

Hopkins, William

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Sent: Thursday, December 31, 2009 1:53 PM
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Cc: Yanez, Zacarias C -Zac; Englert, Eric; Singh, Gurvinder; Stolarski, Robert W; Shirley, Calvin
Subject: E - Cal; Hemstreet, Andrew W
PSE IRP Advisory Group Meeting-Dec 15th, WAC 480-109 Compliance
Attachments: WAC 480-109 Potential Target FINAL 12-30-09.pdf



WAC 480-109
Potential Target ...

Dear IRPAG Members,

Season's greetings! I hope you all have enjoyed your holidays.

Thank you for your participation in the discussion on compliance with the conservation provisions of WAC 480-109 (I-937) at the public IRPAG meeting on December 15. In response to input received at that public meeting and our own review, attached are PSE's projected cumulative ten-year conservation potential and biennial conservation target range. The changes from the draft figures presented on December 15 are due mainly to revision of the total conservation potential projections to be consistent with the data that was the basis for the graph in Figure 8-8 of the 2009 IRP, as well as the feedback received at the meeting.

The cumulative ten-year conservation potential of 3,748,773 MWh (427.9 aMW) at the customer meter level, or 3,990,138 MWh (455.5 aMW) at the generator, primarily consists of the optimized level of demand-side resource potential selected by PSE's resource portfolio model for the 2009 IRP, plus the estimated potential for distribution system efficiency, also from the 2009 IRP. This combined demand-side resource potential and distribution efficiency potential is referred to as Bundle D in the 2009 IRP. In addition to the Bundle D potential from the IRP, PSE subsequently estimated the potential for electric energy savings from improvements to the efficiency of PSE's power generation facilities in Washington state. The total of Bundle D plus generation facility efficiency improvements constitutes the total 10 year conservation potential that complies with the definition of conservation in WAC 480-109-107 and with the requirements for projecting the 10 year conservation potential in WAC 480-109-010.

The revised biennial target range is 608,032 MWh to 790,862 MWh (69.4 aMW to 90.3 aMW) at the customer meter level, or 647,980 MWh to 842,174 MWh (74.0 aMW to 96.1 aMW) at the generator. The top of the range represents the maximum amount of conservation identified in Bundle D of the 2009 IRP that is technically available, cost-effective, and achievable in the long run. This includes all potential savings from any combination of utility programs, new codes and standards, and market transformation. It assumes that all retrofit end use energy efficiency and fuel conversion potential is accelerated and acquired at an even rate over ten years without regard to real-world timing issues that would cause conservation resources to be acquired at an uneven rate. The bottom of the range was developed to address a number of short term market feasibility and uncertainty factors, including those considered for Bundle D38, which represents the planned level of

conservation savings in the 2009 IRP electric resource plan, as well as others identified subsequent to the IRP.

By contrast, PSE's share of the Power Council's 5th regional plan would be a cumulative ten-year potential of 219.4 aMW (2009 - 2018, the latest period in the Council's published calculator) and a 2010-11 "target" of 42.7 aMW.

One request made at the December 15 IRPAG meeting was to show the path for acquiring the energy savings in the ten-year conservation potential if the low end of the target range were achieved. The attachment includes such a projected path, although subsequent IRP analysis over the next ten years will be used to refine the amount and trajectory of the potential. The Low Target scenario achieves the same level of savings as the High Target (Bundle D) level of savings by the 2020-2021 biennium. This is consistent with the path followed by Bundle D38, which was the level of conservation potential used in the 2009 IRP electric resource plan.

The ten-year conservation potential and biennial conservation target range will be described and documented in compliance with reporting requirements in WAC 480-109-010 and filed with the WUTC by January 31, 2010.

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IRP Bundles D & D38

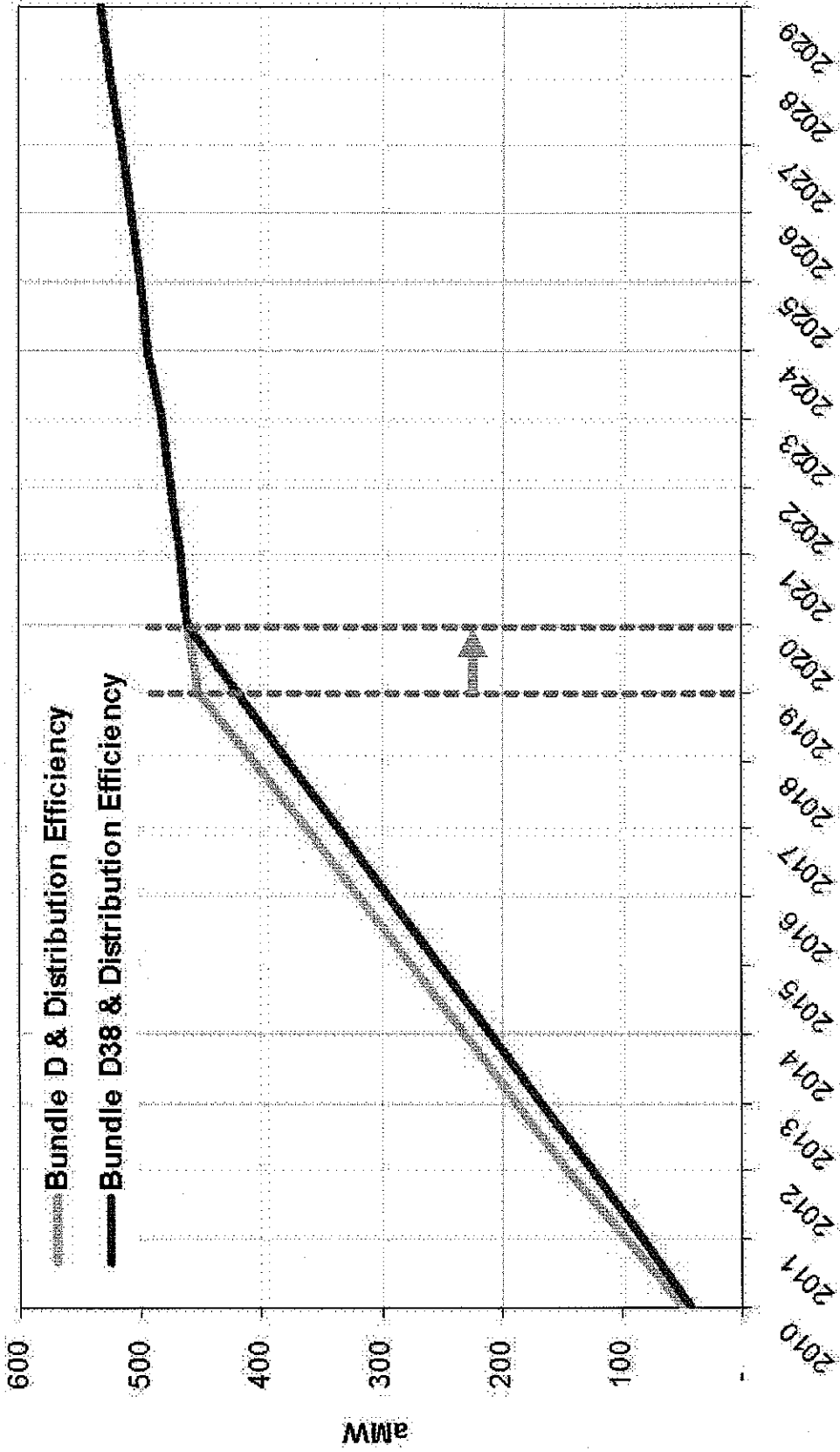
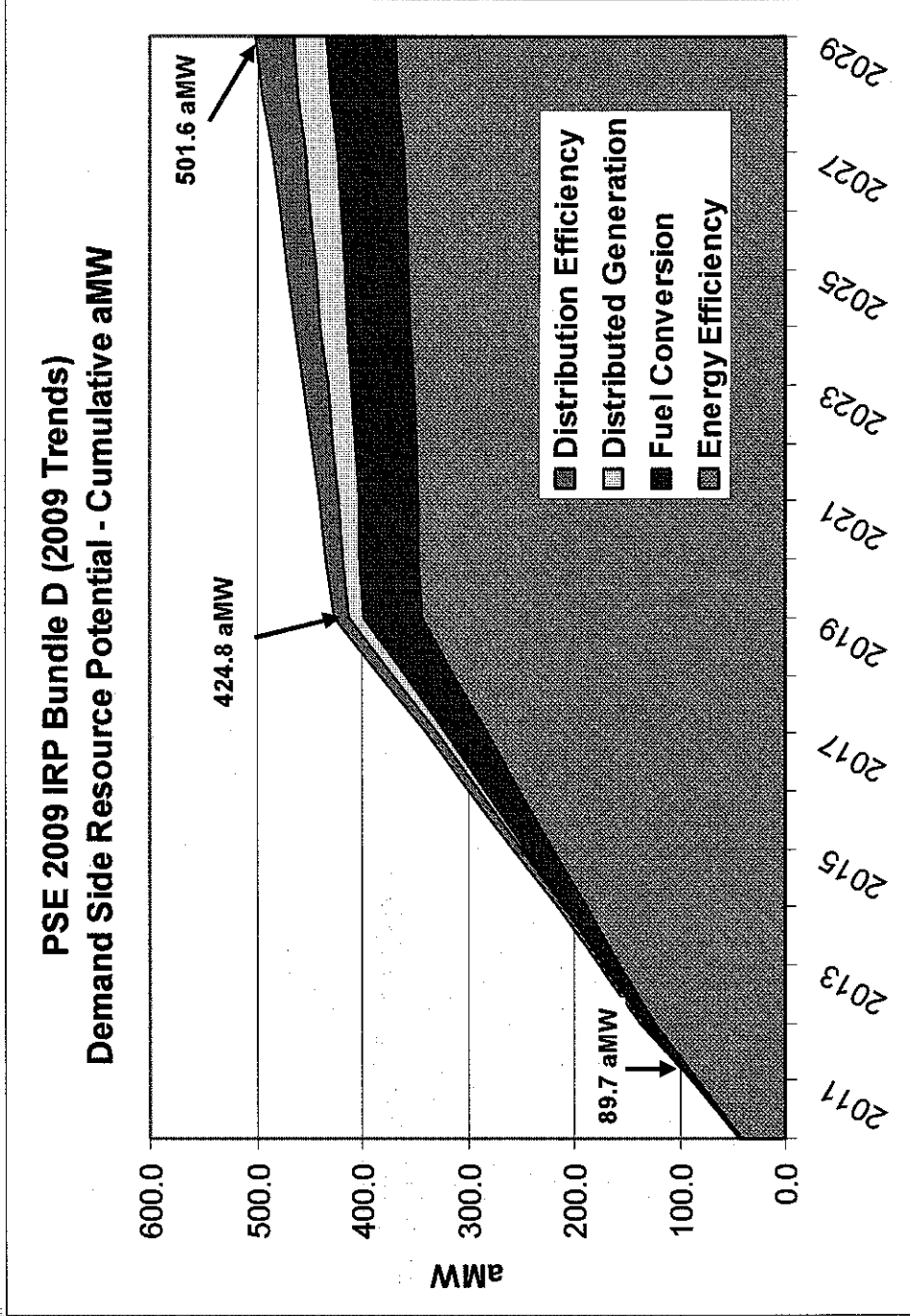


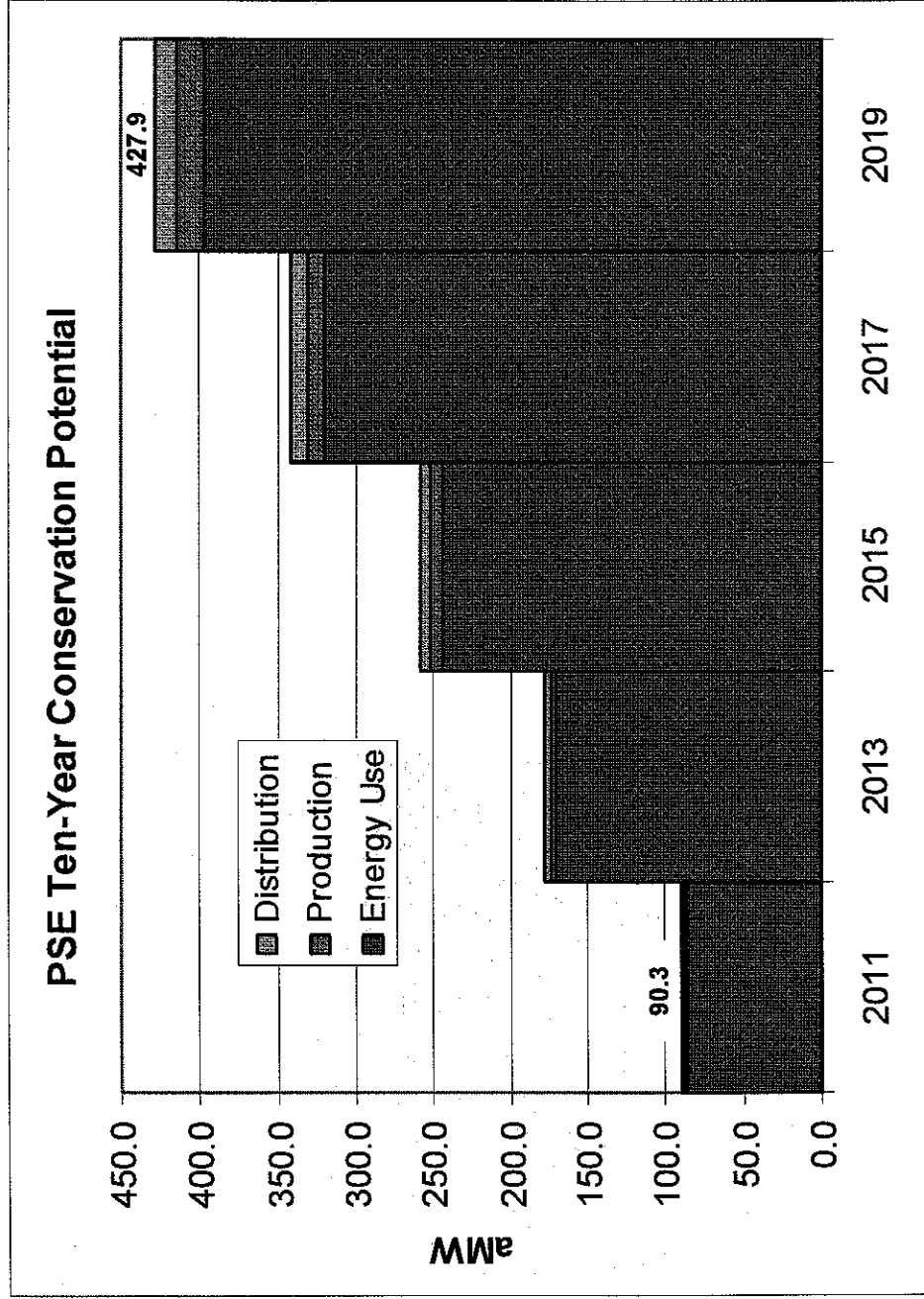
Figure 8-8, PSE 2009 IRP

IRP Optimized Conservation Guidance



Savings are at the customer meter, excluding line losses

WAC Cumulative Ten-Year Conservation Potential



Savings are at the customer meter, excluding line losses

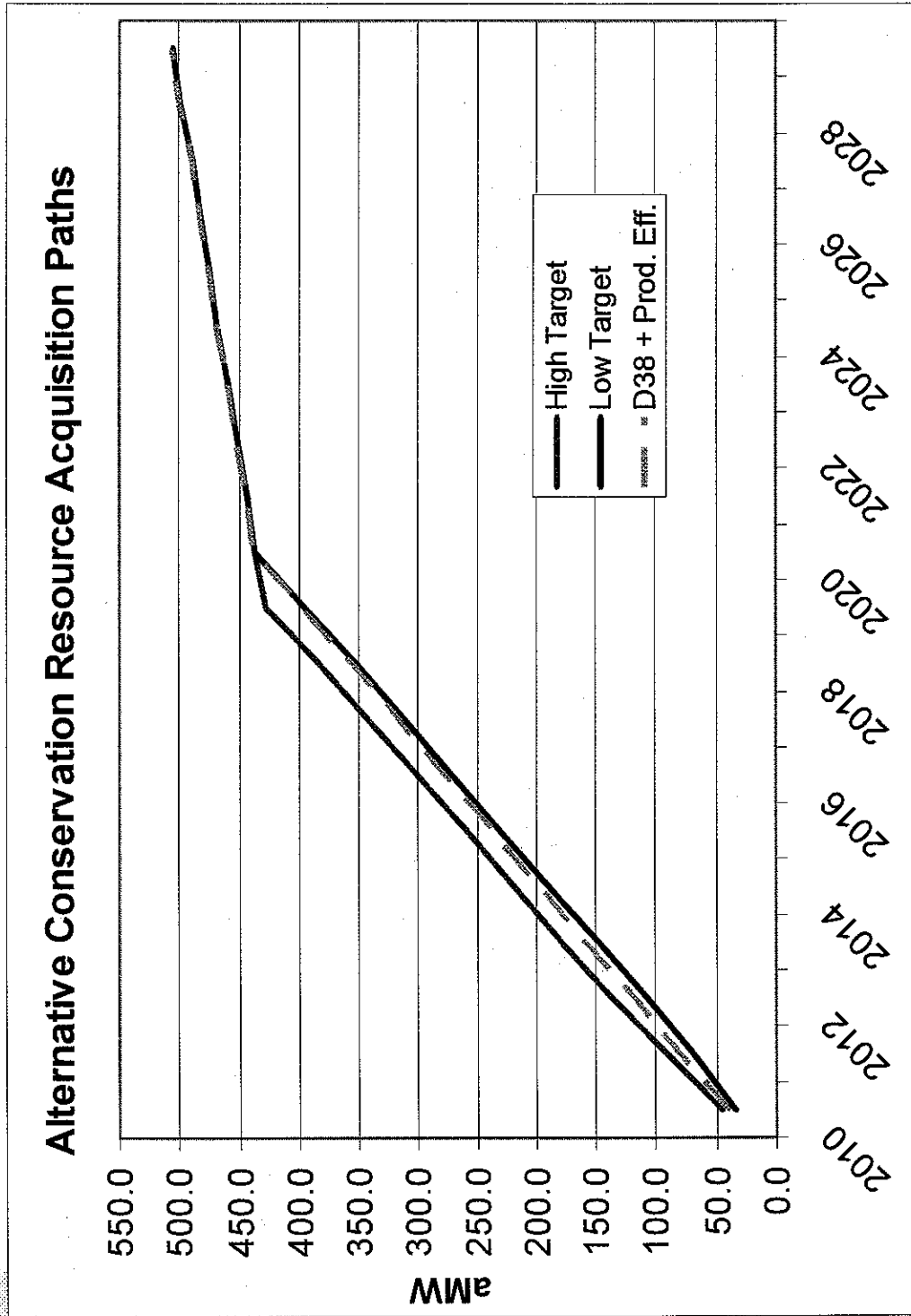
WAC Biennial Conservation Target Range

- 608,032 MWh – 790,862 MWh (69.4 aMW – 90.3 aMW)
 - Prorating criteria:
 - Acceleration of retrofit end use efficiency
 - Market infrastructure ramp-in
 - Business environment uncertainty

	2010-11 aMW	
Total Conservation Potential	90.3	IRP Bundle D end use efficiency plus distribution & production efficiency
Less: Infrastructure Feasibility	-11.4	Delivery infrastructure needs to ramp up (IRP Bundle D38)
Less: Short-Term Timing Feasibility		
Industrial Eff. (50%)	-1.3	Schedule 258 timing -- 4 year window, customer controlled
New Construction (50%)	-3.8	Continued slow construction market
Fuel Conversion (75%)	-2.8	PSE program behind target -- low demand/slow economy
Distributed Gen (50%)	-0.1	PSE had no success with CHP projects in previous RFPs
Distrib. Sys. Eff. (50%)	-1.1	Detailed implementation feasibility & plan to be developed in 2010
Gen. Efficiency (50%)	-0.3	Detailed implementation feasibility & plan to be developed in 2010
Total Minus Feasibility Adjustments	69.4	

Savings are at the customer meter, excluding line losses

Acquisition Path High vs. Low Ends of Target Range



Acquisition Path High vs. Low Ends of Target Range

TARGET PATHS AT THE METER

High 2010-11 Target Path - Bundle D

	2011	2013	2015	2017	2019	2021
Energy Use						
MWh	764,457	1,491,347	2,142,329	2,801,653	3,484,135	3,529,111
aMW	87.3	170.2	244.6	319.8	397.7	402.9
Production						
MWh	6,835	23,882	61,096	103,309	145,492	193,311
aMW	0.8	2.7	7.0	11.8	16.6	22.1
Distribution						
MWh	19,570	39,412	62,993	90,645	119,145	156,542
aMW	2.2	4.5	7.2	10.3	13.6	17.9
High Target						
MWh	790,862	1,554,641	2,266,418	2,995,606	3,748,773	3,878,964
aMW	90.3	177.5	258.7	342.0	427.9	442.8

Low 2010-11 Target Path

	2011	2013	2015	2017	2019	2021
Energy Use						
MWh	594,829	1,257,592	1,941,552	2,581,456	3,210,464	3,529,111
aMW	67.9	143.6	221.6	294.7	366.5	402.9
Production						
MWh	3,418	13,518	36,479	73,339	128,003	193,311
aMW	0.4	1.5	4.2	8.4	14.6	22.1
Distribution						
MWh	9,832.9	29,675	55,008	84,412	119,044	156,542
aMW	1.1	3.4	6.3	9.6	13.6	17.9
Low Target						
MWh	608,080	1,300,785	2,033,039	2,739,207	3,457,511	3,878,964
aMW	69.4	148.5	232.1	312.7	394.7	442.8

Bundle D38 Path

	2011	2013	2015	2017	2019	2021
D38 + Prod. Eff.						
MWh	690,761	1,381,794	2,076,566	2,775,409	3,475,101	3,878,964
aMW	78.9	157.7	237.1	316.8	396.7	442.8

Savings are at the customer meter, excluding line losses

Acquisition Path High vs. Low Ends of Target Range

TARGET PATHS AT THE GENERATOR

High 2010-11 Target Path - Bundle D	2011	2013	2015	2017	2019	2021
Energy Use						
MWh	815,675	1,591,267	2,285,865	2,989,363	3,717,572	3,765,562
aMW	93.1	181.7	260.9	341.3	424.4	429.9
Production						
MWh	6,929	24,755	64,098	108,775	153,421	204,443
aMW	0.8	2.8	7.3	12.4	17.5	23.3
Distribution						
MWh	19,570	39,412	62,993	90,645	119,145	156,542
aMW	2.2	4.5	7.2	10.3	13.6	17.9
High Target						
MWh	842,174	1,655,434	2,412,956	3,188,783	3,990,138	4,126,547
aMW	96.1	189.0	275.5	364.0	455.5	471.1

Low 2010-11 Target Path	2011	2013	2015	2017	2019	2021
Energy Use						
MWh	634,683	1,341,850	2,071,636	2,754,414	3,425,565	3,765,562
aMW	72.5	153.2	236.5	314.4	391.0	429.9
Production						
MWh	3,465	13,878	38,013	76,979	134,942	204,443
aMW	0.4	1.6	4.3	8.8	15.4	23.3
Distribution						
MWh	9,833	29,675	55,008	84,412	119,044	156,542
aMW	1.1	3.4	6.3	9.6	13.6	17.9
Low Target						
MWh	647,980	1,385,403	2,164,657	2,915,804	3,679,550	4,126,547
aMW	74.0	158.2	247.1	332.9	420.0	471.1

Bundle D38 Path	2011	2013	2015	2017	2019	2021
D38 + Prod. Eff.						
MWh	735,367	1,471,006	2,210,384	2,953,833	3,698,131	4,126,547
aMW	83.9	167.9	252.3	337.2	422.2	471.1

Savings are at the power generator, including line losses