BEFORE THE STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

In the matter of:	**)**
DE 11-250	**)**
Public Service Company of New Hampshire	**)**
Investigation of Merrimack Station Scrubber Project and Cost Recovery	**)**
DE 14-238	**)**
Public Service Company of New Hampshire	**)**
Determination Regarding PSNH' Generation Assets	**)**

Direct Prefiled Testimony

Of

James Brennan
Finance Director

On behalf of
The New Hampshire Office of the Consumer Advocate

Dated: **July 17, 2015**

Q. Please state your name, business address and current position.

A. My name is Jim Brennan. I am the Finance Director at the New Hampshire Office of the Consumer Advocate (OCA). My business address is 21 South Fruit Street, Suite 18, Concord, New Hampshire.

Q. Please summarize your educational background and work experience.

A. I graduated in 1978 from Saint Bonaventure with a Bachelor of Science degree in Finance. In 1980, I graduated from Syracuse University with an MBA. In 1981, I completed a nine month JP Morgan Chase (formerly Chemical Bank) MBA Management Training Program. I have completed courses in business, finance, software development, electric utility regulation, regulatory finance and accounting, and Smart Grid.

In my present position at the OCA I perform economic and financial analysis of utility filings across all industries, draft discovery and testimony, and provide guidance on financial policy and regulatory issues.

My business career began in banking as First Vice President at Chemical Bank, 1980-1989, with responsibilities as analyst, credit department manager, account relationships, and course designer and instructor of Risk Assessment training. I have experience managing business and technology operations. At TD Waterhouse Securities, 1995-2001, I ran the third largest brokerage statement operation on Wall Street during a period of 400% growth with responsibilities for budget, operations, Information Technology data processing and New York

Stock Exchange Compliance. Waterhouse's statement was awarded #1 ranking by Smart Money during my assignment. I have experience in IT project management and software design. Experience includes: implementation of paperless technology in Waterhouse Security National Investor Clearing Corporation stock clearing operation (2000); managing launch of an eServices web site providing on-line secure access of brokerage statements to 2.5 million Waterhouse clients (2001); designing Microsoft.NET and SQL Server based software systems for Mathematica Policy Research 2003-2006; directing design testing and launch of cloud based Microsoft Customer Relationship Management (CRM) applications for Southern New Hampshire University (2012-2013). As an Adjunct Instructor I have taught courses in Corporate Finance, Microsoft applications and Microsoft C# programming language.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to explain why the Office of the Consumer Advocate supports the 2015 Settlement Agreement including generation divesture from the residential ratepayer perspective. My testimony is organized into three sections:

I. Existing issues and risks facing Eversource (PSNH) residential default energy service (ES) customers today in the absence of the Settlement Agreement;

II. How the 2015 Settlement Agreement addresses or mitigates the existing risks outlined and review of any new risks introduced should the settlement be approved;

III. Why the OCA supports the Settlement Agreement and why I believe that it fairly and appropriately addresses the risks described in sections I and II;

SECTION I: Existing issues

Q. What primary issues and risks face PSNH ES rate payers?

A. The viability of the PSNH ES rate as a safe default option as currently structured for residential ratepayers is uncertain. Since 2009, systemic factors have made the PSNH ES rate uncompetitive in comparison to market based competitive ES rates charged by the other utilities in New Hampshire. This is referred to as "the PSNH ES above market gap" or "gap" in my testimony. Under retail competition approximately half of PSNH energy sales have been lost to competitive suppliers as customers seek more competitive rates. A confluence of three major events created this gap and has resulted in risks and increasing costs being borne by the residential default ES ratepayers. These risks act in concert with each other and under the status quo could lead to widening the gap and causing a future rate crisis.

Q. What are the risks that create the PSNH ES above market gap and future uncertainty?

A. The risks are:

1. Competition risk and its allocation;
2. Costs of uncompetitive generation assets;
3. Declining PSNH ES sales;

4. Future risks of owning coal generation – which are escalating in severity;

There is strong likelyhood that these risks, which have occurred historically, will continue in the future.

Q. What events cause these risks and allocates them exclusively to default ES rate customers?

A. Three events acting in concert have made ES customers more vulnerable to the inherent risks of PSNH owning legacy coal fired electric generation assets. Coal fired electric generation accounts for major portions of PSNH generation costs and are a key driver of PSNH's gap. These events are:

1. New Hampshire electricity market restructuring including: wholesale deregulation, retail deregulation, and PSNH's hybrid situation[1] ;
2. PSNH's $422 million scrubber investment in Merrimack 1 and 2;
3. Declining natural gas prices.

These events have: a)directly led to PSNH's decline in competitiveness; b) added to ES cost increases; and c) led to profit subsizidation of excess above market capacity by residential default ES customers. To address these conditions the OCA supports the proposed Settlement Agreement over the alternatives to it.

Q. How large is the gap between PSNH's ES rate and the competitive rate used by other utilities?

A. Below is Figure 1 from the Liberty Staff Report [2] of New Hampshire Default Services Rates from April 2004 to April 2013 for all electric utilities in New

[1] NHPUC, DE 13-020, Order of Notice (January 18, 2013),pg.4

Hampshire – PSNH, Unitil (UES), Liberty Utilities Granite State Electric Corp (GSEC), and the New Hampshire Elecrtric Cooperative (NHEC).

Figure 1: New Hampshire Default Service Rates April 2004 – April 2013

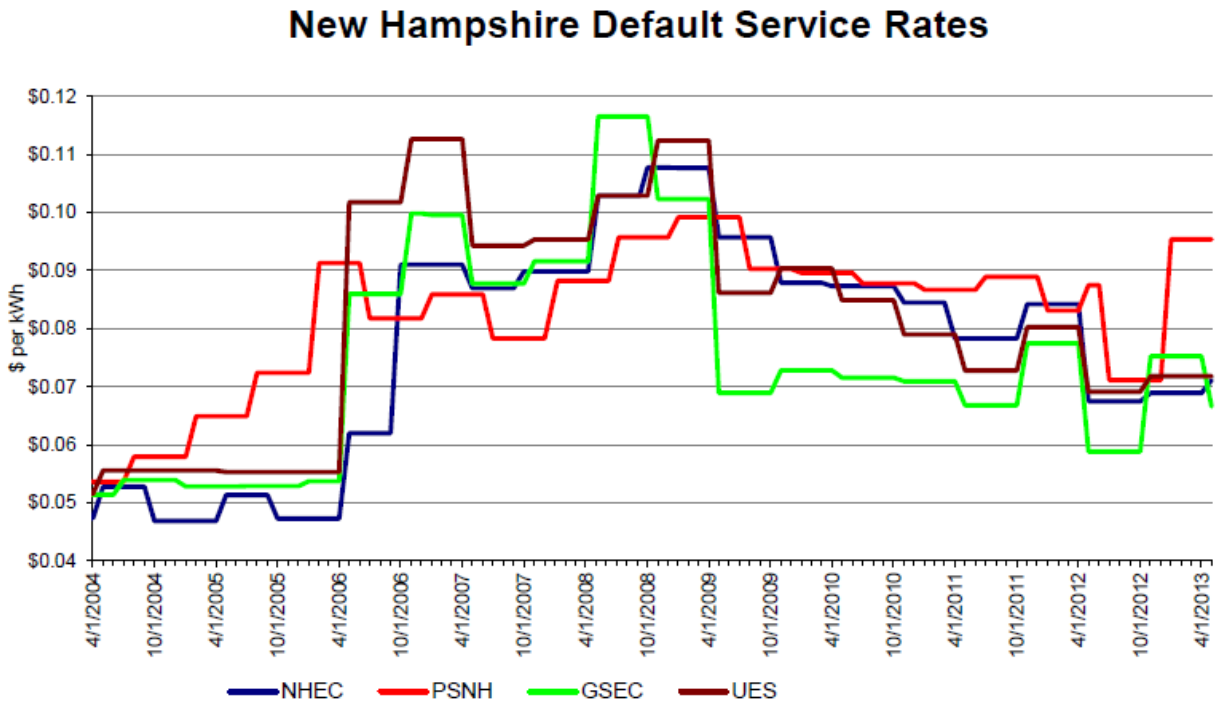

Figure 1 shows that since 2009 PSNH ES rate exceeds all other rates of the other utilities.

Q. Is PSNH's above market gap expected to continue?

A. Yes. Vulnerabilities to competition, cost of excess capacity, sensitivity to declining sales, and the risks of owning coal fired generation, if not eliminated or mitigated, are expected to result in PSNH ES rates remaining higher than market prices over time. The La Capra Associates Staff Report[3] (La Capra Report) forecasts PSNH ES rate will be 3.2 cents to 3.7 cents above the

[2] NHPUC DE 13-020, Liberty Staff Report, June 7, 2013
[3] NHPUC DE 13-020, La Capra Staff Report, April 1, 2014

competitive market rate through 2021 assuming PSNH receives full recovery of all scrubber costs. The La Capra Report precedes winter price spikes of 2013 and 2014. The long term impact of these two winter pricing events is discussed in other testimony and is not included in this forecast of PSNH ES rates status quo.

Q. Is the PSNH ES rate calculated the same way as the competitive ES rate used by the other utilities in the default service diagram above?

A. No. PSNH's ES calculation method is different than the ES rate setting methodology of UES, GSEC, and the NHEC. New Hampshire law requires the PSNH default ES rate to include costs of all of the generation plants owned by PSNH. It states, "The price of such default service shall be PSNH's actual, prudent and reasonable costs of providing such power, as approved by the commission". RSA 369-B:3, IV(b)(1)(A).

Q. Please explain how PSNH implements this directive.

A. The Commission has referred to PSNH as being in a "hybrid situation" meaning that it meets ES load with both owned generation and supplemental market and bilateral purchases. As a result the PSNH ES rate calculation model includes two non-energy cost components that do not exist for the other electric utilities in New Hampshire.

Q. Please illustrate both ES calculation methods?

A. Below is Table 1 Comparison of Energy Service Calculation Models

Table #1
Comparison of Energy Service Calculation Models

	row	a PSNH ES Cost Model (3 components)	b Competitive ES Model (1 component)	c PSNH above market gap
Variable	1	(a) Energy purchased (b)Energy generated	Energy purchased	
Fixed	2	O&M Costs		
Fixed	3	Return costs		
	4	PSNH ES Costs (rows 1+2+3)	Competitive ES Costs (row 1a)	
	5	Default Service Sales kWh	Default Service Sales kWh	
	6	PSNH ES Rate (rows 4 ÷ 5)	Competitive ES Rate (rows 4 ÷ 5)	gap = col B-A

Component definitions:
1 Energy: costs to acquire energy including capacity, environmental and miscellaneous;
2 O&M costs: operation & maintenance, depreciation, tax expenses related to PSNH generation;
3 Return costs: debt and equity costs related to PSNH generation;

Table 1 shows a side by side comparison of basic rate architectures. The PSNH model is column A and the competitive market rate model is column B. It illustrates the gap which is the difference in rates, shown in the bottom row. Both models have an energy component but PSNH's energy component is calculated differently than that of the other New Hampshire utilities. PSNH has two additionl components that recover its generation costs. These components are discussed below.

Energy (row1): The energy component is a variable cost that increases and decreases directly with retail kWh sales volume (row 5). This component represents the cost of acquiring energy (including various capacity, regulatory and other charges) to meet the demand (load) of default ES customers. Energy for PSNH ES customers is sourced differently because PSNH generates a portion of it's load (row 1b) with owned generation while the other utilities purchase all energy in the competitive marketplace.

Operational & Maintenance (O&M) fixed costs(row 2): The fixed costs of PSNH owned generation are O&M, depreciation and taxes. Unlike variable energy costs, fixed costs do not decline with kWh sales volume decreases. Fixed costs are recovered according to traditional regulatory cost of service (COS) rate making principles which are reviewed in Commission proceedings. The 2012 $422 million scrubber investment added to the Merrimack coal fired plant increases this component of PSNH ES rates.

Capital Return Costs (row 3): Return costs are the amounts paid to shareholders based on PSNH generation assets included in rate base. Ratepayers pay PSNH's 9.81% allowed return on equity on net book value generation assets in rate base. Similar to fixed costs, return costs do not decline when sales decline. The 2012 $422 million scrubber investment increases this component[4] by increasing the rate base and therefore increasing the return dollars to shareholders. It is important to note that all of those costs, including PSNH's return, are reconciling.

Q. Please summarize the first risk – the impact on residential rates of competition risk.

A. For significant portions of the year PSNH's coal fired electric generation is uncompetitive in the deregulated wholesale energy market due to the presence of newer, lower cost merchant generators. Their coal fired generation runs economically as a winter cold weather peaking plant. Merrimack however was designed to run as a year round base load plant not as a cold weather peaking plant. As a result PSNH owns increasing levels of expensive excess generation

[4] NHPUC DE 11-250, Chung Testimony, EHC-2, July 17,2015, bates 708

capacity. PSNH shareholders are isolated from competition risks because all generation costs are recovered through the fixed and capital components in ES. Conversely the risks of competition are allocated to default ES ratepayers who pay 100% of all prudent generating costs, including equity return.

Q. How is the competitiveness of PSNH generation measured?

A. In my testimony PSNH's capacity factor is used as a measure of competitiveness in the wholesale energy market. PSNH sells energy into the deregulated wholesale energy market competing against unregulated merchant gas fired electric generators. When PSNH generation assets are running at a competitive price it generates and sells energy into the market. The more frequently PSNH bids are competitive the more its generation assets may be called on to generate energy, and its capacity factor rises. Conversely when PSNH is not competitive and it chooses not to self-dispatch (including uneconomic runs), the quantity of energy generated falls, and its capacity factor declines. Low capacity factor indicates idle plant and excess capacity which ratepayers pay the full carrying costs for, regardless of how often they run.

Q. Based on plant capacity factor, is PSNH's Merrimack coal fired plant competitive?

A. No. Merrimack's coal fired generation is increasingly uncompetitive and uneconomic. PSNH has provided historical capacity factors in graph format[5]. Graph data was converted into numeric format[6] and is used in calculations

[5] NHPUC DE 14-120, Smagula Testimony, WHS-3, May 1, 2014, bates 000100 (JJB-1).
[6] Merrimack Capacity Factors 1993-2013 (JJB-2)

contained in Table #2 below "Capacity Factor Measurements(Merrimack 20 year period)". Table 2 shows Merrimack's competitiveness is declining.

Table #2
Capacity Factor Measurements (Merrimack 20 year period)

CF	Period	Source
73%	Historical 20 year average capacity factor	JJB-1
69%	Historical 10 year average capacity factor	JJB-1
62%	Historical 7 year average capacity factor	JJB-1
42%	Historical 3 year average capacity factor	JJB-1
36%	2013 capacity factor	JJB-1

Based on calculated average capacity factors Merrimack Station specifically has significant excess capacity.

Q. How does competition risk effect residential ratepayers?

A. First, PSNH's uncompetitiveness leads to excess capacity. As discussed below excess capacity has costs paid by residential rate payers who do not migrate. While ES customers receive the benefit of capacity revenues from PSNH generation, these benefits may diminish as newer capacity comes on line. Second, PSNH's uncompetitiveness has triggered customer migration which increases rates as is discussed below in risk #3 Declining energy service sales.

Q. Please summarize risk #2: Cost of PSNH excess generating capacity.

A. The costs of excess capacity are the fixed O&M costs and return costs paid on excess generation capacity. These costs are embedded in the PSNH ES rate. Similar to an airline that on average fills 35 of 100 seats with paying customers, there are fixed costs associated with the 65 empty seats on each flight. While both are unavoidable (you can't run part of Merrimack 1 or fly part of a plane)

there are costs to owning more capacity than otherwise needed. PSNH default ES ratepayers pay those costs whether or not the plant runs. In addition, the scrubber increased ES costs significantly with no associated increase in plant utilization.

Q. Please show the costs of generation included in PSNH ES before and after the scrubber event.

A. Below is Table 3 "Trend Analysis PSNH 2011-2013". Costs data in rows 1-5 is taken from PSNH filings. Capacity factors in row 6 are from Exhibit JJB-1. Row 8 migration is from the Liberty Staff Report[7].

Table #3
Trend Analysis PSNH 2009-2013
1) Total Energy Service Costs, 2) Competitiveness, 3) Retail Sales
$000's

PSNH ES Component		DE 10-121 2009[I]		DE 11-094 2010[II]		DE 12-116 2011[III]		DE 13-108 2012[IV]		DE 14-120 2013 [V]	
row	**ES Costs:**										
1	Energy (variable)	$ 472,944	73%	$ 314,162	65%	$ 259,150	58%	$ 192,659	48%	$169,478	45%
2	Operations (fixed)	$ 131,969	20%	$ 130,998	27%	$ 139,686	31%	$ 127,261	32%	$ 128,921	34%
3	Return (fixed)	$ 42,838	7%	$ 41,429	9%	$ 51,079	11%	$ 82,727	21%	$ 80,715	21%
4	Total ES cost (rows1+2+3)	$ 647,751	100%	$ 486,589	100%	$ 449,915	100%	$ 402,647	100%	$ 379,114	100%
5	Non-energy cost (rows2+3)	$ 174,807	27%	$ 172,427	35%	$ 190,765	42%	$ 209,988	52%	$ 209,636	55%
	Competitiveness:										
6	Capacity Factor	71%		68%		59%		34%		36%	
	Sales:										
7	Retail MWH sales	6,290,761		5,419,726		5,091,947		4,600,990		3,772,661	
8	Migrated Customers[VI]			10,000		10,000		40,000+		65,000+	
9	% Sales lost (approx.)			6%		6%		26%		40%+	

Component definitions:
1 Energy: costs to acquire energy including capacity, environmental and miscellaneous
2 Operations: O&M fixed, depreciation, taxes (generation related)
3 Return: debt and equity costs (generation related)

[I] NHPUC DE 10-121, Baumann testimony, April 30,2010, attachment RAB-3(JJB-3)
[II] NHPUC DE 11-094,Baumann testimony, April 2, 2011, attachment RAB-3 (JJB-4)
[III] NHPUC DE 12-116, Baumann testimony, May 1, 2012, attachment RAB-3 (JJB-5)
[IV] NHPUC DE 13-108, Shelnitz testimony, May 9, 2013, attachment MLS-3 (JJB-6)
[V] NHPUC DE 14-120, Shelnitz testimony, May 1, 2014, attachment MLS-3 (JJB-7)
[VI] Migration data for 2010-2013 taken from NHPUC DE 13-020 Liberty Staff Report.

[7] NHPUC,DE 13-020, Liberty Staff Report, June 7, 2013

Since 2009 the non-energy components have risen while sales declined. The scrubber impact started in 2012. The first 5 rows contain cost data. Rows 1-3 show the three components of PSNH ES costs: Energy; Operational fixed; and Return. Row 4 is the total ES cost. Row 5 reflects the non-energy cost components (Operational fixed + return).

Driven by increasing scrubber costs, over half of the PSNH ES rate is fixed non-energy costs (row 5). For 2013 the non-energy components (combined fixed cost component and the capital cost component) total $209 million (row 5) representing over half (55%) of total PSNH ES costs. There has been a steady upward trend in non-energy costs since the 2009 level of $175 million or 27% of total PSNH ES costs. The costs increase reflects the effect of doubling the capital cost component (row 3). Capital costs increased from $41 million in 2010 to $80 million in 2013 primarily due to the addition of the scrubber in rate base. Specifically PSNH projected a $32 million scrubber return on rate base[8] as of 2014. High levels of non-energy scrubber costs will continue going forward.

Q. What is the scrubber's impact on the PSNH ES rate?

A. The scrubber accounts for a significant portion of the projected 3.2 cent/kWh PSNH over market gap shown in the La Capra Report. PSNH calculates[9] the all in cost of scrubber operating costs, return costs and recovery of earnings deferrals at 1.85 cents/kWh. As of today only the .98 cents temporary rate is included in PSNH ES rate. The temporary rate does not recover all return costs

[8] NHPUC DE 11-250, Chung Testimony July 11, 2014, EHC-1,bates 000708
[9] ID

(table 3 row 3) and deferrals have accrued since 2012. These deferrals now exceed $100 million and will be recovered through future ES rates. The scrubber will further increase PSNH ES rates once fully added to the revenue requirement in 2016.

Q. Please summarize risk #3 Declining energy service sales.

A. Unlike the competitive ES model used by the other New Hampshire utilities, PSNH's rates are sensitive to variability in kWh sales volume. PSNH's total ES costs do not vary 100% directly with kWh energy service sales due to the significant amount of non-variable costs in the calculation, (refer to Table 1 row 2 and 3.) Table 3 Trend Analysis shows erosion of PSNH retail sales (row 7). Recent 2013 and 2014 winter spikes led to reverse migration in cold winter months. This temporarily lowered the migration rate to around 38%[10] during the winter before returning to higher levels around 50%[11] for the remaining year. The non-energy fixed costs included in the PSNH ES result in higher ES rates when sales decline.

Q. Have actual non-energy costs increased as PSNH's retails sales have declined historically?

A. Yes. Table 3 shows that fixed non-energy components (row 5) have increased $35 million or 20% between 2009 and 2013 while MWH retail sales (row 7) have declined 40% over the same period. Higher ES costs are allocated on a lower retail sales MWH base representing fewer residential customers (row 8).

[10] PSNH Migration Report 1st quarter 2015 (JJB-9)
[11] PSNH Migration Report 2nd quarter 2015 (JJB-10)

Referencing Table # 1 Comparison of ES models, the numerator is increasing while the denominator is decreasing, mathematically driving rates upward.

Q. Are the negative effects of costs, capacity and sales erosion expected to continue?

A. Yes. Return costs will remain high due to the rate base increase in 2012. Merrimack capacity factor for 2015 is projected at 38%-40%.[12] Migration levels based on the 2nd quarter June 2015 quarterly migration report are averaging 52% with 100,000 customers migrated to competitive suppliers.

Q. Please summarize risk #4 Uncertainties of future risks of owning coal generation?

A. Merrimack Station was built in the 1960's. It was designed as a base load coal fired power generation plant. It is nearing the end of its life cycle of economic use. Maintenance or upgrade expenses, environmental mandates, and increased competition in wholesale and retail markets, can create new costs and increases in generation rate base. This results in increased O&M costs and return costs which are included in ES costs. These increases result in higher rates likely causing declining sales as customers migrate to competitive suppliers. This scenario has occurred in the past and therefore the probability of future events increasing PSNH ES rates is in the realm of probability. These unknown future events create uncertainty as to the future of PSNH default ES rates.

Q. What is your assessment of the existing cost based PSNH ES model?

A. Potentially unsustainable risks and costs are unfairly allocated to those customers who choose PSNH default service rather than migrate to competitive

[12] NHPUC DE 14-235 Response to Staff 1-8 PSNH response (JJB-8)

suppliers. Over 85% of these default customers are residential as of June 2015[13]. The fixed O&M and capital components of PSNH ES place rising costs onto a declining base of mostly residential ratepayers who now subsidize PSNH profits on uneconomic assets. In recent years the capital component has risen dramatically due to enormous increases in plant at Merrimack. Going forward ratepayers will pay PSNH's 9.81% return on $600+ million net book value plant[14] included in rate base in 2017 that is increasingly not competitive. The architecture of the PSNH ES calculation model leaves default service customers (not PSNH shareholders) vulnerable to risks of competition, cost of excess capacity, sales declines, and coal plant ownership. These risks have potential spiraling effects that could jeopordize the viability of PSNH default ES rate for the 325,000+ [15]residential customers that do not migrate to competive suppliers. For low income and fixed income customers, this risk is particularly burdensome. The severity level of these risks is high. Based on historical data, the probability of the occurrence of these four risks going forward is high. The status quo option of continuing with current design would risk harm to default ES residential customers.

SECTION II: Review of the Settlement Agreement

Q. Summarize the impact of the Settlement Agreement on default ES rates paid by residential rate payers.

[13] PSNH Migration Report 2015 Q2 (JJB-10)
[14] NHPUC DE 14-238 Chung Testimony July 6, 2015 EHC-1, bates 83
[15] PSNH Migration Report 2015 Q2 (JJB-10)

A. Under the Settlement Agreement the lower ES costs result in forecasted customer savings of $378 million[16] through 2021 when compared to the status quo rates projected by the La Capra Report. The Settlement Agreement allows the PSNH ES rate to move toward a market based rate. Certain significant existing risks and costs of PSNH's owned generation are removed from residential and other ES ratepayers. Below is a summary of impacts of the Settlement Agreement:

1. Certain existing risks are eliminated:
   - Competition (risk #1);
   - Costs of excess capacity (risk #2);
   - Ownership coal plant/environment (risk #4)
2. Another existing risk is significantly mitigated
   - Sensitivity to sales decline (risk #3);
3. A new risk is added - stranded costs associated with divesting;
4. The size of the gap between PSNH ES rate and the market rate is smaller and is eliminated over a 15 year period[17].
5. The PSNH ES calculation model changes:
   - O&M costs and return costs components are eliminated;
   - New stranded cost component[18] is added (risk #5 new);
   - Gap costs are allocated to all PSNH distribution customers

Q. How are the $378 million customer savings generated under the settlement?

[16] NHPUC DE 14-238 Chung Testimony July 6, 2015, EHC-1, bates 000080
[17] When measuring the impact of the Settlement Agreement, my testimony combines the distribution and energy rate impact. Note that stranded costs are allocated across all distribution customers. To reflect the impact of stranded costs on energy service customers Table 1a column b reflects stranded costs as a component of energy service costs.
[18] See footnote 17

A. Customer savings are the difference between what customers would pay under today's ES calculation model (status quo) compared to the new model under the Settlement Agreement. Savings accrue primarily to customers who do not migrate. Below is Table 1a. It shows the status quo (column a) and proposed settlement/divesture model (column b). Customer savings calculations are shown in column d. Note the competitive model (column c) is shown for reference. Over time as stranded costs amortize the settlement/divest model becomes the competitive model.

Table #1a – includes Settlement / Divesture
Comparison of Energy Service Calculation Models

	row	(a) PSNH ES Cost Existing status quo	(b) PSNH ES Cost settlement/divested	(c) Other utilities ES Model (competitive)	(d) $ Customer Saving settlement/divested model	(e) PSNH above market gap (savings)
Variable	1	(a) Energy purchased (b)Energy generated	Energy Purchased (competitive)	Energy Purchased (competitive)	$ Savings = col a-b	
Fixed	2	O&M Costs			$ Savings = col a-b	
Fixed	3	Return costs			$ Savings = col a-b	
Fixed	3a		Stranded Costs (footnote 3a)		$ Savings = col a-b	
	4	PSNH ES Costs (rows 1+2+3)	PSNH ES Costs (rows 1+3a)	Competitive ES Costs (row 1a)	$ Savings = col a-b	
	5	Default Service Sales kWh	Default Service Sales kWh	Default Service Sales kWh		
	6	PSNH ES Rate (rows 4 ÷ 5)	PSNH ES Rate (rows 4 ÷ 5)	Competitive ES Rate (rows 4 ÷5)		gap = col a-c

Component definitions:
1 Energy: costs to acquire energy including capacity, environmental and miscellaneous;
2 O&M costs: operation & maintenance, depreciation, tax expenses related to PSNH generation;
3 Return costs: debt and equity costs related to PSNH generation;
3a Stranded Costs are allocated to all distribution customers. For comparison purposes stranded costs are presented as a component of ES. Stranded Costs include: 1) Securitization Principal and Interest (NHPUC, DE 14-238, Chung testimony, EHC-1, bates 000080, row 1); 2) non-securitized stranded costs (rows 2, 3, 5)

Three costs in the existing status quo model (column a) are eliminated. The excluded costs are energy generation, O&M costs and return costs (rows 1b, 2 and 3). A new fixed component is added under the divesture model, stranded costs[19] (row 3a). Customer savings primarily benefit customers that do not migrate. Customer savings occur when the difference between the existing costs components methodology (column a rows 1+2+3) exceed the costs of the proposed new model (column b rows 1+3b). Customer savings in column d are

[19] See footnote 17

driven by a smaller PSNH above market gap helped by the elimination of O&M costs and return costs which decline to $0 (column b rows 2+3). Two critical assumptions/variables determine the level of future customer savings. The first key assumption is the continuation of PSNH's above market gap based on La Capra Report (column e row 6). The second key assumption is the magnitude of stranded costs (column b row 3a).

Q. Please illustrate "Customer Savings" (Table 1a column d) for 2017.

A. Below is Table 3a "Forecasted Customer Savings 2017" showing forecasted customer savings of $52.3 million in 2017 (in column E row 4b). Customer savings primarily benefit the default service customers who do not migrate.

Table #3a
Forecasted Customer Savings 2017 – Status Quo vs Divesture
1) Total Energy Service Costs, 2) Competitiveness, 3) Retail Sales & distribution sales
$000's

PSNH ES Component		(A) actual DE 14-120 2013 [1]	(B) Status Quo (owned generation) 2017	(C) Settlement (divested) 2017	(E) PSNH Gap (savings B-C) 2017
row	**ES Costs:**				
1	Energy (variable)	$169,478		$490,200	
2	O&M Costs (fixed)	$ 128,921		$0	
3	Return Costs (fixed)	$ 80,715		$0	
3a	Stranded Costs	$0	$0	$68,600	(68,600)
4	ES Costs default customers only (rows1+2+3+3a)	$ 379,114	$355,100	$234,200	$120,900
4a	ES Costs migrated customers only		$256,000	$256,000	$0
4b	ES Costs all distribution customers (rows 4+4a)		$611,100	$558,800	$52,300
5	Non-energy cost (rows2+3+3a)	$ 209,636		$68,600	
	Competitiveness:				
6	Capacity Factor	36%	32% est	na	
	Sales:				
7	Retail GWh sales	3,772	3,795	3,795	
7a	Migrated GWh sales		4,112	4,112	
	Distribution GWh sales		7,907	7,907	
	Migration	52%	52%	52%	

NOTE: savings primarily benefit the default service customers who do not migrate
Component definitions:
1 Energy: costs to acquire energy including capacity, environmental and miscellaneous
2 Operations: Operation & Maintenance, depreciation, taxes
3 Return: debt and equity costs
3a Stranded costs Type 1 and 2

[1] Exhibit JJB-7 (Shelnitz DE 14-120)

PSNH calculated customer savings[20] data used in the Table 3a columns B and C. Customer savings are taken from approximate rounded data in EHC-1. Similar calculations performed over the 15 year life of the Rate Reduction Bonds (RRB), coupled with savings from rate case stay-out provisions and other settlement conditions, generate forecasted customer savings of $378 million by year 2021.

[20] NHPUC DE 14-238, Chung Testimony, July 6, 2015, EHC-1

Q. Are the customer savings guaranteed under the settlement model?

A. No. The forecasted savings calculated by PSNH[21] are subject to risk and variations of variables including two key sets of assumptions:

Gap savings – the magnitude of the PSNH above market gap (example $120 million in 2017, table 3a column E row 4); and

Stranded costs – the magnitude of stranded costs (example $68.6 million in 2017, table 3a column E row 4b).

Q. What are stranded costs?

A. As discussed in PSNH filings, stranded costs include: 1) debt service on approximately $500 million securitized bonds; 2) over market costs of existing power purchase agreements (PPA) with an estimated NPV of $120 million; 3) other transition costs.

Q. Who pays stranded costs?

A. Stranded costs are paid by all distribution customers. This is in contrast to scrubber costs status quo where 100% O&M costs and 100% return costs are paid by default ES customers only. About 45% of stranded costs are allocated to the residential class. PPAs are currently included in ES rates.

Q. What is the rate impact of stranded costs on residential customers in 2017?

A. PSNH has calculated the rate impact of stranded costs[22]. Total stranded costs recovery charge (SCRC) for Rate R residential is 1.06 cents/kWh comprised of: 1) 0.81 cents debt service on bonds; 2) 0.25 cents existing PPAs. Costs decline

[21] NHPUC DE 14-238, Chung Testimony July 6, 2015, ECH-1, bates 000080
[22] NHPUC DE 14-238, Chung Testimony July 6, 2015, EHC-2, bates 000081.

annually as interest on bonds reduces with principal reductions. Interest expense associated with stranded costs is lower due to the benefits of securitization.

Q. In the Settlement Agreement stranded costs are not allocated equally across the rate classes. Is this fair?

A. Conceptually, PSNH's ownership of generation assets create costs (referred to here as "Generation Costs") both today and after settlement/divesture. Today, Generation Costs are the return costs - for example $80 million of return costs in ES for one year shown in Table 3a column A row 3. These costs are paid 100% by default service customers of which 85% are the residential class. This results in a heavy allocation of Generation Costs to the residential class as compared to large commercial and industrial (C&I) classes.

Under the Settlement Agreement the Generation Costs that are not offset by divesture are the stranded costs – for example $68 million shown in Table 3a column C row 3a. Stranded costs are paid by all distribution customers. Under settlement approximately 48% is allocated to the residential class and 52% to the other classes including large C&I. As a result C&I will pay more Generation Costs then they pay today. Conversely residential ES customers will pay less then what they pay today. Therefore Generation Costs (stranded costs) under the Settlement Agreement are more fairly allocated than Generation Costs (return costs) under the status quo.

Q. What is your assessment of the impact of the Settlement Agreement on PSNH ES customers?

A. Under the settlement and after divestiture the risks and costs to residential customers are significantly lower than under the status quo. The capital component within the ES calculation is removed. A stable stranded cost component that is paid by all distribution customers over a 15 year life is added. The severe risk of paying for all future prudent costs of PSNH's owned coal fired generation is removed. Lengthy regulatory cost of service rate making is replaced with a competitive bidding process in the deregulated energy market. As a result, the overall risk that PSNH's ES above market gap will widen to unreasonable levels is eliminated. When the PSNH ES rate moves toward competitive market rates, customer savings are generated for residential ES customers based on the gap forecasted in the La Capra Report. Estimated customer savings are partially offset by stranded costs. The magnitude of stranded costs is unknown until generation assets are sold. Analysis performed by PSNH indicates savings are not highly sensitive to stranded costs increases due to lower sales price of generation assets[23]. Based on analysis, including the La Capra Report, customers are better off with securitization of stranded costs. The impact of stranded costs on customer savings will be analyzed in the REMI model.

SECTION III

Q. Please explain why the OCA supports the Settlement Agreement?

[23] NHPUC DE 14-238, Chung testimony,bates63

A. I believe that the Settlement Agreement fairly and appropriately addresses the risk described in Sections I and II above, and presents a fair resolution of the issues before the Commission in both DE 14-238 and DE 11-250. As noted in detail above, events and risks that led to the PSNH above-market rate gap are expected to continue into the foreseeable future. These events include restructuring, scrubber implementation, and lower natural gas prices. These risks include competition, costs of excess capacity, sales decline, and coal fired generation ownership. These risks have been realized since 2009 and have the potential to increase in severity in coming years. Taking no action and leaving PSNH's existing ES model in place threatens the viability of PSNH's default ES.

Without settlement parties will continue to litigate DE 11-250 and DE 14-238 during which time O&M costs and the currently effective 9.81% return on equity costs would lead to higher rates and larger revenue deferrals.

With settlement, risks are minimized, costs are reduced, savings accrue to default ES customers, stranded costs are allocated across a wider base, and future uncertainty is replaced by certainty relative to the risks of owned generation. Residential customers are better off achieving the certainty of paying a long term fixed interest rate costs on a capped (and declining) amount of stranded costs compared to the extreme uncertainty of paying all future generation O&M costs plus 9.81% on unknown future levels of plant in rate base. Notwithstanding the risks of paying stranded costs, residential customers

are better off no longer bearing the risks of non-economic coal fired generation.

Q. Does this conclude your testimony?

A. Yes