

SOUTHEASTERN FEDERAL POWER ALLIANCE

Savannah District Update

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US Army Corps of Engineers
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Hartwell Unit 3

Scope:

- Repair failed stator windings, analyze unit vibration, and apply corrective actions to eliminate vibrations. \$1,565,000 in Customer Funds provided for this work.

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. A scope of work for a full vibration analysis has been developed. Second winding failure occurred on July, 18 2013. Repair contract awarded on October 30, 2013 for \$822,000.

Status:

- Contractor has completed repairs that are within current Scope of the Contract. Detailed inspection of the stator found broken turn insulation in areas not related to the main fault. A contract modification will be necessary to perform this repair work. Contractor has de-mobilized and will re-mobilize when funding is available.
- On February 27, 2014 the Project Review Committee voted to provide \$620,000 for the additional winding repair work and a vibration analysis contract. This will increase the total project funding to \$2,185,000.
- Anticipate winding repairs to be completed in May 2014; vibration analysis contract to be awarded 4th quarter FY2014.



Stator Lead Cracking Example



Insulation crack around entire circumference of jumper extending from the discolored end turn. The jumper insulation can be lifted vertically off the end turn.



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Richard B. Russell Flow Diversion Structure Repair

Scope:

- Repair the stone flow diversion structure (Rock Spur) that was damaged during tainter gate testing on September 5, 2013.

Background

- The tailrace rock spur was constructed to suppress the formation of a vortex in the area immediately downstream of Unit 8 and to reduce entrainment of fish at Unit 8. Prior to the construction of this spur, pump operations with Unit 8 routinely lead to the formation of a vortex that was both large and persistent enough to be a concern for unit operation.

Status:

- Repair contract awarded on February 21, 2014 for \$1,775,000.
- Construction is scheduled to begin on March 24, 2014 with completion on May 25, 2014.
- On January 16, 2014 SAD determined that the repair costs would be accounted for as a flood control expense.



Structure Prior to Test



September 5, 2013 gate test at RBR. View looking downstream at diversion structure from top of spillway prior to gate test.



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Gate Test #2



View looking downstream from top of spillway at gate 4 during second portion of gate test 2. Gates 1-3 opened 9 steps (7ft), gates 4-10 opened 5 steps (3.7ft).



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Structure After Test



View looking downstream at diversion structure from top of spillway after gate test 3.



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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.

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.

Status:

- 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.
- Initial funding of \$200k approved by the PRC on 22 November 2013. Funding used toward scoping efforts for security, microwave system, and GDACS control system in order to formulate a more detailed project budget. Electronic security and microwave budgetary estimates have been received. GDACS estimate anticipated on March 14, 2014.
- Initial remote operation capability expected in 4th Qtr FY 2015, with full system availability by 4th Qtr FY17.

