

## SWAN FALLS IMPLEMENTATION MEETING

MARCH 12, 2012

### AGENDA

1. Update on status of A & B list water rights.
2. Report on status of Water District 02.
3. Report from technical committee on discussions regarding Snake River flow measurements.
4. Policy discussion on the questions raised by technical committee.

### TECHNICAL COMMITTEE INQUIRY

The Snake River Measurement Technical Committee (Technical Committee) is seeking to develop a measurement protocol for calculating average daily flow in the Snake River at the USGS Murphy gaging station. The "average daily flow" at the Murphy gage is defined in the 1984 Swan Falls Agreement as based on "actual flow conditions" without the "influence resulting from the operation of Company facilities" (Swan Falls Agreement, pg. 4). Current approaches for determining "actual flow conditions" are inadequate (Dreher, Monitoring Plan for Swan Falls Minimum Flows at Murphy Gaging Station).

Developing a measurement protocol for accurately calculating average daily "actual" Snake River flow rates is not a trivial task. Such a protocol will require accurate flow measurements at multiple locations in the Snake River, determination of changes in reservoir storage, quantification of river and reservoir gains/losses, calculation of evaporative losses at times of low flows, quantification of diversions and return flows, and quantification of inflows from various tributaries and/or springs.

This process is complicated by numerous factors. Each of the factors has their own uncertainty. For instance, rating curves used to determine flow rates at specific locations may change over time based on channel changes (e.g., following flood flows) or seasonal development of aquatic growth (which is influenced by nutrient availability, available sunlight, and other factors, and which can vary from year-to-year). The calculation process is further complicated by the effects of travel times from upstream operational influences, which vary based on flow rate.

The Technical Committee is currently focusing on developing a measurement/calculation protocol for determining average daily flows. Discussions during recent meetings has raised other issues, and the Technical Committee seeks clarification from the Policy Committee on whether the Technical Committee's efforts should also include development of a protocol for determining flow rates that might trigger management actions in the event that actual Snake River flows approach minimum flows. Such management-action thresholds may be different than the average daily one-day flows. Such thresholds or management triggers might consist of pre-determined multi-day average flows, flow trends, or predicted flow rates based on snowpack, carry-over storage, simulated spring flows, etc. The specifications for these triggers may vary depending on the proposed management response(s) to predicted or actual breaches of the minimum flows.

Answers to the following questions would help identify appropriate thresholds and/or triggers – and methods for calculating appropriate thresholds and/or triggers – for specific management strategies:

1. What are possible management responses to flow rates that approach or dip under minimum flow?
2. How much lead time would be required to implement these management responses?
3. What are acceptable levels of flow measurement/calculation confidence (or uncertainty) and method transparency for management/administrative purposes?