

Testimony Outline  
Kenneth A. Colburn  
SB-152 re Merrimack Scrubber Investigation  
March 13, 2009

ORIGINAL	
N.H.P.U.C. Case No.	DE 11-250
Exhibit No.	#98
Witness	Nicholas F. Hachey
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A. Apologies for being here to "make your life more difficult," but...

Consider the risks: If CRG is wrong; PSNH can still meet the scrubber deadline easily. If PSNH is wrong, we may save NH citizens not just \$457 million, but \$1-3 billion.

B. How I came to be here...

1. CRG called in late October, concerned about unexamined near-doubling of cost, anticipated additional costs (well aware of), and potential alternatives; asked if I could provide a quick-and-dirty overview
2. Produced "Compendium of Concerns" (which you should have in your packets) to support CRG's request that we look before we leap off a precipice now twice as big as expected.
3. Two major sections: Unexamined Costs & Risks, and Consideration of Alternative Energy Paths & Broader Issues
  - a. With only a month, and only publicly available info, only ROUGH ESTIMATES prepared, but erred conservatively (e.g., NPV to 2013, not 2009) and provided a range of estimates.

C. Compendium - Unexamined Costs & Risks:

1. Not "costs of the scrubber" (those are high enough!), but likely costs of the energy path it commits ratepayers to...
2. **Carbon** (President's already committed, EPA's moving, RGGI isn't really reductions til 2015 & Obama's auctioning for 2012 budget; CCSR won't figure into NH if and when it ever does elsewhere).
  - a. Rough Cost: Allowances likely to be NPV \$717 million @ \$15/ton to \$2.2 billion @ \$45/ton
3. **Mercury** MACT (NH's 2006 80% target will be superseded by new EPA regs requiring 90-95% reduction; Scrubber won't achieve this; ACI or other controls will be needed)
  - a. Rough Cost: NPV capital & operating \$15-89 million.
  - b. Question: Understand PSNH already installing/testing ACI; why not just do this to control mercury at 1/10th the cost?

- c. ***This point already validated by EPA.***
- 4. **Cooling System** (new NPDES will likely require significant improvement, possibly including cooling towers)
  - a. Rough Cost: NPV capital & operating \$120-\$241 million.
- 5. Other costs not quantified: Construction cost changes; fuel costs; financing issues; plant capacity upgrades/rebuild; regional haze; announced EPA intent to regulate coal ash; waste disposal/landfill costs, etc.
- 6. OVERALL COSTS:
  - a. NPV (2013) \$853 million to \$2.5 billion
  - b. Rate impact, vs PSNH's 0.33¢/kWh, could be 0.95-2.12¢/kWh, ~3-6 times PSNH's estimate.
- 7. Purpose of Compendium: Frame rough estimates for policy consideration while more thorough analyses could be done; i.e., "improvements welcome"
- 8. Response #1: ***"That's just speculation."***
  - a. Perhaps, but hardly wild speculation with (1) the Mass vs. EPA Supreme Court decision; (2) recent steps by EPA (Johnson memo; endangerment finding); (3) inclusion of carbon revenues in President's 2012 budget.
  - b. Further, even USDOE EIA's AEO-2009 *Early Release Observer* factored \$15/ton into its estimates. [Handout AEO-2009]
- 9. Response #2: ***"If carbon requirements are imposed, they'll apply to the whole industry."***
  - a. Yes, they will. BUT...
  - b. They will be imposed on power plants to the degree that they emit CO<sub>2</sub>, i.e., coal plants will pay nearly double per MWh as natural gas plants, and renewables will pay little or nothing.
  - c. So, we stand by the cost estimates in the Compendium.

D. Compendium – Alternative Energy Paths & Other Issues

- 1. Other concerns of CRG include locking ourselves into this fixed, long-term, expensive path in light of: (1) fundamental changes already afoot in the electricity industry; (2) trends specific to PSNH & New England; (3) the job opportunities inherent in EE/RE; and (4) other jobs issues.
- 2. Fundamental Changes (beyond decarbonization noted above)

- a. Dropping demand not related to economic downturn. We're likely to come out of this recession with greater efficiency than ever before (target of stimulus, etc.) [WSJ 11/21/08 Handout]
- b. The "next great decentralization" – like computing and telephony, and within the timeframe of this project – *"Big utilities are beginning to grasp the potential of decentralised energy technologies – promising huge opportunities for investors."* [Environmental Finance, 2/09 Handout]
- c. Morphing from "load-following" to "load-shaping" system with advent of "smart grid" – will diminish need for generation. (AMI benefits already evident in December 2008 ice-storm.)
- d. Coal may have a long generation future ahead if CCSR can be implemented, but not likely in New England due to transportation costs (CO2 pipelines, etc.)
- e. Stimulus package will accelerate other options (EE/RE) preferentially
- f. Other states "get it" – even Louisiana – re suspending Little Gypsy pet coke plant: "May not have the same positive impact for Louisiana ratepayers today as it did when presented to the LPSC (in late 2007)." [Reuters 3/12/09 Handout]
- g. Relative costs of new generation [NRECA Handout]

### 3. Trends & Issues Specific to PSNH and ISO-NE

- a. ISO-NE Forward Capacity Market Auction indicates ~10 Merrimack Stations are available on the grid at the floor price (i.e., capacity glut). Explains why you don't have outages even when MK is down, like last summer... [ISO-NE FCM Handout]
- b. PSNH has proposed to FERC 1200 MW of new transmission from HydroQuebec to "the area of Merrimack Station" – about 3 times Merrimack. If so, why is Merrimack needed?
- c. PSNH becoming less competitive in default energy service rates than National Grid or Unitil, utilities that purchase power off the wholesale market (and, that power is cleaner than Merrimack Station) [Rates Graph Handout]
- d. PSNH says "C&I are free to leave", but as they do, fixed costs – especially for the scrubber – are divided over a small base of small business and residential ratepayers, creating a "death spiral" or return to the Legislature to spread this new "stranded cost."

- e. Serious regulatory and legal challenges are also likely to present problems to PSNH's completion of this project. [14 Points]

#### 4. Jobs in EE & RE

- a. The record of EE/RE supplying better job growth is as well established as it is obvious.
- b. Gittell & Magnusson (2008) on RGGI: 815 jobs by 2018 if invested in EE.
- c. Gittell & Magnusson (2008) on Granite Reliable Wind: 550 jobs during construction phase, direct and indirect.
- d. Gittell & Magnusson (2009) on *NH's Green Economy*: "Significant future job growth opportunity if NH focuses on the green economy, including job growth in traditional industries such as construction and real estate".
- e. PERI-UMass, *Green Recovery* (2008): \$100 billion national stimulus = \$432 million to NH = 9,245 jobs in NH, 40% in the construction industry. [PERI Handout]
- f. Dan Kammen, UC-Berkeley, *Putting Renewables to Work* (2004): Renewables produce > 2 times as many jobs.
- g. David Roland-Holst, UC-Berkely, *EE, Innovation, & Job Creation in CA* (2008): Ex post! 30 years of EE in CA = 1.5 million FTE jobs; 50:1 ratio over jobs lost in traditional energy sector.
- h. Skip Laitner, ACEEE, *Positive Returns* (2008): "The 48 studies reviewed here show an average 23 percent efficiency gain with a nearly 2:1 benefit-cost ratio. We estimate that a 20-30% energy efficiency gain within the U.S. economy might lead to a net gain of 500,000 to 1,500,000 jobs by 2030." [Laitner Handout]
- i. Worldwatch Institute (Paper 152, 2000) has shown that wind power provides 4 times more jobs than coal power.
- j. Obvious why? Because the money stays here rather than being "exported" to other states – or Venezuela – for coal.

#### 5. Jobs Issues in General

- a. PSNH is evidently confused on jobs; "involve the efforts of 300" in its 9/2/09 filing (i.e., not FTEs, not permanent, not necessarily from NH); "300" in subsequent media reports; we heard "500" at the HB-496 hearing on March 5, but also saw "not sure" in response to OCA questions; and now we're up to 1200!

- b. Still unanswered in PSNH's latest figure – 1200 jobs – is what a REMI analysis would show if the same money was applied to EE & RE. Ross Gittell and others use REMI, so consistent with the data above, it's likely to be **2,400** or more.
- c. Building a whole new plant would be cheaper! Employ 300 for 3 years @ \$50K/year = \$45 million. SNHU study indicated \$296 million for a new CCGT plant at Merrimack Station site. Total: <\$350 million despite double counting. Why spend an extra \$100 million of ratepayers money needlessly?
- d. If \$45-50 million provides all the jobs benefits claimed, imagine what keeping NH's \$150 million per year coal cost could do if reinvested as indicated by Gittell et al! Instead of employing for 3 years, we can employ them 3 times as many for 20 years!
- e. (We all enjoy the saying: Give a fish vs teach them to fish; but now opponents seem pretty anxious to forego the future in favor of a short-term fix...)

E. Other issues that have been raised

- a. Fuel diversity:
  - i. Doesn't seem to bother us much regarding transportation fuels...
  - ii. Fuel diversity aims to enhance reliability and energy security. Do we really attain that by sourcing 40% of our coal from Hugo Chavez, a near-dictator who expressly disdains America?
- b. Prudency review is not a substitute for considered policy making:
  - i. Consider that PSNH had a June 2008 briefing with NH officials and mentioned nothing of a cost increase, but filed notice of it in required SEC documents just two months later in August.
  - ii. Consider that PSNH had spent \$10 million on 9/2/08, and claimed in January – after PUC and Supreme Court appeals and legislation has been filed – to have spent \$250 million in 3-4 months. That's about as prudent as accelerating into a speed trap when oncoming drivers flash their lights as you.
  - iii. Consider that prudency review essentially shifts the burden of proof compared to prior approval. Instead of saying "Is this the best course?" and "What alternatives have you considered?" the only questions to be asked are "Did the

utility screw up?" and "Can you prove it?" That's a pretty low bar against which to measure success.

- iv. In NH, long a state with electricity costs among the highest in the nation, do we want to determine energy policy using this standard? Is "Did they screw up?" and "Can you prove it?" our vision of a sustainable energy future?

F. So how am I making your life difficult?

- a. Like I said at the start - Consider the risks: If CRG is wrong; PSNH can still meet the scrubber deadline easily. If PSNH is wrong, we may save NH citizens not just \$457 million, but \$1-3 billion.
- b. It appears that cleaner power is available much cheaper with more savings and jobs potential and less risk of additional cost than pursuing the scrubber path. If so, then we'd be crazy to proceed without a good hard look first in light of all that has changed since 2006.
- c. In 2006, this body made a public interest determination about installing the scrubber without limit as to cost. In doing so, it assumed from the PUC (the PUC says) the responsibility for cost oversight. To date, there has been no transparency, no "itemized bill" about how much is being spent for what. In short, no oversight, no accountability – from anyone. This is your chance.
- d. Now, we stand on the threshold of the past, looking to buy the last Beta-Max just as VHS prevails, or the last Edsel just before the Mustang comes out; or, repeating the same mistakes we made with Seabrook. Or, we stand on the threshold of EE and RE with double the jobs per kWh, and with plenty of cheaper, cleaner power available on the grid to bridge us to it...
- e. I'm making your life difficult because now you have reasonable notice; from this point forward, you "knew or should have known" that a re-examination of this scrubber project was necessary. ~~This is~~
- f. The only question now is: "Will you call for that study?" I hope so.