Exhibit A, Attachment 1

Charge to the Delta Science Program Independent Review Panel for the 2013 Long-term Operations BiOps Annual Science Review

Orientation and Focus

The intent of the annual review is to inform National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) as to the efficacy of the prior year's water operations and regulatory actions prescribed by their respective Reasonable and Prudent Alternatives (RPAs), with the goal of developing lessons learned, incorporating new science, and making appropriate, scientifically justified adjustments **to the RPAs or their implementation** to support future water years real-time decision making. The Independent Review Panel's findings and recommendations provides objective feedback to agency staff for consideration in real-time decision making.

This annual review will focus on the implementation of the Long-term Operations BiOps RPAs for operations and fisheries for water year 2013 (October 1, 2012 through September 30, 2013) and will include:

- Shasta Operations in Water Year 2013, including temperature management opportunities and constraints assessed by the Sacramento River Temperature Task Group.

- Proposed modifications to Term and Condition 2a of the NMFS Long-term Operations BiOp, which requires USBR to develop an alternative technique to quantify the incidental take of listed anadromous salmonids species and green sturgeon at the Federal and State export facilities; and

- Retrospective Analysis of Water Operations and Delta Smelt Protective Actions in Water Year 2013.

Materials to be Reviewed

Independent review panelists will review the following documents prior to attending the two-day public workshop. These documents will be provided in electronic format.

1) Sacramento River Temperature Task Group 2013 Technical Report for the Long-Term Operations BiOps Annual Science Review

2) Chinook, Steelhead, and Green Sturgeon Loss Estimation For Skinner Delta Fish Protective Facility and Tracy Fish Collection Facility

Supplemental Documents

- Jahn, A. 2011. An Alternative Technique to Quantify the Incidental Take of Listed Anadromous Fishes at the Federal and State Water Export Facilities in the San Francisco Bay-Delta Estuary. Kier Associates, Ukiah California. Prepared for National Marine Fisheries Service, Central Valley Office. (http://www.kierassociates.net/Kier%20Assoc_OIA%20TO%203062_Incidental%20take%20at%20the%20Delta%20pumps_final.pdf)
- American River Group (ARG) Annual Report of Activities
- Stanislaus Operations Group (SOG) Annual Report of Activities
- Delta Operations for Salmonids and Sturgeon Group (DOSS) Annual Report of Activities
- Interagency Fish Passage Steering Committee (IFPSC) Annual Report of Activities
- The Smelt Working Group (SWG) 2013 Annual Report of Activities

Background Information

- RPA Summary Matrix of the NMFS and USFWS Long-term Operations BiOps RPAs
- December 5, 2011, letter from USBR to NMFS regarding Term and Condition 2a
- January 26, 2012, letter from NMFS to USBR regarding Term and Condition 2a
- California Department of Water Resources' Water Operations Summary, Water Year 2013
- 2012 Annual Science Review:
  - Review Materials, Background Information and Presentations (http://deltacouncil.ca.gov/2012-long-term-operations-opinions-annual-review-%E2%80%93-review-materials-background-information-and-prese)
  - Report of the 2012 Independent Review Panel (IRP) on the Implementation of the Long-term Operations Opinions Reasonable and Prudent Alternative (RPA) Actions (December 1, 2012; http://deltacouncil.ca.gov/sites/default/files/documents/files/Report_2012_DSPIRP_LOOAR_120112_final.pdf)
    - Federal Agencies' Response to the 2012 Independent Review Panel's Report (July 19, 2013; http://deltacouncil.ca.gov/sites/default/files/documents/files/Federal_Agencies_Response_to_the_Panels_Report_July19_2013.pdf)
- 2011 Annual Science Review:
  - Review Materials, Background Information and Presentations (http://deltacouncil.ca.gov/science-program/2011-ocap-review-materials-background-information-and-presentations)
  - Report of the 2011 Independent Review Panel (IRP) on the Implementation of Reasonable and Prudent Alternative (RPA) Action Affecting the Operations Criteria And Plan (OCAP) for State/Federal Water Operations (December 9, 2011; http://deltacouncil.ca.gov/sites/default/files/documents/files/IRP_OCAP_RPA_2011_Final_Report_v2.pdf)
  - Federal Agencies' Detailed Response to the 2011 Independent Review Panel's Report (June 20, 2012)

- 2010 Annual Science Review:
  - Review Materials and Presentations (http://deltacouncil.ca.gov/events/science-program-workshop/workshop-ocap-integrated-annual-review)
  - Report of the 2010 Independent Review Panel (IRP) on the Reasonable and Prudent Alternative (RPA) Actions Affecting the Operations Criteria and Plan (OCAP) for the State/Federal Water Operations (December 9, 2010, http://deltacouncil.ca.gov/sites/default/files/documents/files/workshop_OCAP_2010_IRP_RPA_Final_Report_121310_0.pdf)
  - Joint Department of Commerce and Department of the Interior Response to the Independent Review Panel's (IRP) 2010 Report of the Reasonable and Prudent Alternative (RPA) Actions Affecting the Operations Criteria and Plan (OCAP) for the State/Federal Water Operations (March 9, 2011)
- NMFS' 2009 RPA with 2011 amendments (http://swr.nmfs.noaa.gov/ocap/040711_OCAP_opinion_2011_amendments.pdf)
- USFWS BiOp on the Long-Term Operational Criteria and Plan (OCAP) for coordination of the Central Valley Project and State Water Project (pages 279-282 and 329-356)
- National Academy of Science's March 19, 2010, report
- VAMP peer review report 2010 (http://www.sjrg.org/technicalreport/2009/2010-VAMP-Peer-Review-Panel-Report.pdf)
- State Water Board's Delta Flows Recommendations Report

Scope of the Review

This annual review will address questions for the Long-term Operations BiOps RPAs for operations and fisheries for water year 2013 as follows:

Sacramento River Temperature Task Group 2013 Technical Report for the Long-Term Operations BiOps Annual Science Review:

1) How well did implementation of the RPA actions meet the intended purpose of the actions?

2) How effective was the process for coordinating real-time operations with the technical team's analyses and input as presented in the NMFS' Long-term Operations BiOps?

3) Were the scientific indicators, study designs, methods, and implementation procedures used appropriate for evaluating the effectiveness of the RPA actions? Are there other approaches that may be more appropriate to use?

4) How can implementation of RPA actions I.2.1 – I.2.4 be adjusted to more effectively meet their objectives?

Chinook, Steelhead, and Green Sturgeon Loss Estimation For Skinner Delta Fish Protective Facility and Tracy Fish Collection Facility:

1) Are the technical work team's proposed equations for estimating loss supported by current science?

2) Are the technical work team's proposed equations for estimating annual loss confidence intervals scientifically appropriate?

3) Which, if any, of the proposed terms in the technical work team's equations introduce the greatest uncertainty? How might these formulations be improved in the future?

4) Which, if any, data inputs in the technical work team's equations are likely to reduce accuracy in their estimates?

5) Are ongoing studies sufficient to gather data needed to calibrate coefficients and terms in the loss equations? What changes to ongoing studies or recommendations for future studies are needed to gather data to measure coefficients and values in the equations' terms?

6) Given the importance of the hypothesized relationship between water velocity and facility efficiency for salmonid salvage, what scientific study designs and methods might be appropriate to investigate how this relationship could be incorporated into whole facility survival estimates?

7) What additional studies should be seasonally, annually, or semiannually completed to increase the accuracy of estimates of loss for green sturgeon?

8) How well is the genetic information used in the technical work team's equation for estimating loss of winter run Chinook?

9) What sampling design provides the most accurate approach for characterizing the presence of genetic winter run Chinook salmon occurring inside and outside the Delta model winter-run size category?

Retrospective Analysis of Water Operations and Delta Smelt Protective Actions Taken in Early Water Year 2013:

1) How well did implementation of RPA Action 1 meet the intended purpose of the Action?
2) How can implementation of RPA Action 1 be adjusted to more effectively meet its objectives?

Products

The IRP will prepare the following products according to the schedule outlined in the Scope of Work:

- Preliminary assessments and impressions to be delivered at the Sacramento meeting
- Final Review Report

Review Panel Membership

- James Gore, Ph.D., University of Tampa (Panel Chair)
- Ron Kneib, Ph.D., RTK Consulting & University of Georgia (Emeritus) (Panel Lead Author)
- James Anderson, Ph.D., University of Washington
- Mark Lorang, Ph.D., University of Montana
- John M. Nestler, Retired Army Corps of Engineers (retired)
- John Van Sickle, Ph.D., U.S. Environmental Protection Agency's Western Ecology Division (retired)

Meeting Format

The meeting will be conducted over two days in Sacramento, CA. The first day of the meeting will involve presentations by key individuals from the Sacramento River Temperature Task Group, staff working on addressing Term and Condition 2a of the NMFS Long-Term Operations BiOp, and USFWS staff. Review panel members may be asked to provide a brief biographical sketch as it relates to the review. Review panel members should also be prepared to discuss any questions regarding the review materials with the technical team presenters at the meeting. The Lead Scientist or his designee will facilitate discussions. The morning of the following day, the panel will meet in private to deliberate on the charge questions. That afternoon, the public meeting will reconvene at which time the panel will provide a presentation of their initial assessment and impressions, as well as ask clarifying questions from the presentations of the previous day.