MEETING NOTES Stevens Creek Hydroelectric Project (FERC No. 2353)

Dominion Energy South Carolina, Inc. Operations RCG Meeting

December 4, 2019

Draft KMK 1-8-2020

ATTENDEES:

Amy Bresnahan (DESC) Ray Ammarell (DESC) Randy Mahan (DESC) Caleb Gaston (DESC) Trey Brock (DESC) Alison Jakupca (Kleinschmidt) Kelly Kirven (Kleinschmidt) Henry Mealing (Kleinschmidt) Bret Hoffman (Kleinschmidt) Jay Payne (GDNR) Paula Marcinek (GDNR) via conf. call Elizabeth Miller (SCDNR) Rusty Wenerick (SCDHEC) Melanie Olds (USFWS) via conf. call Twyla Cheatwood (NMFS) via conf. call Andy Herndon (NMFS) via conf. call Stan Simpson (USACE) Kat Feingold (USACE) Derrick Miller (USFS) via conf. call Tonya Bonitatibus (SRK) via conf. call Tony Hicks (individual)

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

Kat Feingold and Stan Simpson prepared a presentation for the Operations RCG detailing water management within the USACE Savannah District. The presentation is attached to the end of these notes. Following the presentation, Kat and Stan answered questions from the RCG. This discussion is summarized in the following paragraphs.

Tonya asked if the USGS gages available in the Stevens Creek area provide enough information for USACE, or do they need additional gages. Stan said that there are several gages that they currently use, including the USGS 02196000 Stevens Creek near Modoc, SC gage. He said that additional gages would be great, but they come with an associated cost. Amy added that there was a USGS gage right below the Stevens Creek powerhouse, but USGS couldn't get a confident rating curve so they removed it. Tonya added that she would like an additional gage installed on Stevens Creek below the Modoc gage to inform people recreating in the area about flows. It was mentioned that there is a new gage, USGS 021963601 Stevens Creek near Murphy Village SC, which is near the Hwy 53 (Woodlawn Road) Bridge. This gage is much closer than the Modoc gage.

Henry said that he has heard people ask if it's possible for USACE to change their operations. Stan said that theoretically they can run on a minimum flow, then operate solely for flood control and not to produce hydropower. USACE would also need to complete an Environmental Assessment prior to any operations changes. Stan said they would also continue to follow the drought plan. However, changes in operations would be outside of FERC control since the USACE is a separate federal agency. In addition, Stan stated that the process for changing operations would likely take

years and would need to be based on some valid environmental impacts and benefits that would be analyzed against the need for power.

Following discussion of USACE water management, Bret provided information on two USGS gages in the Stevens Creek Project area. At a previous meeting, a stakeholder asked how the readings at the USGS 02195520 Savannah River near Evans, GA gage and the USGS 02196483 Savannah River at Stevens Creek Dam near Morgana, SC gage relate. Bret said that the difference between the two gages is that the Evans gage provide gage height (in feet) and the Stevens Creek Dam gage provides elevation of reservoir water surface (in feet). The Evans gage is generally reflective of what's going on at the dam but with a time delay. In order to convert the gage height information at the Evans gage to elevation, 170 feet must be added to the gage height readings.

Prior to the close of the meeting, Stan and Kat said that they are open to hosting a site visit to Thurmond Dam for the Operations RCG. A doodle poll will be sent out in the next couple of months to help schedule the site visit for the spring of 2020.

Action items from the meeting are listed below.

ACTION ITEMS:

• Kleinschmidt will send out a doodle poll to schedule the Thurmond Dam site visit in spring 2020.



USACE SAVANNAH DISTRICT WATER MANAGEMENT 101

Savannah Water Managers

Stan Simpson

Kat Feingold



US Army Corps of Engineers BUILDING STRONG®

Bavannah

DISTRICT

AGENDA

- Current Basin Status
- Water Management Overview
- Questions





Past Year's Rainfall and Levels

Thurmond Reservoir Current Pool Elevation 323.95





J. STROM THURMOND PROJECT

- Completed in 1952
- 8th most-visited Corps project 5.0M Visitors/yr
- 71,100 acre water surface (330 ft-msl)
- Seven turbines capable of generating 364 MW
- 1,200 miles of shoreline
- 76 recreation sites







HARTWELL PROJECT

- Constructed in 1962
- 3rd most-visited Corps project 9.3 M Visitors/yr
- 56,000 acre water surface (660 ft-msl) 962-mile shoreline
- 5 Turbines with a 422 MW Generating capacity
- Largest shoreline management program in the Corps with 47,523 permitted activities







RICHARD B. RUSSELL PROJECT

- Completed in 1984
- Largest Corps power plant east of Mississippi River
- 26,653 acre water surface (475 ft-msl) 540-mile shoreline
- Four conventional turbines 328 MW Generating Capacity
- Four pump turbines 320 MW Generating Capacity
- 27 recreation sites
- 4 state parks







POOL SCHEMATIC



DRAINAGE BASINS

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Athel

Hartwell = 1294 Square Miles (Local Basin) 1 in. Runoff = 34,799 cfs-days = 1.2 ft. @ 660.0 Russell = 802 Square Miles (Local Basin) 1 in. Runoff = 21,566 cfs-days = 1.5 ft. @ 475.0 Thurmond = 2890 Square Miles (Local Basin) 1 in. Runoff = 87,502 cfs-days = 2.2 ft. @ 330.0





MANAGED AS SYSTEM OF PROJECTS



Total Drainage Basin Area -10,580 sq miles

WATER MANAGEMENT OBJECTIVES

- Minimize Flood Damages and Loss of Life
- Provide Maximum Benefit to the Public

Flood Risk Management

- Recreation
- Hydro-Production
- Fish and Wildlife Management
- Water Supply
- Water Quality
- Navigation
- Balance Drought impacts to Project Purposes
- Follow USACE Environmental Operating Principles
- Adaptively Manage within Corps Authorities
- Educate the Public





WHAT IS ???

Induced Surcharge Storage (7-9 feet per project) (Last used Dec 2015)

 Additional flood storage that can be gained when gates are lifted above their closed position.

Flood Storage (5 feet per project)

- Used to temporarily store inflows from flood events

Conservation Storage (625 - 660) (470-475) (312-330)

- Water Supply
- Recreation
- Hydropower
- Navigation
- Water Quality
- Fish and Wildlife

Inactive Storage (Bottom of Conservation Storage to streambed)

- All projects require some storage for the storage of sediment





POOL BALANCING PROCEDURE





Elevation Comparison FT-MSL



Data current as of 3 December 2019

US Army Corps of Engineers.

U.S.ARM

Data used to make our decisions







Stream Gage Networks







of Engineers.











Sty Collaborating AGENCIES











Protecting nature. Preserving life."























WATER MANAGEMENT WEB PAGE

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US Army Corps of Engineers

Savannah District Water Management





http://water.sas.usace.army.mil





MOBILE APPLICATION

USACE SAVANNAH

Lake Levels	Outflows	Rainfall	FORECAST Rainfall Forecast
Hartwell Data	Russell Data	Thurmond Data	FORECAST Streamflow Forecast
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Hartwell Projection	Russell Projection	Thurmond Projectio <u>n</u>	Savannah Gages
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http://water.sas.usace.army.mil/smart

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Feeds



of Engineers.



Questions?



