DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION
60 FORSYTH STREET SW, ROOM 10M15
ATLANTA, GA 30303-8801

REPLY TO
ATTENTION OF

CESAD-RBT 8 June 2012

MEMORANDUM FOR COMMANDER, SAVANNAH DISTRICT (CESAS-PD/

SUBJECT: Review Plan approval for Savannah River Basin Drought Contingency Plan (SRBDCP) Revision 2012 Draft Standard Operating Plan (SOP) and Draft Environmental Assessment (EA)

1. References:

a. Memorandum, CESAS-PD, 30 March 2012, Savannah River Basin Drought Contingency Plan (SRBDCP) Revision 2012 Standard Operating Plan (SOP) and Draft Environmental Assessment (EA) & Findings of No Significant Impact (FONSI).

b. Memorandum, CESAS-PD, undated, Approval Request – Savannah River Drought Contingency Plan (SRBDCP) Revision Draft 2012 Standard Operating Plan (SOP) and Draft Environmental Assessment (EA).

c. Memorandum, CESAS-PD, 14 May 2012, subject as above.

d. Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 January 2010.

2. The Review Plan for the Savannah River Basin Drought Contingency Plan (SRBDCP) Revision 2012 Draft Standard Operating Plan (SOP) and Draft Environmental Assessment (EA), dated 14 May 2012 (ref 1.c), has been reviewed by this office and is approved in accordance with reference l.d above. Edits made after the CESAS-PD submittal were coordinated with CESAS on the approved Review Plan which is enclosed.

3. We concur with the conclusion of the District that Type II Independent External Peer Review (IEPR) is not required for this project. The primary basis for the concurrence that a Type II IEPR is not required is this project does not pose a significant threat to human life.

4. The District should take steps to post the Review Plan to its web site and provide a link to CESAD-RBT. Before posting to the web site, the names of Corps/Army employees should be removed.

5. The SAD point of contact is the undersigned.

FOR THE COMMANDER:

Encl

CHRISTOPHER T. SMITH, P.E.
Chief, Business Technical Division

CF: (w/encl)
CESAS-EN/Gordon Simmons
CESAS-PD-PE/Williams Bailey
CESAD-DP/Pete Oddi

REVIEW PLAN

DROUGHT CONTIGENCY PLAN REVISION 2012
SAVANNAH RIVER BASIN

STANDARD OPERATING PLAN
AND
DRAFT ENVIRONMENTAL ASSESSMENT

US Army Corps
of Engineers®

Savannah District

JUNE 2012

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TABLE OF CONTENTS

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1. PURPOSE AND REQUIREMENTS

a. The Review Plan (RP) provides a series of peer review actions to ensure quality products are developed during the course of the product development. This RP is intended to describe the processes that will be implemented to (independently from the Project Team) evaluate the technical sufficiency of the Standard Operating Plan (SOP) and Draft Environmental Assessment (EA).

This RP is a collaborative product of the Project Delivery Team (PDT). The peer reviews for this effort are the District Quality Control (DQC) review, the Agency Technical Review (ATR) and Policy and Legal Compliance Review. This RP describes the level of review needed and the risked-informed decision that neither Type I nor Type II IEPR is needed.

The Savannah River Basin Drought Contingency Plan SOP and Draft EA are not "decisions documents" or "implementation documents" and therefore are "other work products" by EC 1165-2-209.

b. Applicability. This RP is applicable to the Savannah River Basin Drought Contingency Plan SOP and the Draft EA and the models used.

c. References

(1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
(2) EC 1105-2-412, Planning: Assuring Quality of Planning Models, 13 Mar 2011
(3) Engineering Regulation (ER) 1110-1-12, Quality Management, 31 Mar 2011
(4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007

d. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this review plan. The RMO for this effort is the South Atlantic Division (SAD).

3. PROJECT INFORMATION

a. Project Location and Description. The Savannah River basin has a surface area of approximately 10,577 square miles, of which 5,821 square miles are in Georgia, 4,581 square miles are in South Carolina and 175 square miles are in North Carolina. The basin includes portions of 27 counties in Georgia, 13 counties in South Carolina and four counties in North Carolina. Although the basin is predominantly rural, metropolitan areas are experiencing significant growth and development pressures. The growth is occurring primarily in the areas of Augusta and Savannah, Georgia, although many smaller cities and towns are also growing. The project area drains portions of three physiographic provinces: the Blue Ridge Mountains, the Piedmont and the Coastal Plain. In its middle and upper reaches the river flow is regulated by several reservoirs, including three large multipurpose Corps projects (Hartwell Lake, Richard B. Russell (RBR) Lake and J. Strom Thurmond (JST) Lake and two large private power reservoirs (Lakes Keowee and Jocassee). Other structures include the New Savannah Bluff Lock and Dam, the Stevens Creek Dam and the Old Lock and Dam at the Augusta Canal.

4. REVIEWS

The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Type I and Type II Independent External Peer Review (IEPR), and Policy and Legal Compliance Review.

5. DISTRICT QUALITY CONTROL (DQC)

District Quality Control is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements. All products undergo DQC. Basic quality control tools include quality checks and reviews, supervisory reviews, PDT reviews, etc. The home district is responsible for managing the DQC.

Quality checks and reviews occur during the development process and are carried out as a routine management practice. Quality checks may be performed by staff responsible for the work, such as supervisors, work leaders, team leaders, designated individuals from the senior staff, or other qualified personnel. However, they should not be performed by the same people who performed the original work, including managing/reviewing the work in the case of contracted efforts.

PDT reviews are performed by members of the PDT to ensure consistency and effective coordination across all project disciplines. Additionally, the PDT is responsible for a complete reading of any reports and accompanying appendices prepared by or for the PDT to assure the overall coherence and integrity of the report, technical appendices, and the recommendations before approval by the District Commander.

6. AGENCY TECHNICAL REVIEW (ATR)

The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. As stipulated in ER 1110-1-12, ATR members are sought from the following sources: regional technical specialists (RTS); appointed subject matter experts (SME) from other districts; senior level experts from other districts; Center of Expertise staff; appointed SME or senior level experts from the responsible district; experts from other USACE commands; contractors; academic or other technical experts; or a combination of the above.

a. Products to Undergo ATR. The Savannah River Basin Drought Contingency Plan Revision 2012 SOP, EA, and Hydrologic Engineering Center Ecosystems Functions Model (HEC-EFM) model will undergo ATR.

The ATR reviewers' mission is to develop, maintain, and apply the best and most appropriate nationally available expertise, science, and engineering technology. The following disciplines will perform the ATR for this effort:

(1) Environmental/Biologist – The ATR Team Member shall have a minimum of 4 years of experience related to preparing and reviewing Environmental Assessments (EAs). This person should also have experience in the cultural resource field and be able to review the EA from that standpoint. They should also have a good understanding of drought studies and have a thorough understanding of coordination requirements with federal and state agencies.

(2) Hydraulics and Hydrology – The ATR team member shall have a minimum of 4 years of experience related to drought studies and have a thorough understanding of coordination requirements with federal and state agencies.

(3) Team Leader – The Team Leader shall have prior experience leading ATR Teams and as required by EC 1165-2-209 shall be from outside SAD. The ATR Leader may also serve as a co-duty to one of the other reviewer disciplines.

b. Documentation of ATR. DrChecks review software was used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

(1) The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;
(2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed;
(3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and

(4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district and MSC), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-2-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed prior to the MSC review.

7. INDEPENDENT EXTERNAL PEER REVIEW (IEPR) PROCESS

IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. IEPR may be required for documents under certain circumstances. The risk-informed decision, as described in EC 1165-2-209, is made below to determine whether IEPR is appropriate.

a. Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPRs cover the entire document and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type

I IEPR per EC 1165-2-209. The following factors were evaluated concerning the need for a Type I IEPR.

- The project does not involve a significant threat to human life/safety assurance;
- The total project cost is less than $45 million;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an Environmental Impact Statement (EIS),
- The project is not likely to involve significant public dispute as to the size, nature, or effects of the project;
- The project is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the document is not based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- This effort does not require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are no other circumstances where the Chief of Engineers or Director of Civil Works determined Type I IEPR is warranted on this effort.

Based on this information, the PDT has determined that the SOP and EA, which as previously stated have been determined to be other work products under EC 1165-2-209, do not require and would not significantly benefit from a Type I IEPR.

b. Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare. The District Chief of Engineering, as the Engineer-In-Responsible-Charge, does not recommend a Type II IEPR Safety Assurance Review since the Drought Contingency Plan Revision 2012 SOP and EA actions do not require design and construction activities and present no significant threat to human life.

8. POLICY AND LEGAL COMPLIANCE REVIEW

Documents will be reviewed throughout the project development process for their compliance with law and policy. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any

models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

EC 1105-2-412 does not cover engineering models used in planning. The process the Hydrology, Hydraulics and Coastal Community of Practice (HH&C CoP) of USACE follows to validate engineering software for use in planning studies and to satisfy the requirements of the Corps' Scientific and Engineering Technology (SET) initiative is provided in Enterprise Standard (ES)-08101 Software Validation for the Hydrology, Hydraulics and Coastal Community of Practice. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

a. **Planning Models.** Hydrologic Engineering Center Ecosystems Functions Model (HEC-EFM) is being used. The proper use of this model will be part of the ATR.

b. **Engineering Models.** Hydrologic Engineering Center Reservoir Simulation (HEC RES-SIM) is being used. Based on its prior use and review on this project, this model will not be part of the ATR and will only undergo DQC.

10. REVIEW SCHEDULES AND COSTS

A. ATR Schedule and Cost.

The following table shows the present schedule for the ATR reviews and their estimated costs, which includes ATR work by 3 ATR team members at $2,000 per person.

Project Element	Estimated Schedule	Approximate Cost
DQC	26 Feb 2012	$6,000
ATR on SOP, EA and model	15-23 March 2012	$6,000
Public Comment on EA	13 April-12 May 2012 (30 days)	N/A
TOTAL		$12,000

11. PUBLIC PARTICIPATION

The EA will be made available for the environmental agencies and the public to review and comment.

12. REVIEW PLAN APPROVAL AND UPDATES

The home MSC Commander is responsible for approving this Review Plan, including by delegation within the MSC. The Review Plan is a living document and may change as the project progresses. The home

district is responsible for keeping the Review Plan up to date. Minor changes to the Review Plan since the last MSC Commander approval will be documented and included in the latest Review Plan. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the Plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, will be posted on the home District's webpage.

13. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this Review Plan can be directed to the Savannah District Team Leader of Plan Formulation and Economics at (912) 652-5008. The point of contact for the home MSC is the Business Technical Division at (404) 562-5107.

ATTACHMENT 1: TEAM ROSTERS

PROJECT DELIVERY TEAM

Project Manager	CESAS-OP-SR	(912)652-5054
Biologist	CESAS-PD	(912)652-5690
Hydraulic Engineer	CESAS-EN-H	(912)652-5501
Archaeologist	CESAS-PD	(888)893-0678
Plan Formulator	CESAS-PD	(912)652-5492
Economist	CESAS-PD	(912)652-5008

MAJOR SUBORDINATE COMMAND

Regional Business Technical	CESAD-RBT	(404)562-5121

ATR TEAM

Biologist	CESAC-PM-PL	(843)329-8162
Hydraulics & Hydrology	CESAM-EN-H	(251)690-2718
Team Leader	CECO-C-RAO	(401)562-5105

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS
COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Savannah River Basin Drought Contingency Plan Revision 2012 Draft SOP and EA. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks[sm].

SIGNATURE _____ Date _____

ATR Team Leader
CECO-C-RAO

SIGNATURE _____ Date _____

Project Manager Savannah District
CESAS-OP-SR

SIGNATURE _____ Date _____

Review Management Office Representative
CESAD-RBT

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: *Describe the major technical concerns and their resolution.*

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE _____ Date _____

Chief, Engineering Division
Savannah District

SIGNATURE _____ Date _____

Chief, Planning Division
Savannah District

ATTACHMENT 3: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CAP	Continuing Authorities Program	O&M	Operation and maintenance
CoP	Community of Practice		
CSDR	Coastal Storm Damage Reduction	OMB	Office and Management and Budget
DPR	Detailed Project Report	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DQC	District Quality Control/Quality Assurance	OEO	Outside Eligible Organization
DX	Directory of Expertise	OSE	Other Social Effects
EA	Environmental Assessment	PCX	Planning Center of Expertise
EC	Engineer Circular	PDT	Project Delivery Team
EIS	Environmental Impact Statement	PAC	Post Authorization Change
EO	Executive Order	PMP	Project Management Plan
ER	Ecosystem Restoration	PL	Public Law
FDR	Flood Damage Reduction	QMP	Quality Management Plan
FEMA	Federal Emergency Management Agency	QA	Quality Assurance
FRM	Flood Risk Management	QC	Quality Control
FSM	Feasibility Scoping Meeting	RED	Regional Economic Development
GRR	General Reevaluation Report	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act
NAA	No Action Alternative		