

# Conservation Adjustment Methodology in the Contract HWM Determination Process

## Regional Dialogue Policy Implementation Workshop

November 8, 2007



## Overview

- **Goal:** This presentation will describe BPA's proposed methodology for the conservation-adjustment portion of the process for determining Contract High Water Marks under Regional Dialogue. Additional details will be developed in the tiered-rate methodology (TRM) rate case that will occur in FY 2008.
- **Background: High Water Marks will set the maximum amount of lowest-cost (Tier 1) federal power that a BPA customer can purchase, limited by its net requirement.** Assuming medium load growth, BPA currently projects that most customers' FY 2012 net requirement loads will be higher than their Contract HWM.
- **Reminder: HWM  $\neq$  Net Requirements.** The calculation of the HWM is a rate construct and is not the same as Net Requirements. Net Requirements will be a separate annual calculation of forecast load and may be greater or less than a utility's High Water Mark.



## Context - High Water Marks Under Regional Dialogue

- There are three variations of High Water Marks (HWM) that evolve chronologically:
  - **The Forecasted Contract HWM** will be determined prior to contract signing in FY 2008. This forecast is a preliminary estimate based on available data. There will be no conservation adjustment in calculating the Forecast Contract HWM.
  - **The Contract HWM** will be used to establish the amount of FBS energy available to the customer during the contract period. The Contract HWM is based on measured FY 2010 load data *and conservation achieved from FY 2007 through FY 2010*. Therefore, the Contract HWM will be calculated in FY 2011.
  - **The Rate-Period HWM** will determine the maximum amount of Tier 1-priced power available to the utility during a given rate period. It is calculated prior to each rate period and reflects any changes in the firm power available from the FBS resources. There will be no conservation adjustment in calculating the Rate-Period HWM.



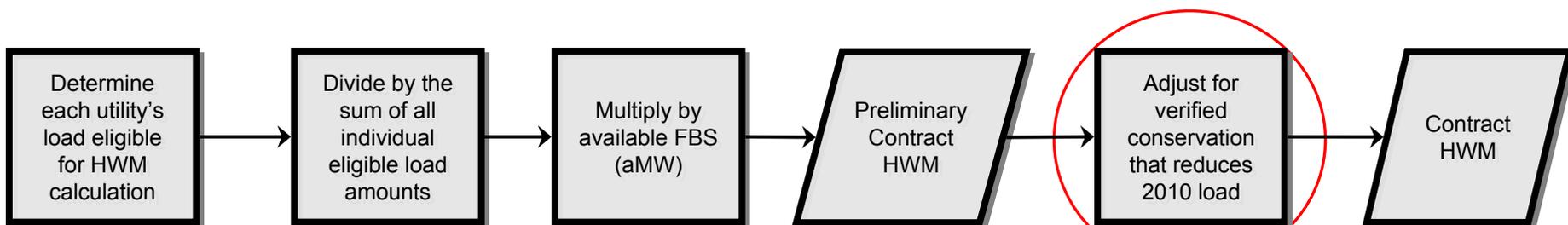
## Why Rebalance Preliminary HWMs for Conservation?

- **Goal** – To minimize any disincentive resulting from the HWM process to participate in conservation programs. Customers also benefit from reduced load by engaging in conservation programs, reducing or delaying need to purchase power at Tier 2 rates.
  - **Equitable HWM Process** - The HWM process seeks to equitably distribute the power from the available FBS among customers, based on their load.
  - **Potential Disincentive to Conservation** - However, this focus on load levels inherently creates a disincentive for customers to achieve conservation which would lower their load.
  - **Adjustment for Conservation** - To address this concern a customer's preliminary HWM will be adjusted for conservation it achieves from 2007 through 2010 that reduces its 2010 load.
  - **Results of Conservation Adjustment** - This adjustment minimizes the disincentive to do conservation that may reduce its 2010 load. The adjustment results in a customer receiving essentially the same HWM (if all conservation credited is self-funded) that it would have received without doing conservation. Additionally, by achieving conservation that lowers their 2010 loads, customers will reduce the amount of power that must be purchased at Tier 2 rates.
  - **Additional Result of Conservation Adjustment** - The adjustment is also needed because less regional load results in an inequitably high preliminary HWM for customers achieving little or no conservation. The adjustment corrects for this effect and ensures that customers not doing conservation do not receive a windfall as a result of other customers' conservation efforts. Additionally, conservation reduces the need for augmentation and its associated costs, assuming that the augmentation cap of 300 aMW is not reached when calculating HWMs.



## Conservation Adjustment Overview

- The final step in the Contract HWM calculation process is to adjust the utility's HWM for the amount of credited conservation it achieved from 2007 through 2010 that reduced its 2010 load.
  - To be credited the conservation must be cost-effective and verified.
  - A utility will be credited 1 aMW for each aMW of conservation savings through self-funded programs and .75 aMW for each aMW of savings through BPA-funded programs.
- The credited conservation will be added to the preliminary HWM. Then all of the conservation-adjusted HWMs will be adjusted proportionately so that the sum of the HWMs is again equal to the available FBS. The result is the Contract HWM.



### Contract HWM Determination Process





# Conservation Measurement & Verification Process

- **Relies on Existing Conservation Systems** - The conservation adjustment process will mostly use existing processes from BPA's existing Energy Efficiency Program.
- **Energy Conservation Measures (ECM):**
  - **Deemed measures.** Deemed measures are “deemed” cost-effective and are credited at pre-determined conservation amounts (i.e. switching to energy-efficient lighting). Verification of measures is required.
  - **Custom projects.** Custom projects are determined to be cost-effective based on the proposal. The results are then measured and installation verified to ensure that savings are realized.
  - **Oversight** - Oversight is conducted on deemed and custom projects by Contract Officer Technical Representatives.
- **Cost Effectiveness** - Cost-effectiveness is based on NW Power Council guidelines. The ECM amounts are entered into the Regional Technical Forum Planning, Tracking & Reporting database. This data is downloaded by BPA and adjusted as necessary to reflect results of the oversight process.



## Conservation Adjustment Key Messages

- **Zero-sum Game** – The conservation adjustment is only a rebalancing of the already-defined amount of power available from the FBS. There is no net gain or loss of available FBS power.
- **Transparency** - BPA proposes to make public the pre- and post-conservation-adjusted Contract HWM amounts for each customer, along with the credited conservation amounts used for the adjustment process.
  - The general scope of proposed transparency for the determination of HWMs and Net Requirements is addressed in a separate presentation.



# Conservation Adjustment to Get Contract HWM

Available FBS = 296

	Utility A	Utility B	Utility C	Totals
Total unadjusted load before conservation (FY 2006)	100	100	100	
<b>A. Preliminary HWM (reflecting cons. achieved)</b>	97	99	100	296
<b>B. Total Conservation Credit FY 2007 - 10 (aMW)</b>	3	1	0	
<b>C. Conservation Adjusted HWM (aMW)</b>	100	100	100	300.00
<b>D. Rebalancing Factor = <math>\frac{\text{Cons-Adj HWM}}{\Sigma \text{ Cons-Adj HWMs}}</math></b>	0.33	0.33	0.33	
<b>E. Contract HWM (aMW) (Rebalancing factor X FBS)</b>	<b>98.7</b>	<b>98.7</b>	<b>98.7</b>	296
Net Change due to conservation adjustment	1.7	-0.3	-1.3	
Headroom before need to purchase Tier 2 power	1.7	0	0	

Example 1 demonstrates that the conservation adjustment is intended to **minimize a disincentive** to do conservation from FY 2007 - FY2010. The Contract HWM (CHWM) for all utilities in this example is equal and assumes that all utilities started FY 2007 with equal unadjusted loads. However, it is important to note that in this example **Utility A has a lower load** in FY2011 than the other utilities **because of the conservation that was completed**, and will not need to purchase Tier 2 power as early as Utilities B & C.



# Single Utility Conservation-Adjustment Scenarios

**Assumptions:**

Available FBS = 7300 aMW, incl. 100 aMW aug.

Total Conservation by All Other Utilities = 170 aMW

	Scenario A	Scenario B	Scenario C
Base Case - load with no conservation (FY 2010)	100	100	100
<b>A.</b> Conservation Credit FY 2007 - 2010 (aMW)	0	1	3
<b>B.</b> Preliminary HWM (with effect of conservation)	100	99	97
<b>C.</b> Conservation Adjusted HWM (aMW)	100	100	100
<b>D.</b> Rebalancing Factor = $\frac{\text{Cons-Adj HWM}}{\Sigma \text{ Cons-Adj HWMs}}$	100/7470	100/7470*	100/7470*
<b>E. Contract HWM (aMW) (Rebalancing factor X FBS)</b>	<b>97.72</b>	<b>97.72</b>	<b>97.72</b>
Net Change due to conservation adjustment	-2.28	-1.28	.72
Headroom before need to purchase Tier 2 power	0	0	.72

\*The increase in the sum of the cons-adj HWMs would be offset by an equal reduction in needed augmentation → no change to 7470 amount



## Non-Standard Cases

- **Federal Organizations** – The primary difference is that conservation amounts are reported directly to BPA, rather than through the NW Power Council database. Measurement and verification standards and methods are the same.
- **Northwest Energy Efficiency Alliance (NEEA)** – This organization applies funds provided by the utilities and BPA to achieve conservation through market transformation. It applies its own measurement and verification program and annually reports energy savings attributable to individual utilities.
  - BPA has confidence in the reported energy savings due to its close involvement with this organization.

