

# Conservation Adjustment and the High Water Mark (HWM)

Utility Energy Efficiency Workshop  
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# Impact of Conservation on a Utility's HWM

- Conservation achievements from FY 2007 – FY 2010 will give utilities credit toward their HWM calculation.
- Conservation measures must be effective on load in FY 2010.
- All conservation for HWM credit must be cost-effective per the BPA CRC/CAA Implementation Manual.



# Funding Source

- Utility-funded conservation will be credited toward the HWM at 100%; BPA-funded conservation will be credited at 75%.
- Utility-funded conservation must be verified in the same way as BPA-funded conservation.



# Rebalancing Preliminary HWMs for Conservation

- **Minimize Disincentive** - the conservation adjustment minimizes the disincentive to do conservation from 2007 - 2010.
- **Reduce Tier 2 purchases** - by doing conservation now, a utility lowers its load and reduces the amount of Tier 2 power that must be purchased.



# Example 1: Conservation Adjustment to Get Contract HWM

Available FBS = 296

	Utility A	Utility B	Utility C	Totals
A. Unadjusted HWM after Conservation (aMW)	97	99	100	296
B. Total Conservation Credit FY 2007 - 10 (aMW)	3	1	0	
C. Conservation Adjusted HWM (aMW)	100	100	100	300.00
D. Rebalancing Factor (Row C ÷ Sum of Row Cs)	0.33	0.33	0.33	
E. Contract HWM (aMW)	<b>98.7</b>	<b>98.7</b>	<b>98.7</b>	296

Headroom before need to purchase Tier 2 power /  
Net Change due to conservation adjustment

1.7	-0.3	-1.3
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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.



# Example 2: Utility Self-Funded vs. BPA-Funded

Available FBS = 300

	A	B	C	Totals
<b>A.</b> Unadjusted HWM after Conservation (aMW)	100	100	100	300
<b>B.</b> Self Funded Conservation Credit (aMW)	0.5	1	1.5	
<b>C.</b> BPA Funded Conservation (aMW)	3	2.5	2	
<b>D.</b> BPA Funded Credit (aMW)	2.25	1.88	1.5	
<b>E.</b> Total Conservation Credit FY 2007 - 10 (aMW)	2.75	2.88	3	
<b>F.</b> Conservation Adjusted HWM (aMW)	102.75	102.88	103	308.63
<b>G.</b> Rebalancing Factor	0.33	0.33	0.33	
<b>H. Contract HWM (aMW)</b>	<b>99.9</b>	<b>100.0</b>	<b>100.1</b>	300
Headroom before need to purchase Tier 2 power / Net change due to conservation adjustment	-0.1	0.0	0.1	

Example 2 shows how the CHWM can vary, all else being equal, depending on what percentage of conservation is utility self-funded vs. BPA-funded.



# Example 3: Different Sized Utilities

Available FBS = 1110

	Utility A	Utility B	Utility C	Totals
<b>A.</b> Unadjusted HWM after Conservation (aMW)	100	10	1000	1110
<b>B.</b> Self Funded Conservation Credit (aMW)	0.5	0.05	5	
<b>C.</b> BPA Funded Conservation (aMW)	3	0.3	30	
<b>D.</b> BPA Funded Credit (aMW)	2.25	0.23	22.5	
<b>E.</b> Total Conservation Credit FY 2007 - 10 (aMW)	2.75	0.28	27.5	
<b>F.</b> Conservation Adjusted HWM (aMW)	102.75	10.28	1027.5	1140.53
<b>G.</b> Rebalancing Factor	0.09	0.01	0.90	
<b>H. Contract HWM (aMW)</b>	<b>100</b>	<b>10</b>	<b>1,000</b>	<b>1,110</b>
Headroom before need to purchase Tier 2 power / Net change due to conservation adjustment	0.0	0.0	0.0	

Example 3 demonstrates that utilities of different sizes that do the same % of conservation are treated equally in the conservation adjustment process because the adjustment is taken as a % of load.



# B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

Line Item #	Line Item	Scenario A (aMW)	Scenario B (aMW)	Scenario C (aMW)	Calculation From Line Item #s	Notes	Step in Policy
1	Utility's measured and adjusted load in FY2010	100.00	98.00	97.00		Enter assumed value. Normalized for weather and anomalies per RD Policy.	
2	Utility's Subscription Resources for FY 2010	0.00	0.00	0.00		Enter amount established in the Subscription Contract for FY 2010 as of 9/30/2006; certain resources will be adjusted as described in the Policy.	
3	Utility's load that is eligible for HWM determination	100.00	98.00	97.00	1 - 2		Step 3
4	Sum of all utilities' load eligible for HWM determination	7,300.00	7,300.00	7,300.00		Value is assumed to be 7100-7400; within the range of allowed augmentation for FBS.	
5	Utility's % of sum of load eligible for HWM	1.37%	1.34%	1.33%	3 / 4		
6	Available FBS	7,300.00	7,300.00	7,300.00		Includes any needed augmentation.	Step 4
7	Preliminary HWM based on available FBS	100.00	98.00	97.00	(3 / 4)*6		Step 5
8	Utility's self-funded Conservation	0.000	1.000	3.000		Enter assumed value.	
9	Utility's BPA-funded Conservation	0.000	1.000	0.000		Enter assumed value.	
10	Utility's credited conservation	0.00	1.75	3.00	8+(9 * 0.75)	BPA-funded conservation @ 75%, utility self-funded @ 100% of reduction to 2010 loads.	Step 6
11	Utility's conservation-adjusted preliminary HWM	100.00	99.75	100.00	3 + 10		
12	Sum of all utilities' credited conservation	170.00	170.00	170.00		Assumed value based on BPA's 52 aMW annual target for 4 years assuming 75% of the savings are BPA-funded and 25% are utility self-funded.	
13	Sum of all utilities' conservation-adjusted preliminary HWM	7,470.00	7,470.00	7,470.00	4 + 12		
14	Utility's % of sum of conservation-adjusted preliminary HWMs	1.34%	1.34%	1.34%	11 / 13	This rebalancing factor redistributes HWM (aMW) to account for utilities' credited conservation.	
15	Utility's Contract HWM	97.730	97.480	97.730	14 * 6		
16	Net change from conservation adjustment	-2.27	-0.52	0.73	15 - 3	A negative number indicates the amount of Tier 2 power that would need to be purchased.	

Look at **row 15** and **row 3** to compare CHWM to load



# HWM Calculator

- <http://www.bpa.gov/power/PL/RegionalDialogue/Implementation/Documents/>
- Click on: [Contract High Water Mark \(CHWM\) Tool](#)



# Transparency of Achievements

- Conservation Achievements for each customer will be released on an annual basis.
- Each utility will be consulted about their number prior to release.
- Scheduled to release FY2007 numbers in May 2008.



# Why Do Conservation Now?

1. Keep Rates & Customer Bills as low as possible
2. Avoid Tier 2 Purchases as long as possible
3. Conservation is a hedge against fuel & price risk



# Contact Information

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