General Operating Guidelines for Water Supplies Produced by Partial Implementation of Integrated Plan - ~~Discussion~~ Draft December ~~10~~17, 2013

1 Introduction

The draft guidelines provided below have been updated to include elements of the Operating Guidelines Group's Draft Charter and Mission Statement *(Revision 2, updated per 5/29/2013 meeting)*. These guidelines are meant to be more streamlined and flexible than the previous drafts reviewed by the Operating Guidelines Group (Group). They are also more limited as they cover the initial phase of the Integrated Plan (IP).

2 Description of Operating Guidelines Group

The Group is comprised of Reclamation, irrigation districts, Ecology, National Marine Fisheries Service, US Fish and Wildlife Service, Yakama Nation, WDFW, City of Yakima, Yakima County, American Rivers and National Wildlife Federation.

This Group is developing guidelines for Reclamation Project (Project) operations that consider full and staged implementation of water stored, conserved, acquired, or otherwise enhanced by IP actions (IP water). Modifications to existing Project operations without IP actions are not being addressed by this Group, as existing operations are addressed through other forums such as the System Operations Advisory Committee (SOAC), The Interim Comprehensive Basin Operating Plan and Endangered Species Act (ESA) compliance efforts required for operations of the Yakima Project.

These guidelines have been developed for the partial implementation or first phase of the IP, which includes K-K Conveyance, Kachess Drought Relief Pumping Plant (KDRPP) (formerly named Kachess Inactive Storage) and Cle Elum Dam Pool Raise.

3 Purpose of Operational Guidelines

The purpose of these operating guidelines is to illustrate generally how Reclamation will manage Project Flows with the addition of IP projects. The guidelines are being developed to provide greater clarity in how in- and out-of-stream needs will be addressed when IP projects are completed within the constraints of existing needs and operations, such as:

- Existing water rights
- Existing "constraints" such as flood control and safety of dams operations
- Existing constraints for Title XII flows, Yakama Nation treaty rights, ESA compliance and state trust water right flows
- Others not identified above

4 IP Water Accounting Approach

An important topic of discussion raised during the development of these guidelines is how to account for IP water in conjunction with the existing accounting system of Total Water Supply Available (TWSA).

Reclamation developed and presented to the Group and the YRBWEP Workgroup an approach for managing IP water and TWSA that identifies:

- An accounting approach for managing new water supplies resulting from IP projects
- How storage releases for increased instream flows are managed in existing and new reservoirs
- Operations of existing and new reservoirs during normal to wet years, drought years and years following droughts when reservoirs are refilling

The feedback from the Group is that this IP water accounting approach is workable for supporting IP implementation, but acknowledging accounting challenges such as (but not necessarily limited to) accounting for potential increased return flows when IP water is utilized for out of stream uses, water conservation, floodplain storage and groundwater recharge, and other potential opportunities for control over the water supply (one mentioned was potential improvements to snowpack through watershed enhancement actions). These and other applicable factors will need to be considered when implementing the IP water accounting approach.

5 Implementation of First Phase of IP

The first phase of implementation of the IP consists of constructing the K-K Conveyance, KDRPP and Cle Elum Dam Pool Raise. The operations of those projects are generally described below.

- K-K Conveyance will be used in all years to reduce summer flows in the Keechelus Reach of the Yakima River and to help fill Kachess Reservoir from Keechelus Reservoir to the extent possible.
- KDRPP is to be used only when proratable water supply for participating water users in the IP is below 70%. 200,000 acre-feet of water will be available from KDRPP. Water supply available to proratable water users during refill of Kachess Reservoir following a drought will be in accordance with a water accounting approach proposed by Reclamation.
- The approximate 15,000 acre-feet of storage in the Cle Elum Pool Raise project will be used for fisheries benefits with the decision on how to use it made in accordance with ~~Sections 8 and 9 of this document~~the authorizing legislation for the project.

It was noted in the committee meetings that water allocations may change depending on financial responsibility and legislative requirements.

6 Instream Flows

With partial implementation of the IP and construction of the K-K Conveyance, a high priority flow objective~~s~~ in the Keechelus Reach of the Yakima River will be met every year. Those flow objectives are:

High Priority River Reach	Operational Flow or Release	Time Frame

Yakima River, Keechelus Dam to Lake Easton	Reduce flows to 500 cfs	July
	Ramp down from 500 cfs to flow target in place in reach	August 1 – first week of September

Flow objectives are not assigned to the additional water stored by the Cle Elum Dam Pool Raise project. ~~as the pool is predicted to fill in about one-half of the years of operation. However the~~ The additional storage, when available, will be used for fisheries purposes in accordance with Yakima River Basin Water Enhancement Project (YRBWEP) legislation[1] which states "Water obtained from such development [Cle Elum Dam Pool Raise] is exclusively dedicated to instream flows for use by the Yakima Project Superintendent as flushing flows or as otherwise advised by the System Operations Advisory Committee.~~with Sections 8 and 9 of these guidelines.~~ Additional hydrologic modeling will be performed by the Consultant Team and presented to the Group that illustrates possible uses for instream flow purposes of the additional storage in Cle Elum reservoir.

7 Water Supply for Out-of-Stream Needs

Future Water Needs for Irrigation and Other Proratable Water Users

The irrigation need to be met for single and multi-year droughts, based on recent hydrologic conditions, is estimated at 70% of the irrigation water right entitlement each year for Kittitas Reclamation District, Roza Irrigation District and Wapato Irrigation Project. These districts have proratable water rights and are seeking drought relief directly through the IP. In severe drought conditions this need could be as high as 300,000 to 400,000 acre-feet of additional supply. Part of that supply will be met from return flow generated from the operational flexibility created by the IP. Kennewick Irrigation District (KID) also has proratable water rights and partially relies upon return flows to meet supply needs.

For this first phase of IP implementation, the inactive pool of Kachess Reservoir will be managed for drought relief for proratable water users participating in the IP. Those participants will be allowed to draw water from the inactive pool to bring their water supply up to 70% of their entitlements during drought years (when water supply is less than 70%). The water will be accounted for using Reclamation's water accounting method described in Section 4. It is recognized that in severe drought years or in multiple year droughts, ~~inadequate~~ the inactive storage in Kachess Reservoir will be ~~available~~ inadequate to bring water supplies up to the 70% of entitlement level.

Municipal, domestic, and industrial supply

Water needs for municipal and domestic uses are expected to increase due to ongoing population growth in the Yakima River Basin. Based on a population growth forecast through 2060, and adjusting for existing trends in water conservation, and offsets from conversion of crop land to urban uses, the

[1] P.L.103-434, Oct.31, 1994, Yakima River Basin Water Enhancement Project (YRBWEP) as amended by P.L.105-62, Oct.13, 1997, and P.L.106-372, Oct.27, 2000.

net demand increase is 49,000 acre-feet. When return flows are included, the net change in consumptive use is projected to be an increase of 20,000 acre-feet from 2010 to year 2060.

Storage provided through this first phase of implementation in Kachess and Cle Elum Reservoirs is not being allocated to municipal, domestic or industrial supply.

8 Operations and Adaptive Management

These general operating guidelines recognize that operations of the Yakima Project are complex and water needs in river and stream reaches in the basin change from year to year. Adjustments to system operations may occur as the result of the following factors:

- Volume and timing of runoff throughout the basin in all years
- Improved understanding of instream flow needs - it is recognized that instream flow priorities may change over time. Flow regimes will be put in place, evaluated for their effectiveness and refined over time to confirm which flows are most effective for fisheries. Adaptive management studies will be overseen by basin fish biologists. Recommendations for different flow regimes will be made by SOAC or other fish and flow advisory group to Reclamation (see Section 9 below)
- Operational considerations or physical constraints on operations
- Progress in implementing IP projects
- Volume of water produced by IP projects
- Climate change impacts to irrigation water requirements as well as runoff patterns
- Legislative or legal requirements
- Other factors that have not been identified or have not yet occurred

9 Integrated Plan Adaptive Management Group

During meetings to discuss these general operational guidelines, the need for a group to provide recommendations to Reclamation on how to manage additional water supplies provided through the IP was identified. Accordingly, an IP Adaptive Management Group will be established to provide input to Reclamation on seasonal and annual management strategies for IP water flow releases to meet the goals of the IP.

Organizations represented on the Adaptive Management Group will include NMFS, Yakama Nation, Yakima Basin Joint Board, WDFW, USFWS and one environmental organization drawn from those represented on the YRBWEP Workgroup.

10 Reference Documents

Reclamation and Ecology (U.S. Bureau of Reclamation and Washington State Department of Ecology), 2011a. Yakima River Basin Study, Proposed Integrated Water Resource Management Plan – Volume 1. Prepared by HDR Engineering, Anchor QEA, ECONorthwest, ESA Adolfson, and Golder Associates. April 2011. Accessed at: http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/plan/integratedplan.pdf

Reclamation and Ecology (U.S. Bureau of Reclamation and Washington State Department of Ecology), 2011b. Yakima River Basin Study, Proposed Integrated Water Resource Management Plan – Volume 2. Prepared by HDR Engineering, Anchor QEA, ECONorthwest, ESA Adolfson, and Golder Associates. April 2011. Accessed at: http://www.usbr.gov/pn/programs/yrbwep/reports/tm/index.html

Volume 2 Appendices

2.1 Water Needs for Out-of-Stream Uses Technical Memorandum June 2011

3 Instream Flow Needs Technical Memorandum April 2011

Reclamation, Presentation by Chris Lynch to Yakima River Basin Water Enhancement Project Workgroup, June 5, 2013. http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/2013meetings/2013-06-05/5ipwater.pdf