Unitil
Unitil Service Corp.

ORIGINAL
N.H.P.U.C. Case No. DE 09-137
Exhibit No. #6
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December 18, 2009

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NH PUBLIC UTILITIES COMMISSION

Debra A. Howland, Executive Director and Secretary
New Hampshire Public Utilities Commission
21 S. Fruit Street, Suite 10
Concord, NH 03301-2429

RE: Unitil Energy Services, Inc.
Docket No. DE 09-137

Dear Director Howland:

Enclosed on behalf of Unitil Energy Systems, Inc. ("UES"), are an original and six copies of the following revised schedules to the pre-filed direct testimony of Cindy Carroll:

Revised Schedule CLC-2
Revised Schedule CLC-4
Revised Schedule CLC-4

The active Excel files for these revised schedules are also provided on the enclosed disk. A copy of the Synapse 2009 Report, Avoided Energy Supply Costs in New England, is also included on the enclosed disk. Due to its length (399 pages), a hard copy will not be provided unless requested.

The revised Schedules are the result of modeling enhancements and updates made to the DER UES screening model. This model is initially discussed in the pre-filed direct testimony of Howard Axelrod. A descriptive summary of the changes to the model is attached.

Please do not hesitate to contact me if you have any questions concerning these revised schedules. Thank you for your consideration in this matter.

Sincerely,

Gary Epler
Attorney for Unitil Energy Systems, Inc.

Gary Epler
Chief Regulatory Counsel

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Enclosure

cc: Service List

UES DER Screening Modeling Update

December 18, 2009

The following is a summary of the modeling enhancements and updates made to the DER UES model.

1. The avoided cost data developed by Synapse was updated for the 2009 forecast.

2. The computation of REC benefits was expanded from a single year to the life of the investment, with benefits discounted back to 2009 dollars.

3. The REC valuation was updated to reflect 2008 and 2009 Class II (New Solar) Alterative Compliance Payment per Megawatt-hour. The rate of change between 2008 and 2009 was used to forecast REC values in future years. Benefits are calculated at 75% of the forecast REC values.

4. The Economic Development analysis was modified in the way it was accounting for the capital displacement of utility investments.

   - The original model calculated a net economic benefit based on subtracting the economic development multipliers for "utility" investment from the more broadly based economic development multipliers for "DER" investment, applied to the full amount of the DER project investment. This approach did not reflect any economic benefits of energy displacement, where a local DER expenditure reduces the outflow of funds for energy and fuel imports in which case there are no local investment benefits. This method also effectively overstated the utility investments that are being displaced.

   - The revised model uses the same net economic benefit calculation, subtracting utility multipliers from DER multipliers, for only a portion of the DER investment, but calculates the full economic benefits for the remainder of the DER investment. The proportionate split is determined on the ratio of the capacity benefits (representing utility investment in distribution, transmission or generation) to the total energy and capacity benefits. To the extent the DER investment avoids future capacity costs, it is presumed to be displacing utility investment. To the extent the DER investment is generating energy savings, it is presumed not to be displacing any regional investments but substituting instead for simply an outflow of funds from the local economy.

5. The allocation of energy and demand related DER benefits between the Participant and all other customers was refined.

- The original model allocated all energy and capacity benefits (except localized distribution) to the Participant on the theory that the company's energy and capacity charges are market based and will flow through to customers over time. However, this failed to account for the fact that customers are, in general, charged average, non-time variant rates for energy and capacity, while benefits from energy and capacity displacement are very time-sensitive.

- For example, under the Company's Default Service, a customer pays an identical energy rate on-peak and off-peak, yet the market costs as modeled in the avoided costs study for on peak and off peak energy may be quite different. A customer that avoids on-peak energy with a DER investment will save on the basis of the average Default Service rate – but the benefits that flow to all customers may reflect the much higher on peak market rates. It is true that the Company procures energy at fixed non-time variant wholesale prices, but eventually the benefits of an improved system load factor from customer displacement of on peak usage will be reflected in lower bid prices providing benefits to all customers. The same consideration applies to savings the customer sees in their delivery rates – the benefits in avoided transmission and distribution will not match the savings in rates which accrue to the customer.

- The revised model computes the estimated annual avoided electric bill based upon current rates, split between energy and demand charges. These participant savings are then compared to the corresponding capacity and energy benefits calculated in the first year of the investment to develop a ratio that splits the benefits between participant (reflecting the benefits the participant will see in the reductions in their electric bill) and non-participant (reflecting the broader energy and capacity benefits that will flow through to the benefit of all customers, net of the benefits which accrue to the participant). In this calculation, generation capacity costs are included with market energy prices in calculating the ratio since these costs are recovered in default service.

- In applying this procedure, we have found that based on current rates for the three customers, and based on the first year energy and capacity benefits predicted using the updated AESC avoided cost values, the bill savings for Default Service slightly exceed the first year calculated benefits for energy and generation capacity. This results in a negative net benefit to non-participants for these cost components. The Delivery component of the bill, in comparison, result in significant positive net benefits for the transmission and distribution cost components.

6. The assumptions relating to seasonal and on-peak / off-peak capacity and energy benefits for the three projects have been adjusted based on updated energy production estimates.

Summary Report
Crutchfield

Unitil Investment	$101,920
Total Project Cost	$101,920

Other Intangible Benefits	
Load Reduction	
Summer	58
Winter	86
Lifetime	749
MWh Saved	
Annual	190
Lifetime	2,469
Economic Development	
Jobs Created	1
Wages & Salaries	$28,145

Allocation of Economic Benefits

Capacity	Total	Participant	All Customers	Default
Generation				
Summer	$21,085	$26,695	-$5,610	
Winter	$0	$0	$0	
Transmission	$8,402	$2,666	$5,736	
Distribution	$25,804	$8,187	$17,617	
DRIPE	$9,762		$9,762	
Localized Distribution	$4,762		$4,762	
Total Capacity	**$69,815**	**$37,548**	**$32,267**	**$0**
Energy				
Winter				
Peak	$94,604	$119,776	-$25,172	
Off peak	$31,313	$39,645	-$8,332	
Summer				
Peak	$41,162	$52,115	-$10,952	
Off peak	$13,527	$17,126	-$3,599	
Total Energy	**$180,607**	**$228,661**	**-$48,054**	**$0**
Other				
Energy				
Dripe	$63,310		$63,310	
Non-Electric				
CO2 Reduction	$75,635		$75,635	
REC Credit	$310,120			$310,120
Total Other	**$449,065**	**$0**	**$138,945**	**$310,120**
Economic Development				
Total Output	**$144,018**		**$144,018**	
Total Benefits	**$843,505**	**$266,209**	**$267,175**	**$310,120**
B/C Ratio	**8.28**	**n/a**	**2.62**	**n/a**

Summary Report
Stratham

Unitil Investment	$399,326
Total Project Cost	$399,326

Other Intangible Benefits	
Load Reduction	
Summer	39
Winter	39
Lifetime	512
MWh Saved	
Annual	65
Lifetime	841
Economic Development	
Jobs Created	2
Wages & Salaries	$100,977

Allocation of Economic Benefits

Capacity	Total	Participant	All Customers	Default
Generation				
Summer	$14,419	$15,562	-$1,143	
Winter	$0	$0	$0	
Transmission	$5,745	$1,823	$3,923	
Distribution	$17,646	$5,599	$12,048	
DRIPE	$6,676		$6,676	
Localized Distribution	$3,256		$3,256	
Total Capacity	**$47,743**	**$22,984**	**$24,759**	**$0**
Energy				
Winter				
Peak	$16,760	$18,088	-$1,328	
Off peak	$21,869	$23,603	-$1,733	
Summer				
Peak	$8,681	$9,369	-$688	
Off peak	$10,241	$11,053	-$812	
Total Energy	**$57,552**	**$62,113**	**-$4,562**	**$0**
Other				
Energy				
Dripe	$19,304		$19,304	
Non-Electric				
CO2 Reduction	$25,973		$25,973	
REC Credit	$96,921			$96,921
Total Other	**$142,198**	**$0**	**$45,277**	**$96,921**
Economic Development				
Total Output	**$478,179**		**$478,179**	
Total Benefits	**$725,671**	**$85,097**	**$543,654**	**$96,921**
B/C Ratio	**1.82**	**n/a**	**1.36**	**n/a**

Summary Report
SAU 16 Solar

Unitil Investment	$260,000
Total Project Cost	$860,000

Other Intangible Benefits	
Load Reduction	
Summer	105
Winter	143
Lifetime	1,365
MWh Saved	
Annual	449
Lifetime	5,837
Economic Development	
Jobs Created	2
Wages & Salaries	$72,257

Allocation of Economic Benefits

Capacity	Total	Participant	All Customers	Default
Generation				
Summer	$38,437	$53,150	-$14,713	
Winter	$0	$0	$0	
Transmission	$20,785	$4,859	$15,926	
Distribution	$63,839	$14,924	$48,915	
DRIPE	$17,795		$17,795	
Localized Distribution	$8,680		$8,680	
Total Capacity	**$149,536**	**$72,933**	**$76,603**	**$0**
Energy				
Winter				
Peak	$219,966	$304,166	-$84,200	
Off peak	$136,628	$188,928	-$52,300	
Summer				
Peak	$46,783	$64,691	-$17,908	
Off peak	$10,185	$14,083	-$3,899	
Total Energy	**$413,561**	**$571,867**	**-$158,306**	**$0**
Other				
Energy				
Dripe	$145,017		$145,017	
Non-Electric				
CO2 Reduction	$177,348		$177,348	
REC Credit	$672,590			$672,590
Total Other	**$994,956**	**$0**	**$322,365**	**$672,590**
Economic Development				
Total Output	**$371,639**		**$371,639**	
Total Benefits	**$1,929,692**	**$644,800**	**$612,301**	**$672,590**
B/C Ratio	**2.24**	**n/a**	**2.36**	**n/a**