

SOUTHEASTERN FEDERAL POWER ALLIANCE

Savannah District Update

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US Army Corps of Engineers
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Agenda

- Russell Pump Units
- Savannah River Comprehensive Study
- FY15 Maintenance
- Customer Funded Projects



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Russell Pump-Back

- All 4 pumpers available
- Target Hours 80 pump hours/week
- August 2014 – February 2015 = 120 pump hours/week
- Mutual Benefits



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Savannah River Comp Study

We resumed the study in September 2013

- Study sponsors: GA DNR, SC DNR, and The Nature Conservancy
- Goal: Update the Corps' Drought Plan to provide a more sustainable solution to needs in the basin.

Work Performed To Date:

- GA DNR updated the Unimpaired Flow Dataset to include 2012.
- TNC held an Ecosystem Flow Workshop in July 2014 (included resource agencies and academia).
- The study will use the TNC Ecosystem Flow Recommendation as Alternative #3.
- TNC will update the Ecosystem Functions Model to include additional environmental thresholds.
- The study will use the updated Ecosystem Functions Model to evaluate all six alternatives.
- Corps updated the RES-SIM Model to enable us to evaluate the three Corps reservoirs as a system.

Status:

- GA DNR is updating the Unimpaired Flow Dataset to include 2013.
- Corps will soon begin modeling the alternatives in RES-SIM.
- Corps will prepare the Draft Report in 2016.



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Major Maintenance

- FY15 Non-routine Maintenance (Fed Appropriations)
 - ▶ Thurmond: Spillway gates, battery room, motor control/station service switchgear
 - ▶ Russell: Draft tube liner cavitation repair, battery room, head-gate 3 structural repair, tainter gates 4/5 corrosion repair
 - ▶ Hartwell: Penstock coating
- Customer Funds
 - ▶ \$31M in projects
 - ▶ 3 Projects currently underway
 - Hartwell Unit 3
 - Remote Operations
 - Russell Switchyard



Hartwell Unit 3

Scope:

- Repair failed stator windings, analyze unit vibration, and apply corrective actions to eliminate vibrations. **Total funding of \$4,493,352 including \$1,000,000 in contingency** was established in Sub-Agreement #10, Amendment #4 authorized on March 13, 2015.

Background:

- First winding failure occurred on August 12, 2010. Unit 3 returned to service on May 19, 2011 at a cost of \$427,000. Initial vibration analysis report was delivered on May 16, 2013. Second winding failure occurred on July, 18 2013. Repair contract awarded on October 30, 2013 for \$822,000. A \$216,842.75 contract modification was executed on April 4, 2014 to repair additional damage found. The original contract work has been completed. But more damage was identified and additional coil repairs will be required.

Status:

- Savannah District's HTC has determined that the best way forward is to award a SAD Hydropower Single Award Task Order Contract (SATOC) with the intent of reaching only the highest qualified contractors. This SATOC will be available for use by any Hydropower Project within SAD.
- **The Corps HDC has developed a Scope of Work (SOW) for the SAD Hydropower SATOC and a SOW for first task order to investigate the vibration problem of Hartwell unit 3. Savannah District's Contracting is in the process of putting together a solicitation package with the goal of awarding the contract by 24 July 2015.**



Savannah Remote Operations

Scope:

- Remotely operate the three Savannah River projects using a distributed operations methodology. This would allow any singular plant to operate any of the other two plants on the river system. **Total funding of \$14.98M including \$2.48M in contingency** was established in Sub-Agreement #18 authorized on August 26, 2014.

Background:

- 2012 study by HDR Engineering determined that remote operations was feasible based on current technology. HDR's preliminary budget estimate was \$10.5M. Savannah District Remote Operations PDT reviewed HDR's findings and recommended distributed remote operation. Conceptual approval received on 17 July 2013 from the Savannah District Commander.
- Remote Operations Project comprised of multiple sub-PDTs established to accomplish specific tasks: Policy Development, Organizational Structure Revision, Electronic Security System Enhancement, Interim Operations Plan, Microwave System Installation, and Control System Replacement/GDACS Installation.
- The electronic security system will be accomplished in two phases. Phase 1 will validate previous equipment estimates. Phase 2 will design, install, and commission equipment.
- The Microwave system will be accomplished in two phases. Phase 1 will survey the existing microwave towers and make recommendations for remediation, if needed. Phase 2 will make any necessary tower repairs



Savannah Remote Operations

Status:

- All PDTs are actively working to complete their tasks.
- Contract for Phase 1 of the security system was awarded on 13 March 2015.
- Contract for Phase 1 of the microwave system is expected to be awarded by 25 April 2015.
- GDACS Phase 1 – Design / Migration Server / Instrumentation started on 1 October 2014 schedule to end 31 December 2015.
- Initial remote operation capability expected at end of 1st Qtr FY 2016.
- Full system availability by end of 1st Qtr FY18.



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Russell Switchyard Component Replacement

Scope:

- Replace 230 kV oil circuit breakers with SF6 gas circuit breakers. Remove buried oil circuit breaker piping. **Total funding of \$3.6M including \$300K in contingency** was established in Sub-Agreement #9 authorized on May 25, 2010.

Background:

- The contract for installation of SF6 gas circuit breakers was awarded for \$1,898,898 on 14 July 2014 to Koontz Electric. The contract will be completed by 30 September 2015.

Status:

- **The Contractor began on-site work on 2 February 2015.** The replacement of the first 3 circuit breakers is in progress and is scheduled to be complete on 30 March 2015. A modification is being processed to replace half of the 3" aluminum expansion joints with bolted connections. This modification will extend the on-site duration by one week but will not effect the overall contract completion date.



Richard B. Russell Switchyard Component Replacement



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