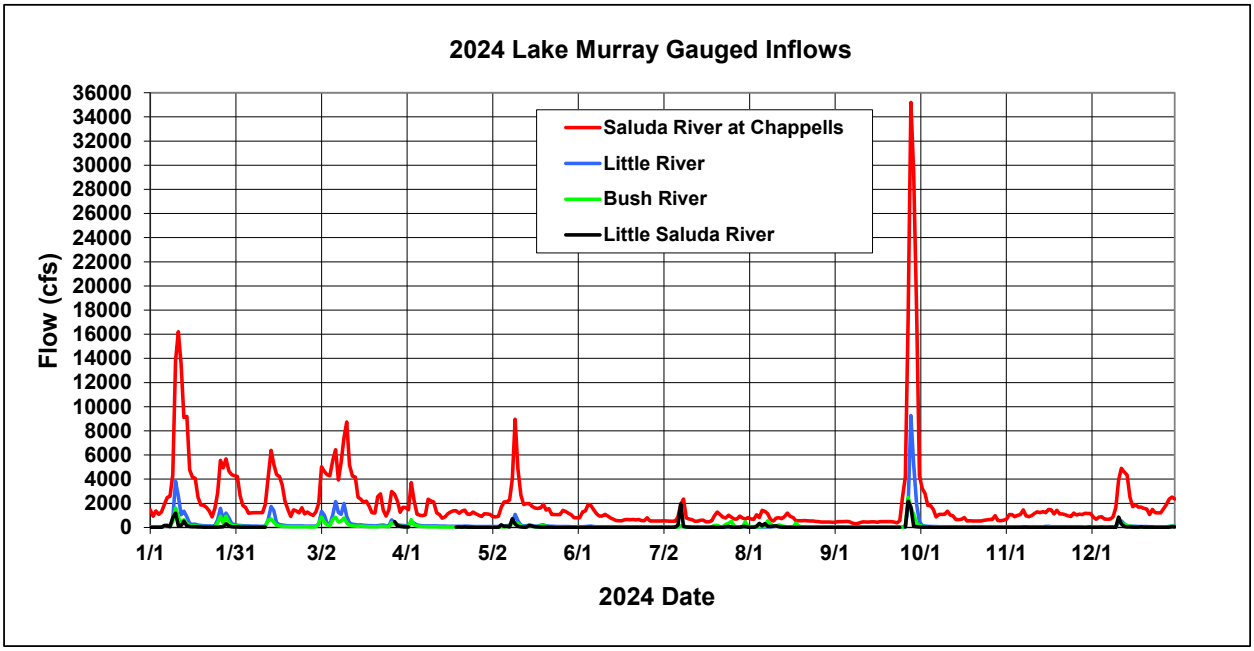


FIGURE 1 2024 LAKE MURRAY GAUGED INFLOWS

To determine the total inflow to Lake Murray, these gauged inflows are scaled to represent flow from each total watershed.

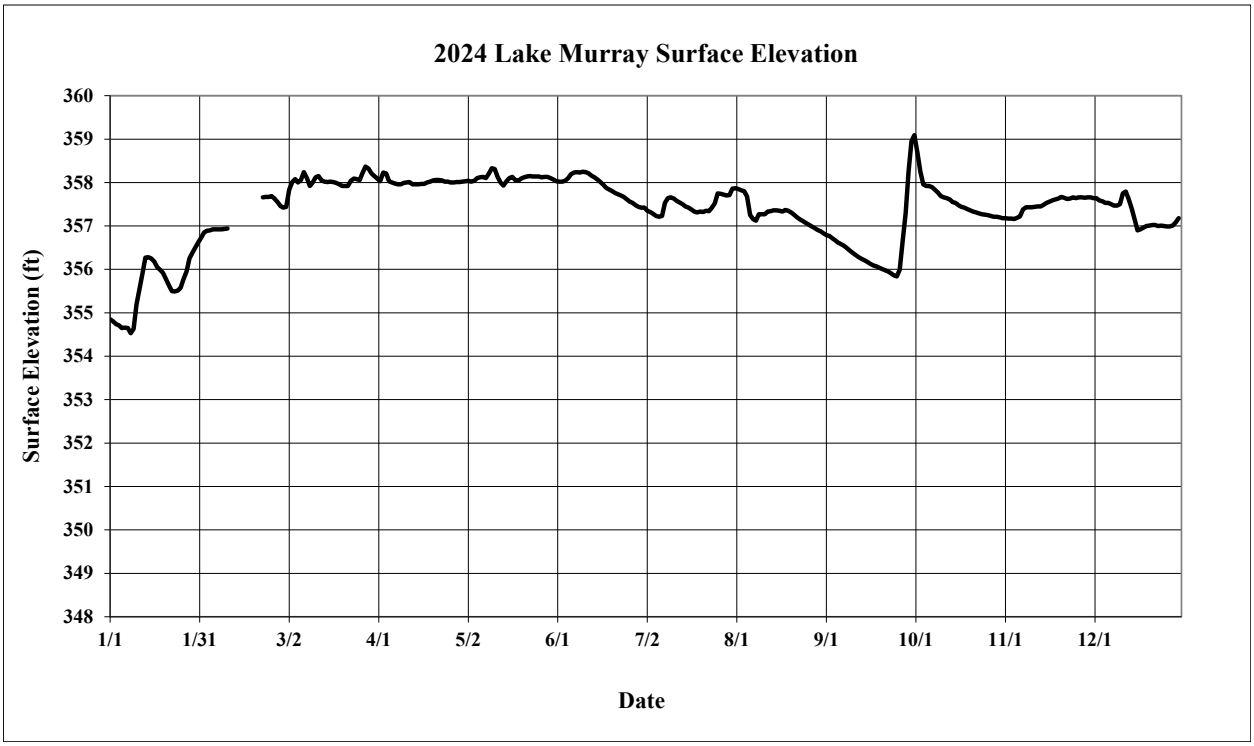


FIGURE 2 2024 POOL ELEVATION OF LAKE MURRAY

The Project was operated for lake level management as well as to maintain downstream flow and DO levels throughout the low DO season. The Saluda Project was not called upon to meet the Company's reserve obligation in 2024. The low DO season started in mid-May and ended in late-November of 2024.

2.2 Unit Operations and Aeration Systems

The turbine vents on units 1, 2 and 4 were opened 100% on May 10. On May 17 the vent on Unit 3 was opened, and the vent on Unit 4 was closed due to mechanical issues. The vents on Units 1, 2 and 3 remained open until December 16.

Aeration tests completed over the years indicated that data showed that higher DO occurred at the lower gate settings with DO decreasing as the gate openings increased. In 2020, Unit 1 stopped venting effectively and the lookup tables were revised in 2021 to reflect this and to add Unit 5 into the unit combinations. These were modified slightly by moving Unit 4 later in the sequence and used during the 2024 low DO season and are included in Appendix B.

.

2.3 Water Quality Data

Figures 3 and 4 present the profiles of temperature and DO collected by Kleinschmidt personnel in the forebay of Lake Murray in 2024. These profiles were collected using a YSI portable water quality instrument with an EXO3 sonde. The profiles show that DO in front of the intakes for Units 1-4 was near zero starting in early-August. The continuous monitors in the forebay of Lake Murray were taken out of service on February 27, 2024 due to the ongoing work at the intake towers. The USGS monitors will be reinstalled at the towers once the work is completed.

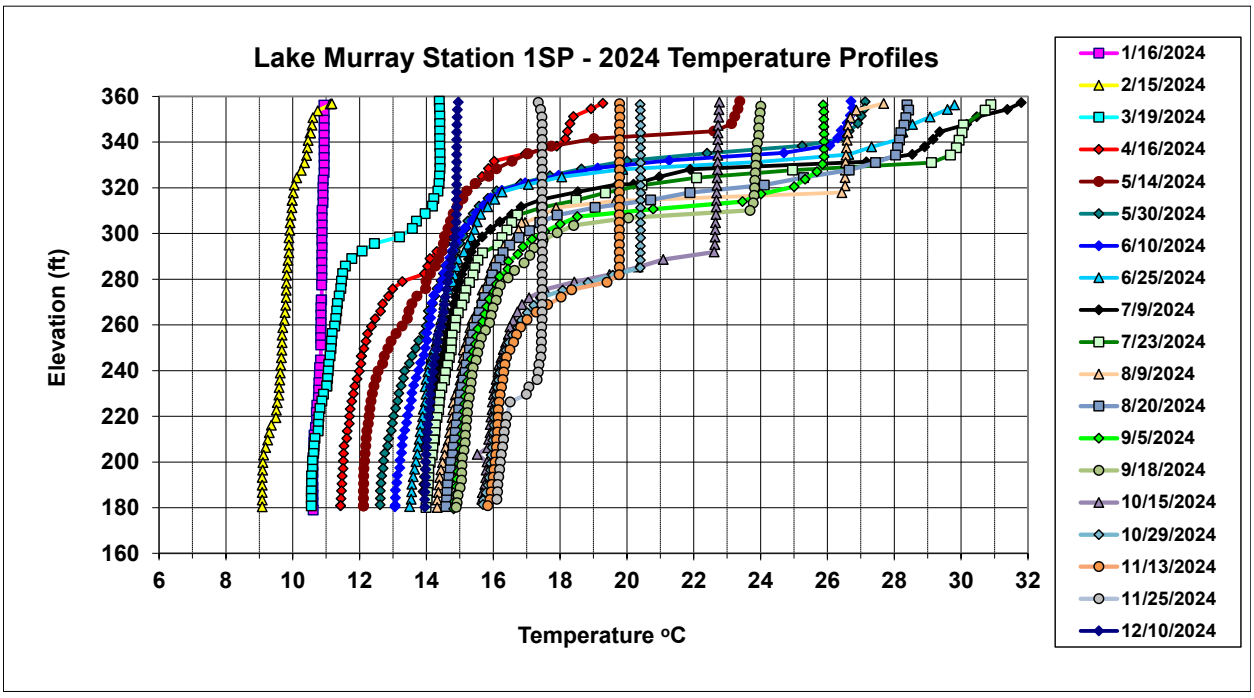


Figure 3 2024 Forebay Temperature Profiles in Lake Murray

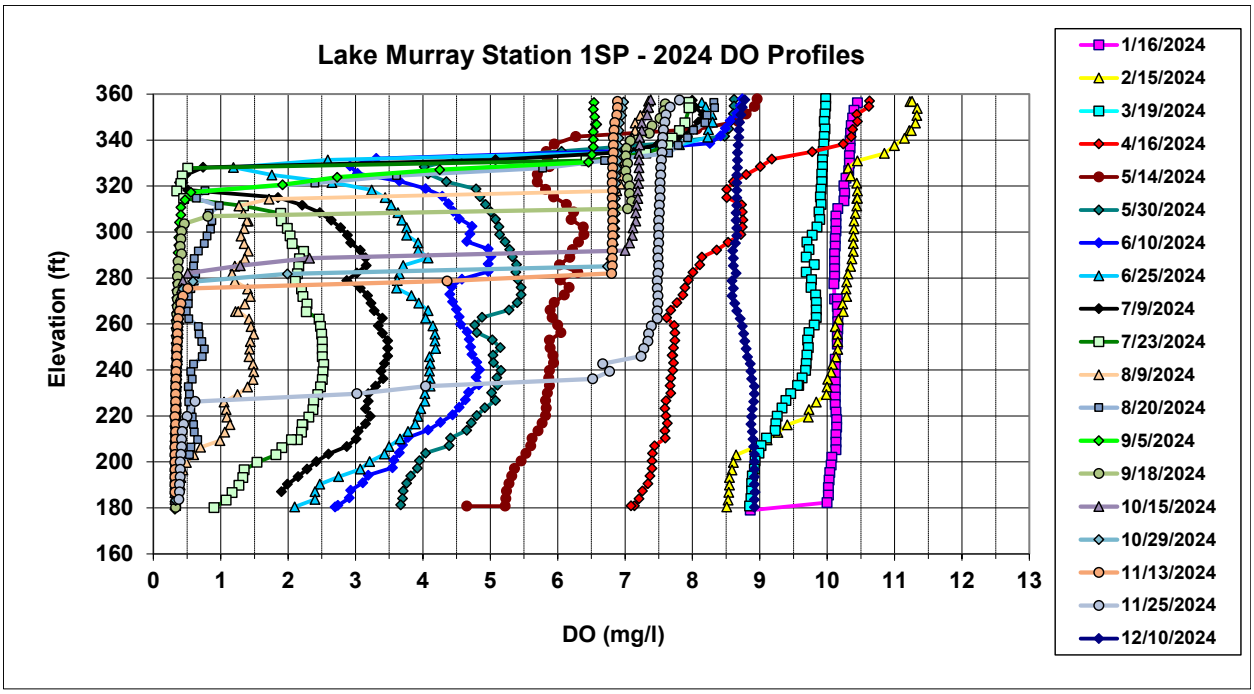


FIGURE 4 2024 FOREBAY DO PROFILES IN LAKE MURRAY

Figure 5 presents the results of temperature and DO measurements at the USGS monitor (02168504) immediately downstream from the Saluda Powerhouse. The graph includes the flow measurements measured by the USGS gage as well as the daily average and the rolling 30-day average DO values.

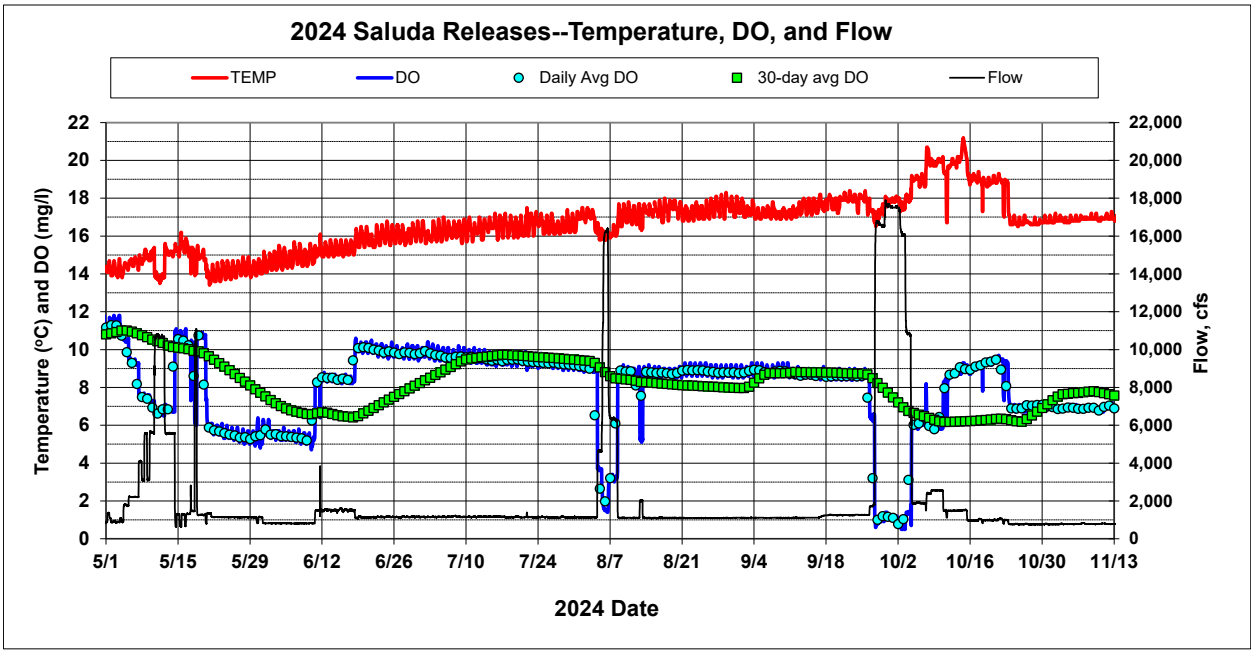


FIGURE 5 2024 SALUDA RELEASES (USGS 02168504) TEMPERATURE, DO, AND FLOW

Figure 6 presents the temperature and DO results of measurements at the USGS monitor (02169000) about eight miles downstream from the Saluda Hydro Powerhouse near the confluence of the Saluda and Broad Rivers. The graph includes the data recorded by the monitor as adjusted by USGS. It also includes the flow measurements by the USGS gage as well as the daily average DO values.

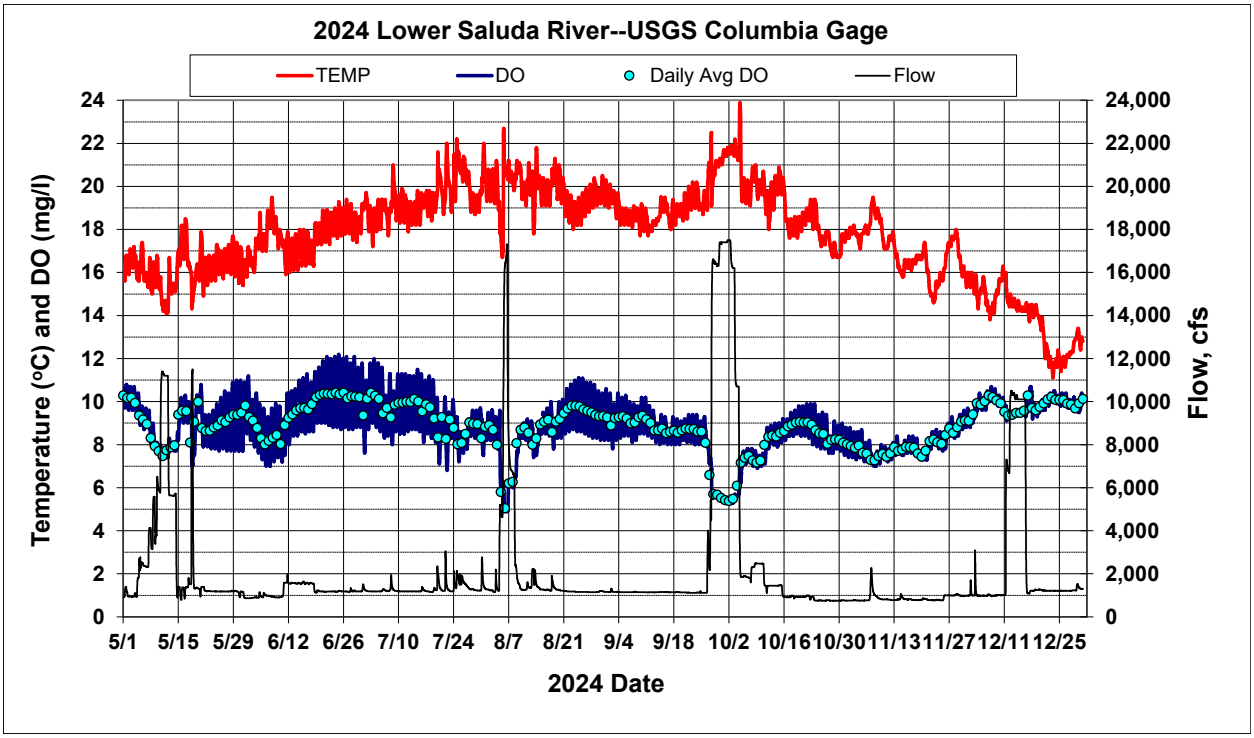


FIGURE 6 2024 LOWER SALUDA RIVER (USGS 02169000) – USGS COLUMBIA GAGE

3.0 EVALUATION OF 2024 OPERATIONS

The levels of DO in the tailrace were at or above state standards for 97% of 2024. Since Units 1–4 have declined in DO uptake in the past several years, this was accomplished by using Unit 5 at low output to provide good DO uptake in combination with a smaller unit at low load to discharge cooler water from the lower-level intakes.

Excursions of DO less than the SCDES site-specific DO standard occurred during two periods of designated operations. Both periods were for lake level management in response to high levels of rainfall in the Saluda Basin from Hurricanes Debbie and Helene. During both of these periods, one spillway gate was opened partway to release well aerated water into the river along with the turbine discharge. Since the spillway channel joins the river downstream of the USGS water quality monitor 02168504, the increase in DO from the spillway was not reflected at that monitor. The USGS monitor near Riverbanks Zoo (02169000) shows DO at that location remained near 5 mg/l during both of these events. During the first event, spot readings taken by DESC personnel on August 5th at Saluda Shoals Park and on August 6th at J. B. Barker (Hope Ferry) landing indicated DO and temperature of 3.9 mg/l, 20.0°C and 4.0 mg/l, 20.2°C respectively. During the second event, spot readings taken by DESC personnel on September 27th at J. B. Barker (Hope Ferry) landing and on October 2nd at Saluda Shoals Park indicated DO and temperature of 7.4 mg/l, 21.5°Cand 4.1 mg/l, 20.6°C respectively. These locations are approximately 1 mile downstream of the spillway channel joining the river.

Correspondence between DESC, stakeholders and SCDNR is enclosed in Appendix C.

Figure 7 presents an enhanced view of the DO and flow conditions during the time periods in which the excursions occurred, and Table 1 summarizes the cause of the excursions.

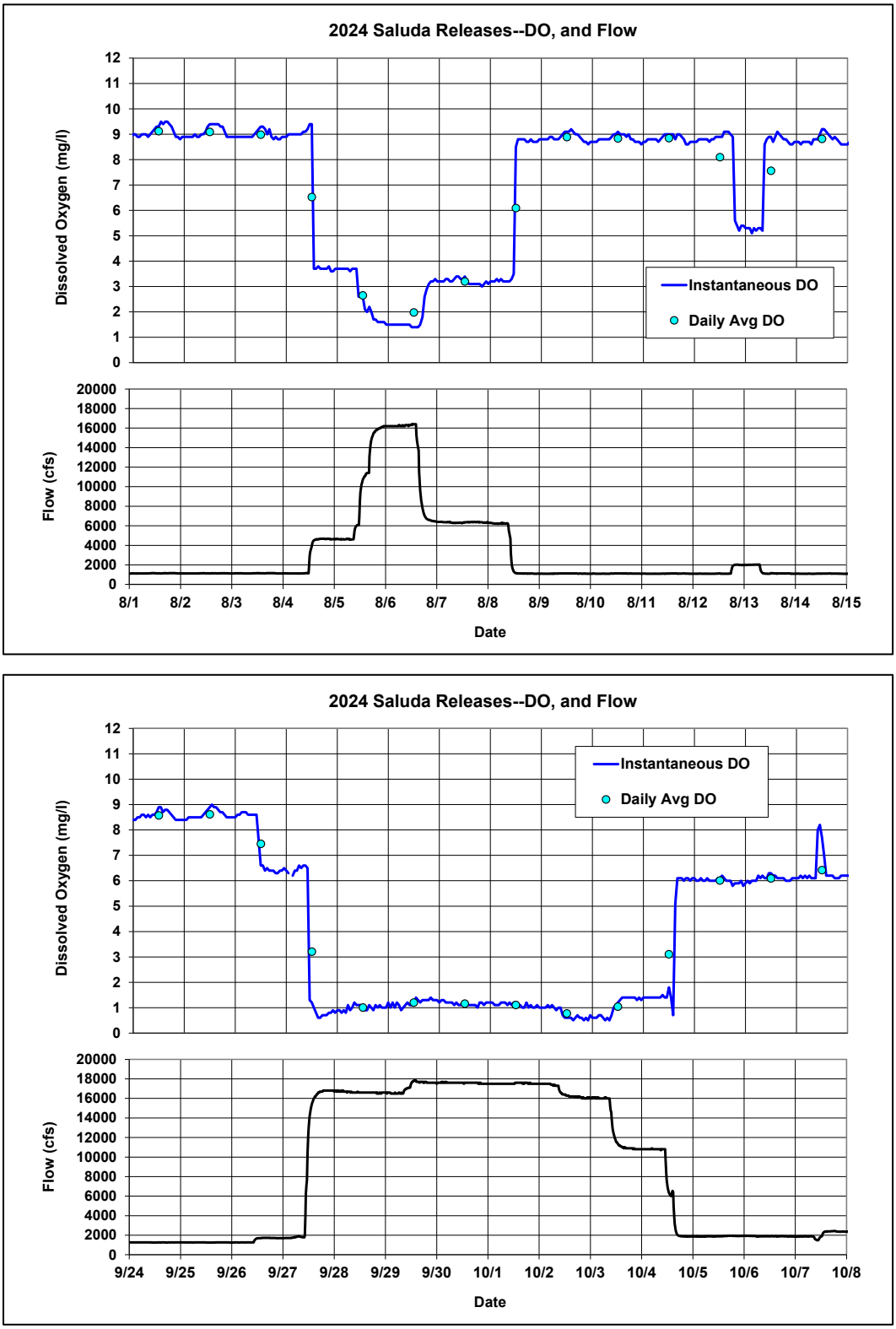


FIGURE 7 2024 SALUDA RELEASES – PERIODS WHEN EXCURSION OCCURRED

SUMMARY OF EXCURSIONS IN 2024

SALUDA RELEASES GAGE (USGS 02168504)

The summary of excursions is presented in Table 1. There were 1068 excursions of the 15-minute minimum DO due to lake level management. Dissolved oxygen levels in the LSR, measured below Saluda Hydro, met or exceeded the instantaneous minimum standard of 4.0 mg/L 97% of the time in 2024. There were 11 excursions of the daily average DO of 5 mg/L and no excursions of the 30-day average DO of 5.5 mg/L in 2024.

COLUMBIA GAGE (USGS 20169000)

There were no excursions of either the instantaneous minimum DO or the daily average DO at the USGS gage near Columbia (20169000) in 2024.

TABLE 1 SUMMARY OF EXCURSIONS OF DO LESS THAN THE SC SITE-SPECIFIC DO STANDARD (INSTANTANEOUS, DAILY, AND 30-DAY STANDARDS). PERCENT VALUES REPRESENT PERCENT OF ENTIRE YEAR.

Summary of Excursions for 2024--Causes and Metrics, based on USGS indicated DO monitor readings										
USGS 02168504 - Saluda River Below LK Murray Dam NR Columbia, SC										
Causes	**Dates**	**Number of 15-minute Observations < 4 mg/L**	**% of Time < 4 mg/L**	**Average DO during Excursions**	**Minimum DO during Excursion**	**Number of Days Avg DO < 5 mg/L**	**% of Time < 5 mg/L Daily Avg**	**Number of Days 30-day Avg DO < 5.5 mg/L**	**% of Time < 5.5 mg/L 30-day Avg DO**	**Comments**
Operations	August 4-8	379	1.08	2.82	1.4	3	0.8	0	0.0	Lake level management[1]
Operations	Sept 27 - Oct 4	689	1.96	1.06	0.4	8	2.2	0	0.0	Lake level management[2]
Totals		**1068**	**3.04**			**11**	**3.0**	**0**	**0.0**	
USGS 02169000 - Saluda River Near Columbia, SC										
Causes	**Dates**	**Number of 15-minute Observations < 4 mg/L**	**% of Time < 4 mg/L**	**Average DO during Excursions**	**Minimum DO during Excursion**	**Number of Days Avg DO < 5 mg/L**	**% of Time < 5 mg/L Daily Avg**	**Number of Days 30-day Avg DO < 5.5 mg/L**	**% of Time < 5.5 mg/L 30-day Avg DO**	**Comments**
N/A		0	N/A			0	0.0	0	N/A	
Totals		**0**	**0.00**			**0**	**0.0**		**0.0**	

Additional comments about excursion periods:

1. Preparation and response to rainfall received in the Saluda Basin from Hurricane Debbie. On August 5 a spillway gate was partially opened to compensate for a unit that was out of service and to balance DO and temperature in the Lower Saluda River. Spot DO and temperature measurements taken by DESC personnel on August 5th at Saluda Shoals Park and on August 6th at J. B. Barker (Hope Ferry) landing indicated DO of 3.9 mg/l, 20.0°C and 4.0 mg/l, 20.2°C respectively. These locations are approximately 1 mile downstream of the spillway channel joining the river.
2. Preparation and response to rainfall received in the Saluda Basin from Hurricane Helene. A spillway gate was open from September 27 to October 4 to increase downstream DO and compensate for Unit 1 being out of service. Spot DO measurements taken by DESC personnel on September 27th at J. B. Barker (Hope Ferry) landing and on October 2nd at Saluda Shoals Park indicated DO and temperature of 7.4 mg/l, 21.5°C and 4.1 mg/l, 20.6°Crespectively.

3.1 PERFORMANCE OF THE LOOK-UP TABLES

The LUTs have been modified over the years to represent the best unit sequence to lessen the impact to DO in the Lower Saluda River for generation dispatch for the Saluda Hydro. These revised Condensed Lookup Tables appeared to perform well until Unit 1 developed a venting issue in 2020. DESC revised the Condensed Lookup Tables in 2021 to put Unit 1 last in the dispatch sequence until it is repaired and then added Unit 5 to the unit combinations as the smaller units were not venting as well. The tables were again revised in 2022 to utilize Unit 5 as an option at lower generation (< 10MW). Revisions in 2024 were made to move Unit 4 later in the sequence and to use multiple units as a preference to increase DO during generation.

3.2 COMMENTS ON THE CURRENT MONITORING SYSTEM

All USGS provisional temperature and dissolved oxygen data collected with the continuous monitor are analyzed and corrected as needed prior to being approved. The current monitoring system performed well during 2024.

RECOMMENDATIONS FOR 2025

- With the installation of the new optical DO probe in the tailrace, it is recommended that the USGS continue to check the calibration of the monitor once per month.
- If needed, utilize Unit 5 at low loads (< 10 MW which equates to approx. 1,600 cfs) in combination with Unit 3 or Unit 4 to provide better DO uptake and maintain downstream temperatures < 20 deg. C (68 deg. F).
- If needed during high inflow events, utilize a partially open spillway gate in addition to some of the units to provide better DO uptake and maintain downstream temperatures < 20 deg. C (68 deg. F).
- Continue to coordinate the timing of restrictions on Unit 5 operations at higher loads on a "last on, first off" basis with SCDNR based on fisheries and water quality profile data near the intake towers, i.e., determine when Unit 5 can be operated without restriction to enhance DO in the tailrace.
- Use the latest version of the Condensed LUTs.(See updated Condensed LUTs in Appendix B).
- Conduct annual training within DESC so that operators are prepared to minimize DO excursions.
- Implement the DESC water management procedure so as to allow sufficient aeration to meet the DO objectives in the tailrace when the pool level is being lowered for normal seasonal operations.
- DESC will notify organizations desiring special releases from the Saluda Project that might adversely affect the level of DO in the tailwater to schedule their activities during periods of the year when low DO is not normally a concern.
- DESC will continue to coordinate with DNR to provide DO relief throughout an extended low DO excursion and implement options for aiming to keep the DO above 2.0 mg/l during a potential high inflow event.

4.0 MONITORING OF DISSOLVED OXYGEN IN THE TAILRACE

The current USGS water quality monitor in the tailrace has served its purpose well with respect to providing information on temperature and DO conditions. USGS use of the optical DO probe has significantly reduced fouling compared to previous probes. Also, USGS is now correcting provisional data following calibration checks, although the corrections may not be made on the web site for about one month following data collection.

APPENDIX A

FINAL GUIDELINES FOR OPERATION OF THE SALUDA PROJECT FOR DISSOLVED OXYGEN MANAGEMENT IN 2025

GUIDELINES FOR OPERATION OF THE SALUDA PROJECT FOR DISSOLVED OXYGEN MANAGEMENT IN 2025

PURPOSE

These Guidelines for Operation of the Saluda Project for Dissolved Oxygen Compliance are prepared pursuant to the *Offer of Settlement On Complaint Regarding Water Quality In Lower Saluda River* (May 19, 2004) (Settlement Agreement). Paragraph 9.3 of the Settlement Agreement provides the following:

> To the extent within SCE&G's reasonable control, each Operating Plan will seek to enhance existing water quality in the lower Saluda River and, more specifically, seek to achieve DO concentrations of 4 mg/1 minimum, 5 mg/l daily average, and 5.5 mg/1 monthly average in the lower Saluda River. In seeking to achieve this goal, each Operating Plan will preserve SCE&G's right or duty to modify operations as necessary to: (A) protect life and property, (B) respond to changed hydrologic or other circumstances not addressed in the Operating Plan, (C) maintain the use of the Project to meet system reserve obligations of 200 MW, and (D) comply with a lawful orders of the [Federal Energy Regulatory] Commission or other authorities. SCE&G will provide notice of such modification to the Conservation Groups, [South Carolina Department of Health and Environmental Control], and Other Agencies in advance of such modification if practicable, and otherwise, as soon as practicable thereafter. The Parties will then use their best efforts to modify the Operating Plan in response thereto.

DESC will implement these Guidelines consistent with paragraph 9.3.

LIMITATIONS

Paragraph 9.3 of the Settlement Agreement includes limitations, and these limitations are more fully explained here. Operation of the Saluda Project affects dissolved oxygen (DO) levels in the Saluda River downstream of the Saluda Project. Factors affecting achievement and maintenance of the DO standard include: (1) the limited capability for aeration of water released through the turbine units, (2) the requirement that DESC (formerly SCE&G) manage water levels in Lake Murray for safety and other reasons, (3) the need to use Saluda Hydro for the special operating needs specified under paragraph 9.3 of the Settlement Agreement, and (4) the need to meet

DESC's reserve obligations as a member of the Virginia-Carolinas Reserve Sharing Group (VACAR RSG).

Generating units occasionally fail, and these generation failures are not generally capable of prediction. These often-sudden failures upset the load-generation balance. Because electricity cannot be stored, any such sudden reduction in generation cannot be made up by an inventory, as would be the case in most other kinds of business. Instead, generation losses must be met by reserve generation that can be dispatched instantly before voltage sags or frequency excursions lead to local or widespread blackouts. VACAR RSG members are bound in a reserve-sharing agreement by which each has agreed to assist any other member in generation emergencies. DESC must employ its reserves to meet its own generation emergencies before calling on assistance from other VACAR RSG members, and it must be constantly ready to provide reserve generation to other VACAR RSG members. Generally, the reserves required to be maintained by DESC are in the range of 190-200 MW, which matches the capacity of the Saluda Project and its ability to respond quickly to any generation outage on its system.

As done in 2004-2024, DESC will provide via email, during 2025, a weekly report to the South Carolina Department of Environmental Services (formerly the Dept. of Health and Environmental Control), South Carolina Coastal Conservation League (SCCCL) and other stakeholders documenting the previous week's operation of the Saluda Project.

Unless otherwise specified, these guidelines will be implemented by DESC.

TURBINE VENTING OPERATIONS

Use Lookup Tables (LUTs) as Guides To Aerate the Turbine Releases From the Saluda Project. DESC will use the condensed LUTs included in Appendix B of this document , in part, based on the original Lookup Tables developed in February 2008. These LUTs reflect the best practice for aeration operations based on field testing and predictive models of how the units at Saluda Hydro can be operated to enhance downstream dissolved oxygen levels and still obtain target MW outputs, given the inflow DO and temperature conditions. Use of the condensed LUTs in Appendix B results in higher than normal DO levels in the tailwater for the conditions

when DO in the inflow is greater than 1 mg/L since these LUTs are based on the assumption that DO in the inflow is zero mg/L. As noted in Section 2.2 above, revisions to the condensed Lookup Tables have been made over the years to represent the best unit sequence to attain proper DO and are contained in Appendix B.

Estimate Inflow DO and Temperature for Units 1-4 and Unit 5. Turbine DO and temperature from inflows change during the course of the low DO period. To track DO and temperature conditions in the turbine inflows, DESC will obtain DO and temperature profiles in the Saluda Project forebay every other week during low DO season (once per month during other times of the year) and use these profiles to predict conditions in the turbine inflows. In February of 2024 the United States Geological Survey (USGS) continuous water quality monitors located near the intake of Unit 5 (U5)[2] were temporarily removed due to construction work on the intake towers and data from these monitors were not available during the low DO period of 2024. Monitors will be replaced after completion of the work at the intake towers which could be June of 2026.

Use DO Readings in the Tailrace from the USGS Monitor. During 2025, the USGS monitor (USGS Gage No 02168504) will be used to track DO conditions in the tailrace on a daily basis, supplemented by periodic spot measurements by DESC, especially if DO, as measured at the monitor, appears erratic or is lower than expected (*e.g.*, suspected fouling, meter malfunction, *etc*.).

Conduct training of operators in System Control. The System Control Manager will conduct a training session annually with System Operators to ensure proper application of the LUTs. Training of staff includes review of current practices and procedures in the proper application of the LUTs. This training is normally conducted during a six-week period each year. Additional training will be conducted as the need arises.

[2] As with any *in-situ* continuous monitor, anomalous readings occur from time to time, due to equipment fouling or malfunction. If the USGS determines the data are suspect through their Quality Control/Quality Assurance Program, that data may be ignored, appropriately adjusted, or otherwise dealt with according to their final determination. It is acknowledged that the USGS data is reported initially as "provisional." DESC will use it subject to the data error issues discussed here and agreed to during previous meetings with interested parties.

APPENDIX B

CONDENSED LOOKUP TABLES
2020 - 2024

2020 Condensed Look-up Table for Hourly Operations (4 hours or less per day)

Turbine Inflow Conditions: DO = 0 – 3.9 mg/L; DO objective in tailrace is 4 mg/L		
MWs desired	**Approximate flow (cfs)**	**For Hourly operations (operating 4 hours or less per day), the following unit operations are recommended in the order of preference (the bold, blue values should attain 4 mg/L DO):**
≤ 10	≤ 1000	**1. U4; 2. U1, 3. U3**
10-18	1000-1500	**1. U1+U4; 2. U1+U3+U4; 3. U3+(U4 or U1); 4. U4 5.** U1 6. U3
22-25	1500-2000	**1. U1+U3+U4; 2. U1+U4; 3. U3+(U1 or U4); 4.** U4 **5.** U1 **6.** U3 **Option with Technical Services concurrence: U1+U2+U3+U4; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
25-31	2000-2500	**1. U1+U3+U4; 2. U1+U4; 3.** U3+(U1 or U4); **4.** U4; **5.** U1; **6.** U3; **Option with Technical Services concurrence: U1+U2+U3+U4; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
31-36	2500-3000	**1. U1+U3+U4; 2. U1+U4; 3.** U3+(U1 or U4); **4.** U4; **5.** U1; **6.** U3; **Option with Technical Services concurrence: U1+U2+U3+U4; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
36-44	3000-3600, limit for 4 mg/L	**1. U1+U3+U4; 2.** U1+U4; **3.** U3 + (U1 or U4); **4.** For project flow up to 3150 cfs, use in order of preference: U4, U1, U3;
44-75	3600-6300	**1.** U1+U2+U3+U4; **2.** U4 full gate + rest split between U1+U3; **3.** U1+U4+(U2 or U3); **4.** U1+U4; **5.** U4+U1+U2; **6.** U3+(U1 or U4); **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
75-113	6300-9500	**1.** U1+U2+U3+U4; **2.** U1+U4+(U3 or U2); **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
113-150	9500-12,600	**1.** U1+U2+U3+U4 **2.** any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
150-178	12,600-15,000	**1.** U1+U2+U3+U4+U5; **2.** U1+U4+(U3 or U2)+U5@72MW; **3.** U4+U1+U2+U5@72MW **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
≥ 178	≥ 15,000	All units **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**

Note1: Minimum flows during periods of low DO should be maintained at 450-500 cfs so that venting will draw air into the units.
Note 2: When running multiple units spread load evenly among them whenever possible.

2020 Condensed Look-up Table for Daily Operations (greater than 4 hours per day)

Turbine Inflow Conditions: DO = 0 – 4.9 mg/L; DO objective in tailrace is 5 mg/L		
MWs desired	**Approximate flow (cfs)**	**For Daily operating conditions (operating more than 4 hours per day), the following unit operations are recommended in the order of preference (the bold, blue values should attain 5 mg/L DO):**
≤ 8	≤ 900	**1. U4; 2. U1, 3. U3**
8-18	900-1500	**1. U1+U4; 2. U1+U3+U4; 3. U3+(U1 or U4); 4. U4; 5.** U1; **6.** U3
18-25	1500-2000	**1. U1+U3+U4; 2. U1+U4; 3.** U3+(U1 or U4); **4.** U4; **5.** U1; **6.** U3 **Option with Technical Services concurrence: U1+U2+U3+U4; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
25-37	2000-3150, limit for 5 mg/L	**1.** U1+U3+U4; **2.** U1+U4; **3.** U3+(U1 or U4); **4.** U4; **5.** U1; **6.** U3 **Option with Technical Services concurrence: U1+U2+U3+U4; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
37-75	3150-6300	**1.** U1+U2+U3+U4; **2.** U1+U4+(U3 or U2); **3.** U1+U4; **4.** U4+(U1 or U3); **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
75-113	6300-9500	**1.** U1+U2+U3+U4; **2.** U1+U4+(U3 or U2); **3.** U1+U3+U4; **4.** U4+U1+U2 **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
113-150	9500-12,600	**1.** U1+U2+U3+U4; **2.** any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
150-178	12,600-15,000	**1.** U1+U2+U3+U4+U5; **2.** U1+U4+(U3 or U2)+U5@72MW; **3.** U4+U2+U1+U5@72MW **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
≥ 178	≥ 15,000	All units **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**

Note1: Minimum flows during periods of low DO should be maintained at 450-500 cfs so that venting will draw air into the units.
Note 2: When running multiple units spread load evenly among them whenever possible.

2021 Condensed Look-up Table for Hourly Operations (4 hours or less per day)

Turbine Inflow Conditions: DO = 0 – 3.9 mg/L; DO objective in tailrace is 4 mg/L		
MWs desired	**Approximate flow (cfs)**	**For Hourly operations (operating 4 hours or less per day), the following unit operations are recommended in the order of preference (the bold, blue values should attain 4 mg/L DO):**
≤ 10	≤ 1000	**1. U4; 2. U3; 3. U3+U4;** 4. U1
10-18	1000-1500	**1. U3+U4; 2. U3+U4+U5; 3. U4+(U3 or U5);** 4. U4; 5. U3; 6. U1
22-25	1500-2000	**1. U3+U4+U5; 2. U4+(U3 or U5);** 3. U4; 4. U3; 5. U1 **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
25-31	2000-2500	**1. U3+U4+U5;** 2. U4+(U3 or U5); 3. U3+(U4 or U5); 4. U4; 5. U3; 6. U5; 7. U1; **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
31-36	2500-3000	**1. U3+U4+U5;** 2. U4+(U3 or U5); 3. U3+(U4 or U5); 4. U4; 5. U3; 6. U5; 7. U1; **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
36-44	3000-3600, limit for 4 mg/L	**1. U2+U3+U4+U5;** 2. U3+U4; 3. U3 + (U4 or U5); 4. U5; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
44-75	3600-6300	1. U2+U3+U4+U5; 2. U4 full gate + rest split between U2+U3; 3. U5+U4+(U2 or U3); 4. U3+U4; 5. U4+U2+U5; 6. U3+(U4 or U5); **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
75-113	6300-9500	1. U2+U3+U4+U5; 2. U5+U4+(U3 or U2); **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
113-150	9500-12,600	1. U2+U3+U4+U5; 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
150-178	12,600-15,000	1. U2+U3+U4+U5; 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
≥ 178	≥ 15,000	All units **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**

Note1: Minimum flows during periods of low DO should be maintained at 600-700 cfs so that venting will draw air into the units.
Note 2: When running multiple units spread load evenly among them whenever possible.

2021 Condensed Look-up Table for Daily Operations (greater than 4 hours per day)

Turbine Inflow Conditions: DO = 0 – 4.9 mg/L; DO objective in tailrace is 5 mg/L		
MWs desired	**Approximate flow (cfs)**	**For Daily operating conditions (operating more than 4 hours per day), the following unit operations are recommended in the order of preference (the bold, blue values should attain 5 mg/L DO):**
≤ 8	≤ 900	**1. U3+U4; 2. U4; 3. U5;** **4.** U3; **5.** U1
8-18	900-1500	**1. U3+U4; 2. U3+U4+U5; 3. U4+(U3 or U5);** **4.** U4; **5.** U3; **6.** U5; **7.** U1
18-25	1500-2000	**1. U3+U4+U5; 2. U4+(U3 or U5);** **3.** U4; **4.** U3; **5.** U5; **6.** U1 **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
25-37	2000-3150, limit for 5 mg/L	**1.** U3+U4+U5; **2.** U3+U4; **3.** U3+(U4 or U5); **4.** U4; **5.** U3; **6.** U5; **7.** U1 **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
37-75	3150-6300	**1.** U2+U3+U4+U5; **2.** U4+U5+(U3 or U2); **3.** U3+U4; **4.** U5+(U4 or U3); **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
75-113	6300-9500	**1.** U2+U3+U4+U5; **2.** U4+U5+(U3 or U2); **3.** any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
113-150	9500-12,600	**1.** U2+U3+U4+U5; **2.** any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
150-178	12,600-15,000	**1.** U2+U3+U4+U5; **2.** any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
≥ 178	≥ 15,000	All available units **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**

Note1: Minimum flows during periods of low DO should be maintained at 600-700 cfs so that venting will draw air into the units.
Note 2: When running multiple units spread load evenly among them whenever possible.

2022 Condensed Look-up Table for Hourly Operations (4 hours or less per day) Rev. 1 August 2022

Turbine Inflow Conditions: DO = 0 – 3.9 mg/L; DO objective in tailrace is 4 mg/L		
MWs desired	**Approximate flow (cfs)**	**For Hourly operations (operating 4 hours or less per day), the following unit operations are recommended in the order of preference (the bold, blue values should attain 4 mg/L DO):**
≤ 10	≤ 1000	**1. U4; 2. U3; 3. U5;** 4. U1
10-18	1000-1500	**1. U3+U4; 2. U5+(U3 or U4); 3. U4; 4. U3; 5. U5; 6.** U1
22-25	1500-2000	**1. U3+U4+U5; 2. U5+(U3 or U4); 3.** U4+U3; **4.** U4; **5.** U3; **6.** U1 **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
25-31	2000-2500	**1. U3+U4+U5; 2.** U5+(U3 or U4); **3.** U4+(U3 or U1); **4.** U4; **5.** U3; **6.** U5; **7.** U1; **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
31-36	2500-3000	**1. U3+U4+U5; 2.** U5+(U3 or U4); **3.** U4+(U3 or U1); **4.** U4; **5.** U3; **6.** U5; **7.** U1; **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
36-44	3000-3600, limit for 4 mg/L	**1. U2+U3+U4+U5; 2.** U3+U4; **3.** U3 + (U4 or U5); **4.** U5; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
44-75	3600-6300	**1.** U2+U3+U4+U5; **2.** U4 full gate + rest split between U2+U3; **3.** U5+U4+(U2 or U3); **4.** U3+U4; **5.** U4+U2+U5; **6.** U3+(U4 or U5); **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
75-113	6300-9500	**1.** U2+U3+U4+U5; **2.** U5+U4+(U3 or U2); **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
113-150	9500-12,600	**1.** U2+U3+U4+U5; **2.** any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
150-178	12,600-15,000	**1.** U2+U3+U4+U5; **2.** any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
≥ 178	≥ 15,000	All units **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**

Note1: Minimum flows during periods of low DO should be maintained at 600-700 cfs so that venting will draw air into the units.
Note 2: When running multiple units spread load evenly among them whenever possible.

2022 Condensed Look-up Table for Daily Operations (greater than 4 hours per day) **Rev. 1 August 2022**

Turbine Inflow Conditions: DO = 0 – 4.9 mg/L; DO objective in tailrace is 5 mg/L		
MWs desired	**Approximate flow (cfs)**	**For Daily operating conditions (operating more than 4 hours per day), the following unit operations are recommended in the order of preference (the bold, blue values should attain 5 mg/L DO):**
≤ 8	≤ 900	**1. U4; 2. U3; 3. U5;** 4. U1
8-18	900-1500	**1. U3+U4; 2. U5+(U3 or U4); 3. U5;** **4.** U4; **5.** U3; **6.** U1
18-25	1500-2000	**1. U3+U4+U5;** **2.** U5+(U3 or U4); **3.** U3+U4; **4.** U4; **5.** U3; **6.** U1 **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
25-37	2000-3150, limit for 5 mg/L	**1.** U3+U4+U5; **2.** U3+U4; **3.** U3+(U4 or U5); **4.** U4; **5.** U3; **6.** U5; **7.** U1 **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
37-75	3150-6300	**1.** U2+U3+U4+U5; **2.** U4+U5+(U3 or U2); **3.** U3+U4; **4.** U5+(U4 or U3); **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
75-113	6300-9500	**1.** U2+U3+U4+U5; **2.** U4+U5+(U3 or U2); **3.** any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
113-150	9500-12,600	**1.** U2+U3+U4+U5; **2.** any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
150-178	12,600-15,000	**1.** U2+U3+U4+U5; **2.** any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
≥ 178	≥ 15,000	All available units **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**

Note1: Minimum flows during periods of low DO should be maintained at 600-700 cfs so that venting will draw air into the units.
Note 2: When running multiple units spread load evenly among them whenever possible.

2024 Condensed Look-up Table for Hourly Operations (4 hours or less per day)

Turbine Inflow Conditions: DO = 0 – 3.9 mg/L; DO objective in tailrace is 4 mg/L		
MWs desired	**Approximate flow (cfs)**	**For Hourly operations (operating 4 hours or less per day), the following unit operations are recommended in the order of preference (the bold, blue values should attain 4 mg/L DO):**
≤ 10	≤ 1000	**1. U3; 2. (U3 or U4)+U5;** 3. U4; 4. U1
10-18	1000-1500	**1. (U3 or U4)+U5;** 2. U3+U4; 3. U3; 4. U4; 5. U1
22-25	1500-2000	**1. U3+U4+U5; 2. (U3 or U4)+U5;** 3. U4+U3; 4. U3; 5. U4; 6. U1 **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run.**
25-31	2000-2500	**1. U3+U4+U5; 2. (U3 or U4)+U5;** 3. U3+(U4 or U1); 4. U3; 5. U4; 6. U1; 7. U5; **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run.**
31-36	2500-3000	**1. U3+U4+U5;** 2. U5+(U3 or U4); 3. U3+(U4 or U1); 4. U3; 5. U4; 6. U1; 7. U5; **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run.**
36-44	3000-3600, limit for 4 mg/L	**1. U2+U3+U4+U5;** 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run.**
44-75	3600-6300	1. U2+U3+U4+U5; 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run.**
75-113	6300-9500	1. U2+U3+U4+U5; 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
113-150	9500-12,600	1. U2+U3+U4+U5; 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
150-178	12,600-15,000	**1.** U2+U3+U4+U5; 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
≥ 178	≥ 15,000	All units **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**

Note 1: Minimum flows during periods of low DO should be maintained at 600-700 cfs so that venting will draw air into the units.
Note 2: Due to decreased venting of the smaller units, Unit 5 may be run along with a small unit to meet DO and temp. requirements.
Note 3: When running multiple units spread load evenly among them whenever possible unless directed otherwise by Technical Services.

2024 Condensed Look-up Table for Daily Operations (greater than 4 hours per day)

Turbine Inflow Conditions: DO = 0 – 4.9 mg/L; DO objective in tailrace is 5 mg/L		
MWs desired	**Approximate flow (cfs)**	**For Daily operating conditions (operating more than 4 hours per day), the following unit operations are recommended in the order of preference (the bold, blue values should attain 5 mg/L DO):**
≤ 8	≤ 900	**1. U3; 2. (U3 or U4)+U5;** 3. U4; 4. U1
8-18	900-1500	**1. (U3 or U4)+U5; 2. U3+U4;** 3. U3; 4. U4; 5. U1
18-25	1500-2000	**1. U3+U4+U5; 2.** U5+(U3 or U4); **3.** U3+U4; **4.** U3; **5.** U4; **6.** U1 **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
25-37	2000-3150, limit for 5 mg/L	**1.** U3+U4+U5; **2.** U3+U4; **3.** U3+(U4 or U5); **4.** U3; **5.** U4; **6.** U1; **7.** U5 **Option with Technical Services concurrence: U2+U3+U4+U5; Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**
37-75	3150-6300	1. U2+U3+U4+U5; 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run.**
75-113	6300-9500	1. U2+U3+U4+U5; 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run.**
113-150	9500-12,600	1. U2+U3+U4+U5; 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run.**
150-178	12,600-15,000	1. U2+U3+U4+U5; 2. any available small units with U5 as needed to supplement the small units; **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run.**
≥ 178	≥ 15,000	All available units **Flows from Saluda need to be ≥ 2500 cfs before Unit 2 can be run**

Note 1: Minimum flows during periods of low DO should be maintained at 600-700 cfs so that venting will draw air into the units.
Note 2: Due to decreased venting of the smaller units, Unit 5 may be run along with a small unit to meet DO and temp. requirements.
Note 3: When running multiple units spread load evenly among them whenever possible unless directed otherwise by Technical Services.

APPENDIX C

DESC AND AGENCY CORRESPONDENCE DURING 2024

Subject: Updated Saluda Hydro Generation Releases
Date Range of Emails: August 4-6, 2024

From: Jason Bettinger
To: Raymond Ammarell (DESC Generation - 8)
Cc: Elizabeth Miller
Subject: [EXTERNAL] RE: UPDATED Saluda Hydro Generation Releases
Date: Tuesday, August 6, 2024 12:52:25 PM

Excellent, glad adding the spill seems to be working. Appreciate you making that operational change to keep oxygen levels up. Jason

---

From: Raymond Ammarell (DESC Generation - 8)
To: "Jason Bettinger"
Cc: Elizabeth Miller
Subject: RE: UPDATED Saluda Hydro Generation Releases
Date: Tuesday, August 6, 2024 11:59:38 AM

Jason,

We held the spill constant and increased releases through the turbines. That brought the DO down some but also mixed in more cool water with it. The gage below the dam is showing DO < 2 mg/l because it is above the point where the spillway channel comes in. Caleb Gaston took a DO reading at the Saluda Shoals upper boat ramp yesterday afternoon and it was 4 mg/l at 20C. So the mixing of the spillway flow with the turbine flow is limiting the really low DO impact to the reach between the plant and below the spillway channel.

Raymond R. Ammarell, P.E.
DESC Power Generation
Dam Safety & Hydro Compliance

601 Old Taylor Road, Cayce, SC 29033
Mailing Address: 220 Operation Way, MC B223, Cayce, SC 29033 O: 803-217-7322 M: 803-206-3710

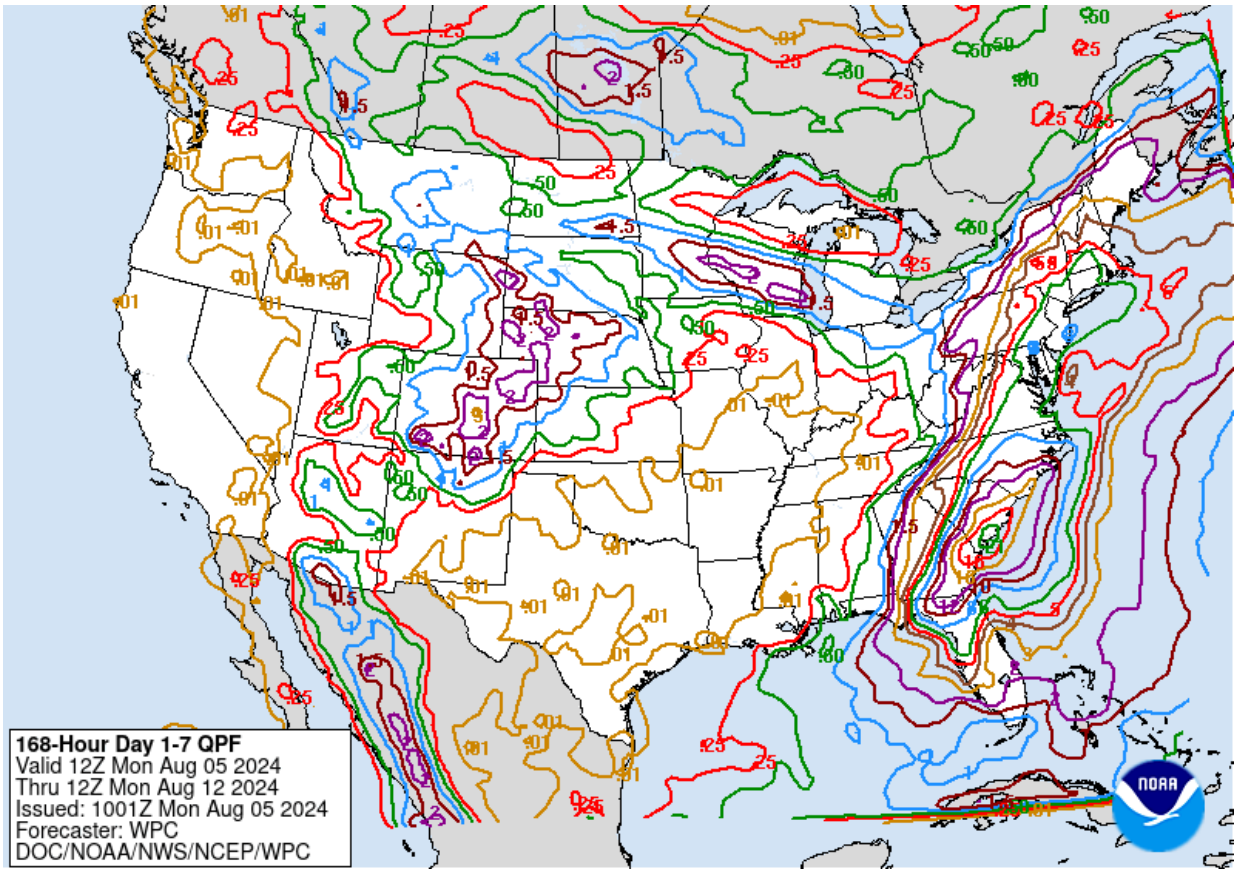
From: Jason Bettinger <BettingerJ@dnr.sc.gov>
Sent: Tuesday, August 6, 2024 10:49 AM
To: Raymond Ammarell (DESC Generation - 8) <raymond.ammarell@dominionenergy.com>
Cc: Elizabeth Miller <MillerE@dnr.sc.gov>
Subject: [EXTERNAL] RE: UPDATED Saluda Hydro Generation Releases

Ray noticed a drop in temperature and oxygen at the Cola gage yesterday evening. Did you stop spilling?

From: RAYMOND AMMARELL <raymond.ammarell@dominionenergy.com>
Sent: Monday, August 5, 2024 9:05 AM
To: 'Lindsay Hudson' <LHudson@icrc.net>; 'Harden, Smith' <sharden@icrc.net>; 'John Cantey' <jcantey@icrc.net>; 'Zach Pensa' <zpensa@icrc.net>; 'Justin Johnson' <wjohnson@icrc.net>; 'Rachel Kennerly' <RKennerly@icrc.net>; 'Rhett Casey' <rcasey@icrc.net>; 'colemcclam@mcclam.net' <colemcclam@mcclam.net>; 'Adams, John' <jpadams@walshgroup.com>; 'Tim Marsh' <tim.marsh@uig.net>; 'billy.hardwick@uig.net' <billy.hardwick@uig.net>; 'Leonard.Vaughan@noaa.gov' <Leonard.Vaughan@noaa.gov>; 'NWS Columbia, SC - NOAA Service Account' <caewx@noaa.gov>; 'SERFC Office' <sr-alr.rivers@noaa.gov>; 'Jeff Dobur' <jeffrey.dobur@noaa.gov>; 'Kustafik, Karen' <Karen.Kustafik@columbiasc.gov>; 'Congaree Riverkeeper' <CRK@congareeriverkeeper.org>; Elizabeth Miller <MillerE@dnr.sc.gov>; Jason Bettinger <BettingerJ@dnr.sc.gov>; 'Daniel Marchman' <daniel.marchman@shawinc.com>; 'David Gobbel' <david.gobbel@shawinc.com>; 'Scott Deans' <scott.deans@shawinc.com>; 'Dannelly, Joseph' <JDannelly@lex-co.com>; 'chad.harmon@columbiasc.gov' <Chad.Harmon@columbiasc.gov>; 'Rusty Wenerick (weneriwr@dhec.sc.gov)' <WENERIWR@dhec.sc.gov>
Cc: JAMES BROWN <JAMES.E.BROWN@dominionenergy.com>; DAVID TUCKER <DAVID.TUCKER@dominionenergy.com>; OSCIE BROWN <OSCIE.BROWN@dominionenergy.com>; AMY BRESNAHAN <amy.bresnahan@dominionenergy.com>; JOHN BLALOCK <JOHN.BLALOCK@dominionenergy.com>; CALEB GASTON <caleb.gaston@dominionenergy.com>
Subject: UPDATED Saluda Hydro Generation Releases

All,

At about 9:00 AM this morning we plan to increase releases from Saluda Hydro to about 6,500 CFS (Yellow Range). About 11:00 AM we will be partially opening a spillway gate to compensate for a unit that is out of service and release additional water from the lake as Hurricane Debby approaches. This will increase flow to about 11,500 CFS (Red Range). Our plan is to balance dissolved oxygen and temperature in our releases using the spillway and generation together. Current 7 day rain forecast map is attached.



Raymond R. Ammarell, P.E.
DESC Power Generation
Dam Safety & Hydro Compliance

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From: Raymond Ammarell (DESC Generation - 8)

Sent: Sunday, August 4, 2024 1:16 PM

To: 'Lindsay Hudson' <LHudson@icrc.net>; 'Harden, Smith' <sharden@icrc.net>; 'John Cantey' <jcantey@icrc.net>; 'Zach Pensa'<zpensa@icrc.net>; 'Justin Johnson' <wjohnson@icrc.net>; 'Rachel Kennerly' <RKennerly@icrc.net>; 'Rhett Casey' <rcasey@icrc.net>; 'colemcclam@mcclam.net' <colemcclam@mcclam.net>; 'Adams, John' <jpadams@walshgroup.com>; 'Tim Marsh' <tim.marsh@uig.net>; 'billy.hardwick@uig.net' <billy.hardwick@uig.net>; 'Leonard.Vaughan@noaa.gov' <Leonard.Vaughan@noaa.gov>; 'NWS Columbia, SC - NOAA Service Account' <caewx@noaa.gov>; 'SERFC Office' <sr-alr.rivers@noaa.gov>; 'Jeff Dobur' <jeffrey.dobur@noaa.gov>; 'Kustafik, Karen' <Karen.Kustafik@columbiasc.gov>; 'Congaree Riverkeeper' <CRK@congareeriverkeeper.org>; 'Elizabeth Miller - SCDNR' <millere@dnr.sc.gov>; 'Jason Bettinger'<bettingerj@dnr.sc.gov>; 'Daniel Marchman' <daniel.marchman@shawinc.com>; 'David Gobbel' <david.gobbel@shawinc.com>;Scott Deans' <scott.deans@shawinc.com>; 'Dannelly, Joseph' <JDannelly@lex-co.com>; 'chad.harmon@columbiasc.gov'<Chad.Harmon@columbiasc.gov>; 'Rusty Wenerick (weneriwr@dhec.sc.gov)' <WENERIWR@dhec.sc.gov>**Cc:** James Brown (DESC Generation - 8) <JAMES.E.BROWN@dominionenergy.com>; David Tucker (DESC Generation - 8)<DAVID.TUCKER@dominionenergy.com>; Oscie Brown (DESC Generation - 8) <OSCIE.BROWN@dominionenergy.com>; Amy Bresnahan (DESC Generation - 8) <amy.bresnahan@dominionenergy.com>;

John Blalock (DESC Trans Distribution - 7T)<JOHN.BLALOCK@dominionenergy.com>

Subject: UPDATED Saluda Hydro Generation Releases

All,

We are increasing the release from Saluda Hydro to about 4,500 CFS at this time.

Raymond R. Ammarell, P.E.
DESC Power Generation
Dam Safety & Hydro Compliance

601 Old Taylor Road, Cayce, SC 29033
Mailing Address: 220 Operation Way, MC B223, Cayce, SC 29033 O:
803-217-7322 M: 803-206-3710

From: Raymond Ammarell (DESC Generation - 8)

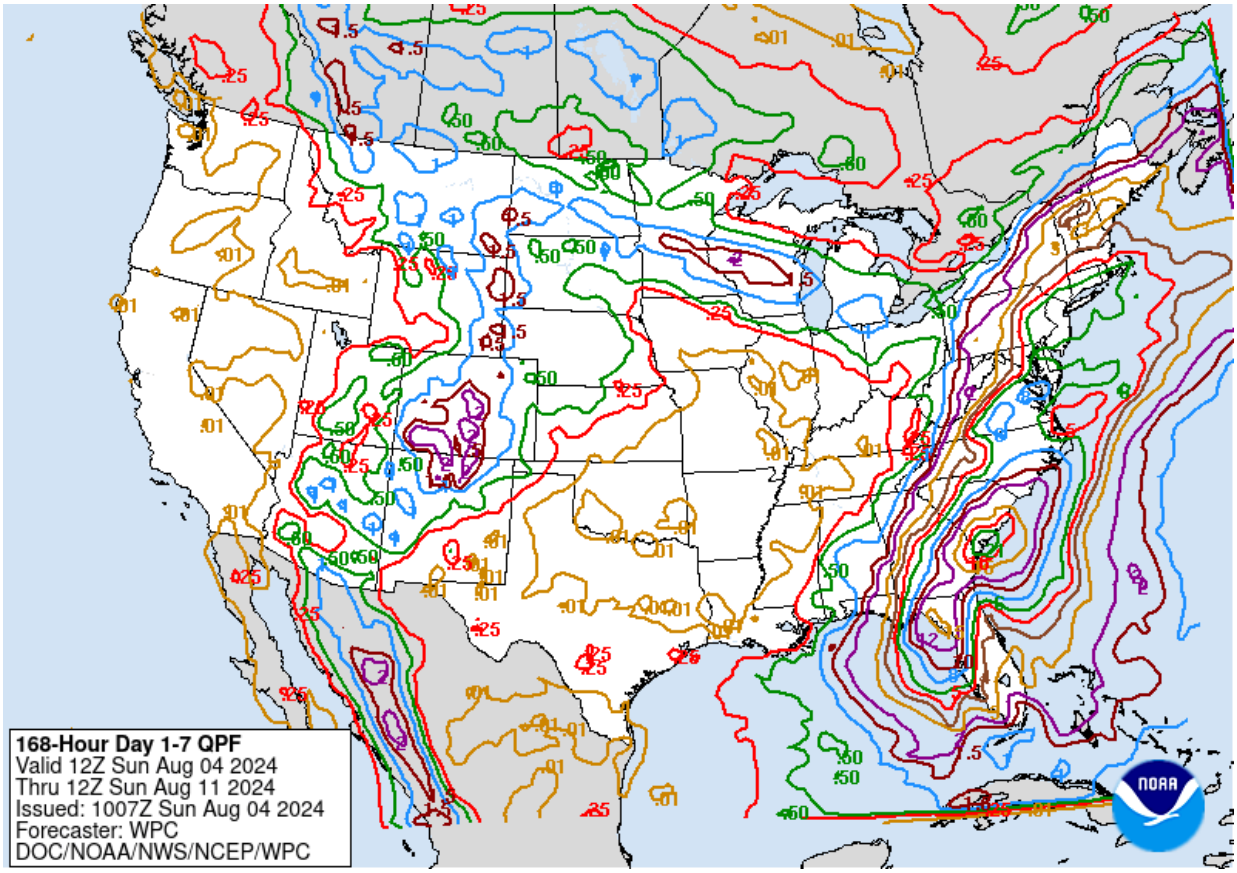
Sent: Sunday, August 4, 2024 11:30 AM

To: 'Lindsay Hudson' <LHudson@icrc.net>; 'Harden, Smith' <sharden@icrc.net>; 'John Cantey' <jcantey@icrc.net>; 'Zach Pensa' <zpensa@icrc.net>; 'Justin Johnson' <wjohnson@icrc.net>; 'Rachel Kennerly' <RKennerly@icrc.net>; 'Rhett Casey' <rcasey@icrc.net>; 'colemcclam@mcclam.net' <colemcclam@mcclam.net>; 'Adams, John' <jpadams@walshgroup.com>; 'Tim Marsh' <tim.marsh@uig.net>; 'billy.hardwick@uig.net' <billy.hardwick@uig.net>; 'Leonard.Vaughan@noaa.gov' <Leonard.Vaughan@noaa.gov>; 'NWS Columbia, SC - NOAA Service Account' <caewx@noaa.gov>; 'SERFC Office' <sr-alr.rivers@noaa.gov>; 'Jeff Dobur' <jeffrey.dobur@noaa.gov>; 'Kustafik, Karen' <Karen.Kustafik@columbiasc.gov>; 'Congaree Riverkeeper' <CRK@congareeriverkeeper.org>; 'Elizabeth Miller - SCDNR' <millere@dnr.sc.gov>; 'Jason Bettinger' <bettingerj@dnr.sc.gov>; 'Daniel Marchman' <daniel.marchman@shawinc.com>; 'David Gobbel' <david.gobbel@shawinc.com>; 'Scott Deans' <scott.deans@shawinc.com>; 'Dannelly, Joseph' <JDannelly@lex-co.com>; 'chad.harmon@columbiasc.gov' <Chad.Harmon@columbiasc.gov>; 'Rusty Wenerick (weneriwr@dhec.sc.gov)' <WENERIWR@dhec.sc.gov> **Cc:** James Brown (DESC Generation - 8) <JAMES.E.BROWN@dominionenergy.com>; David Tucker (DESC Generation - 8) <DAVID.TUCKER@dominionenergy.com>; Oscie Brown (DESC Generation - 8) <OSCIE.BROWN@dominionenergy.com>; Amy Bresnahan (DESC Generation - 8) <amy.bresnahan@dominionenergy.com>; John Blalock (DESC Trans Distribution - 7T) <JOHN.BLALOCK@dominionenergy.com>

Subject: Saluda Hydro Generation Releases

All,

Based on the rain forecast for TS Debby, DESC will be increasing the release from Saluda Hydro to about 3,000 CFS at about noon today. This will be in the lower part of the Yellow flow range. We will likely need to increase releases more later in the week depending on the storm track and rainfall received in the Saluda River basin. The 7 day rainfall forecast below currently shows 2 to 5 inches in the Upstate and about 20 inches at the coast.



Raymond R. Ammarell, P.E.
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Subject: Saluda Temp and DO
Date Range of Emails: August 5-6, 2024

From: Caleb Gaston (Services - 6)
To: Raymond Ammarell (DESC Generation - 8); Paul Vidonic (Services - 6)
Subject: Re: Saluda temp and DO
Date: Tuesday, August 6, 2024 4:43:14 PM

Aug 6 at 1725 at Hope Ferry Temp: 20.2 C
DO: 3.9 mg/L Caleb Gaston

From: Raymond Ammarell (DESC Generation - 8) <raymond.ammarell@dominionenergy.com>
Sent: Monday, August 5, 2024 5:53:57 PM
To: Caleb Gaston (Services - 6) <caleb.gaston@dominionenergy.com>; Paul Vidonic (Services - 6) <paul.vidonic@dominionenergy.com>
Subject: RE: Saluda temp and DO

Thanks Caleb. 4 mg/l is quite a bit higher than what the gage below the dam is reading right now at any rate, so it must be picking up some mixing from the spillway flows.

I really appreciate you getting this reading today and I apologize for asking you to come over here to do that.

Raymond R. Ammarell, P.E.
DESC Power Generation
Dam Safety & Hydro Compliance

601 Old Taylor Road, Cayce, SC 29033
Mailing Address: 220 Operation Way, MC B223, Cayce, SC 29033 O: 803-217-7322 M: 803-206-3710

From: Caleb Gaston (Services - 6) <caleb.gaston@dominionenergy.com>
Sent: Monday, August 5, 2024 5:32 PM
To: Raymond Ammarell (DESC Generation - 8) <raymond.ammarell@dominionenergy.com>; Paul Vidonic (Services - 6) <paul.vidonic@dominionenergy.com>
Subject: Saluda temp and DO

At Saluda Shoals Park upper boat ramp, 1715
Temp: 20.0 C
DO: 4.0 mg/L
I don't think it is mixed well there, measurement from the tailrace side of the river, likely missing much of the spillway flow influence.

Caleb Gaston

Subject: Saluda Hydro Potential Generation Releases – Hurricane Helene
Date Range of Emails: September 26, 2024

From:	Raymond Ammarell (DESC Generation - 8)
To:	"Jason Bettinger"
Cc:	Elizabeth Miller
Subject:	RE: Saluda Hydro Potential Generation Releases - Hurricane Helene
Date:	Thursday, September 26, 2024 1:23:51 PM

Jason,

We plan to use a spillway gate as we did in August to augment DO from the plant releases. The forebay DO is lower now than it was in August so we think we will need to do a 60/40 split between the plant flow and the gate flow as opposed to the 70/30 split we used in August. The surface water temps are lower now so the temperature impact of the gate release will not be as great.

Ray

Raymond R. Ammarell, P.E.
DESC Power Generation
Dam Safety & Hydro Compliance

601 Old Taylor Road, Cayce, SC 29033
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M: 803-206-3710

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From: Jason Bettinger <BettingerJ@dnr.sc.gov>
Sent: Thursday, September 26, 2024 1:12 PM
To: Raymond Ammarell (DESC Generation - 8) <raymond.ammarell@dominionenergy.com>
Cc: Elizabeth Miller <MillerE@dnr.sc.gov>
Subject: [EXTERNAL] RE: Saluda Hydro Potential Generation Releases - Hurricane Helene

Ray, Thanks for the update. Will you be able to maintain DO when you go to higher flows or will this be a similar scenario to early August when the gates were cracked to provide DO? Jason

From: RAYMOND AMMARELL <raymond.ammarell@dominionenergy.com>
Sent: Thursday, September 26, 2024 12:58 PM
To: 'Lindsay Hudson' <LHudson@icrc.net>; 'Harden, Smith' <sharden@icrc.net>; 'John Cantey' <jcantey@icrc.net>; 'Zach Pensa' <zpensa@icrc.net>; 'Justin Johnson' <wjohnson@icrc.net>; 'Rachel Kennerly' <RKennerly@icrc.net>; 'Rhett Casey' <rcasey@icrc.net>; 'colemcclam@mcclam.net' <colemcclam@mcclam.net>; 'Adams, John' <jpadams@walshgroup.com>; 'Tim Marsh' <tim.marsh@uig.net>; 'billy.hardwick@uig.net' <billy.hardwick@uig.net>; 'Leonard.Vaughan@noaa.gov' <Leonard.Vaughan@noaa.gov>; 'NWS Columbia, SC - NOAA Service Account' <caewx@noaa.gov>; 'SERFC Office' <sr-alr.rivers@noaa.gov>; 'Jeff Dobur' <jeffrey.dobur@noaa.gov>; 'Kustafik, Karen' <Karen.Kustafik@columbiasc.gov>; 'Eskridge, William F (Frank)' <William.Eskridge@columbiasc.gov>; 'Congaree Riverkeeper' <CRK@congareeriverkeeper.org>; Elizabeth Miller <MillerE@dnr.sc.gov>; Jason Bettinger <BettingerJ@dnr.sc.gov>; 'Daniel Marchman' <daniel.marchman@shawinc.com>; 'David Gobbel' <david.gobbel@shawinc.com>; 'Scott Deans' <scott.deans@shawinc.com>; 'Dannelly, Joseph' <JDannelly@lex-co.com>; 'chad.harmon@columbiasc.gov' <Chad.Harmon@columbiasc.gov>; 'Rusty Wenerick (weneriwr@dhec.sc.gov)' <WENERIWR@dhec.sc.gov>; Thachik, David <dthachik@emd.sc.gov>
Cc: JAMES BROWN <JAMES.E.BROWN@dominionenergy.com>; DAVID TUCKER <DAVID.TUCKER@dominionenergy.com>; OSCIE BROWN <OSCIE.BROWN@dominionenergy.com>; AMY BRESNAHAN <amy.bresnahan@dominionenergy.com>; andrew.rollins@dominionenergy.com; JOHN BLALOCK <JOHN.BLALOCK@dominionenergy.com>; CALEB GASTON <caleb.gaston@dominionenergy.com>; matthew.long@dominionenergy.com
Subject: Saluda Hydro Potential Generation Releases - Hurricane Helene

All,

Currently we are releasing about 1,700 CFS (Blue flow range) from Saluda Hydro. Lake Murray is about 1.5 feet below target elevation, so we do not plan to increase generation until our inflow increases significantly and the lake level rises closer to target. Our model indicates we may need to release about 15,000 CFS (Red flow range) starting tomorrow at about 11:00 AM. This is based on the assumption that Lake Greenwood will have to spill a significant amount tomorrow as the heavier rains in the Upstate increase their inflow. The timing and amount of our releases are subject to change based on total rainfall amounts and Greenwood's operations. I just wanted to give you all a heads up that flow in the lower Saluda River is likely to increase tomorrow and through the weekend.

As always, please contact me with any questions. I will send an update as plans change and when we begin to increase flow above the Blue flow range. If you are signed up for the courtesy notifications you will receive the automated messaging also. You can sign up for those at Lower Saluda River | Dominion Energy.

Ray

Raymond R. Ammarell, P.E.
DESC Power Generation
Dam Safety & Hydro Compliance

601 Old Taylor Road, Cayce, SC 29033
Mailing Address: 220 Operation Way, MC B223, Cayce, SC 29033 O: 803-217-7322
M: 803-206-3710

Subject: Water Quality at Hope Ferry
Date Range of Emails: September 27, 2024

From: Raymond Ammarell (DESC Generation - 8)
To: Jason Bettinger
Cc: Elizabeth Miller - SCDNR
Subject: FW: Water quality at Hope Ferry
Date: Friday, September 27, 2024 5:38:34 PM

Jason,

Our inflow is currently about 35,000 CFS. We are releasing 16,500 CFS using a 60% plant /40% spillway split. The readings at the USGS gage below the dam are very low, but Caleb took a reading at Hope Ferry (JB Barker) landing and DO is 7.4 mg/l. The temp is a bit high but appears to be cooler at the Zoo gage and DO there is running 5.8 mg/l.

Ray

Raymond R. Ammarell, P.E.
DESC Power Generation
Dam Safety & Hydro Compliance

601 Old Taylor Road, Cayce, SC 29033
Mailing Address: 220 Operation Way, MC B223, Cayce, SC 29033 O: 803-217-7322
M: 803-206-3710

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From: Caleb Gaston (Services - 6) <caleb.gaston@dominionenergy.com>
Sent: Friday, September 27, 2024 4:22 PM
To: Raymond Ammarell (DESC Generation - 8) <raymond.ammarell@dominionenergy.com>; Paul Vidonic (Services - 6) <paul.vidonic@dominionenergy.com>
Subject: Water quality at Hope Ferry

Saluda Shoals park gates were closed so I took a measurement at Hope Ferry. Time

16:20
DO: 7.4 mg/L
Temp: 21.5 C

Subject: Water Quality at Upper Saluda Shoals Ramp
Date Range of Emails: October 2, 2024

From:	Caleb Gaston (Services - 6)
To:	Raymond Ammarell (DESC Generation - 8); Paul Vidonic (Services - 6)
Subject:	Water quality at upper Saluda Shoals ramp
Date:	Wednesday, October 2, 2024 10:36:39 AM

Temp: 20.6 C
DO: 4.1 mg/L
At 10:30

Little bit of sulfur smell. Lake may be mixing.