

PILGRIM WATCH'S COMMENT 310 CMR 7.75 CLEAN ENERGY STANDARD

March 23, 2015

Pilgrim Watch (“PW”) is a non-profit citizens’ organization that serves the public interest in issues regarding the Pilgrim Nuclear Power Station, a GE Mark I BWR. The organization is located at 148 Washington Street, Duxbury, Massachusetts, 02332. Many of its members live within the immediate neighborhood of the reactor, and others either within the 10 -mile Emergency Planning Zone or within the 50-mile ingestion pathway. Mary Lampert who represents PW makes her residence and place of occupation and recreation within an approximate six (6) miles of Pilgrim Nuclear Power Station.

OVERVIEW

PW **supports the final draft’s position** that does not allow existing nuclear power plants to qualify for eligibility in the CES; and limits eligibility to generators that commenced operation after 2010. These eligibility restrictions are necessary for the CES to achieve its purpose, “to achieve emissions reductions by setting a clean energy standard (CES) that will increase the amount of clean energy that is used to generate electricity consumed in Massachusetts;” and, including existing generators could result in “resource shuffling” and windfall profits for existing generators and increased prices for consumers as documented by the Synapse Study.¹

PW does not support **MassDEP’s proposal for a regulatory requirement for MassDEP to** review options for addressing existing low and zero-emissions generators in the CES in 2016. How can there conceivably be any change to the rationale for limiting eligibility to generators that started operations after 2010 in a year’s time? The only change would be a political change. MassDEP succumbing to the lobbying efforts of Entergy, Exelon and other parties who have a vested interest in feathering their own nests, but not an interest to achieve the purpose of the CES to “increase the amount of clean energy that is used to generate electricity consumed in Massachusetts.”

¹ A clean Energy Standard for Massachusetts- Prepared for MassCEC and the Agencies,, Synapse Entergy Economies Inc., Cambridge Mass, October 25, 2013

PW does not support **MassDEP's proposal to qualify electric generators for the CES using a carbon emission-based threshold**; nor do we support consideration of new nuclear plants to qualify as eligible clean energy generators. PW believes that MassDEP must define clean in a broad sense – not simply defining it as not emitting carbon dioxide. It should also include whether the generator in its operations, or as a result of an accident, emits other significant poisons that harm human health, the environment, and economy; and whether it acts as a deterrent to the growth of genuinely clean and affordable technologies like wind, solar, energy efficiency and others.

Further, MassDEP must define “clean” by looking not simply at the carbon emissions of the generator itself but also include its entire fuel cycle. The planet does not distinguish between the carbon dioxide emissions of a specific generator and the carbon dioxide of the entire nuclear fuel chain from mining, fuel fabrication, and to developing and operating a permanent waste facility.

PW showed in its December 3, 2014 submittal to MassDEP's Draft CES that nuclear should not be considered eligible for clean generation units because nuclear energy's entire fuel chain is carbon intensive. (Attached) We showed by focusing on Pilgrim NPS, that nuclear reactors are dangerous and even in normal operations it emits dirty and harmful pollutants; reactors also are an expensive technology. We have in New England clean, safe and cheaper alternatives that serve to stimulate our economy and provide jobs. Nothing will change these facts; nuclear must be permanently off the table.

DISCUSSION

CES Does Not Reduce Emissions If Nuclear Power is Assigned CECs

The Synapse Report commissioned by MassDEP, showed that.

The likely outcome of including nuclear generation in a CES would be windfall profits to nuclear facilities. Providing rewards to nuclear plants will not increase nuclear generation in New England. With nuclear facilities assigned CECs, there is no change in regional emissions, but residential customers nonetheless see their utility bills grow by 4 percent in 2020 and 6 percent in 2030 with respect to the Reference Case (see Table ES-1 (Synapse, pg., 4)

Table ES-1. CES Delta Bill Impacts: Includes Nuclear and Includes MLPs

Delta Massachusetts Typical Monthly Bills (2013\$)			
% change from Reference Case	2015	2020	2030
Residential	0%	4%	6%
Commercial	0%	4%	6%
Industrial	0%	5%	7%

Table ES-2. CES Delta Bill Impacts: Excludes Nuclear and Includes MLPs

Delta Massachusetts Typical Monthly Bills (2013\$)			
% change from Reference Case	2015	2020	2030
Residential	0%	6%	10%
Commercial	0%	6%	9%
Industrial	0%	7%	10%

Table ES-3. CES Delta Bill Impacts: Excludes Nuclear and MLPs

Delta Massachusetts Typical Monthly Bills (2013\$)			
% change from Reference Case	2015	2020	2030
Residential	0%	7%	11%
Commercial	0%	7%	11%
Industrial	0%	8%	12%

The remaining scenarios shown in this report assume that MLPs will comply with CES. Table ES-4 displays the base result: nuclear generation is excluded from receiving CECs; MLPs are required to comply; and the CEC threshold is set at 2,000 lbs/MWh. In this scenario, LSEs must be required to hold CECs for 73 percent of their sales in 2020 and 82 percent in 2030 in order to achieve a 5.5 million sT target emission reduction. Residential customers' monthly utility bills rise by 6 percent with respect to the Reference Case in 2020 and 10 percent in 2030.

Further, Synapse showed that the “CES Does Not Reduce Emissions If Nuclear Power is Assigned CECs Assigning CES credit to existing nuclear generation adds 30,000 CECs to the Policy Case.” Pgs., 14-15. CES compliance can be satisfied with no change in dispatch or investment in new resources, and, therefore, no reduction in emissions (see Table 4).

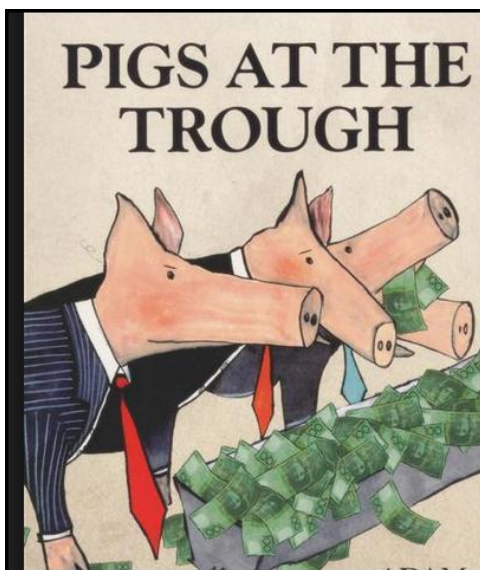
Table 4. CES Delta Results: Includes Nuclear and MLPs; Threshold = 1,700 lbs/MWh; Share of Sales = 100%

Delta Emissions				
		2015	2020	2030
New England CO ₂ Emissions (including imports)	1000 sT	0	0	0
Massachusetts Consumption CO ₂ Emissions	1000 sT	0	-7,472	-7,201
Massachusetts Consumption CO ₂ Emissions Rate	lbs/MWh	0	-241	-227
Delta New England Costs				
		2015	2020	2030
Supply	GWh	0	0	0
Fuel Costs	M\$	0	0	0
CO ₂ Costs	M\$	0	0	0
VOM Costs	M\$	0	0	0
Variable Costs of All Resources	M\$	0	0	0
Variable Costs of All Resources	\$/MWh	0.0	0.0	0.0
Variable Costs of Marginal Resource	\$/MWh	0.0	0.0	0.0
Wholesale Energy Price	\$/MWh	0.0	0.0	0.0
Net RPS Requirement	GWh	0.0	0.0	0.0
REC Price	\$/MWh	0.0	0.0	0.0
Total RPS Cost	M\$	0.0	0.0	0.0
Total RPS Cost per MWh Sales	\$/MWh	0.0	0.0	0.0
Net CECs Requirement	GWh	No Policy	52,527	48,340
CECs Price	\$/MWh		18.4	28.3
Total CES Cost	M\$		966.5	1,367.0
Total CES Cost per MWh Sales	\$/MWh		15.6	21.6
Delta Massachusetts Typical Monthly Bills (2013\$)				
% change from Reference Case		2015	2020	2030
Residential		0%	9%	13%
Commercial		0%	9%	12%
Industrial		0%	10%	14%

Synapse concludes (at 15) that, “Even though no actual emission reduction is stimulated in this scenario, residential customers see their utility bills grow by 9 percent in 2020 and 13 percent in 2030 with respect to the Reference Case. The likely outcome of including nuclear generation in a CES would be windfall profits to nuclear facilities. Providing rewards for nuclear generation will not prompt the construction of new nuclear facilities in New England (due to regulatory, cost, and political hurdles), although it may serve to prolong the life of existing facilities. The remaining scenarios shown in this report assume that existing nuclear generation will not be assigned CES credit.”

Providing existing or new nuclear reactors with CESs would provide a huge supply of credits to allow the dirty polluters to continue operating and spewing carbon into the atmosphere.

PW does not support current or any future nuclear reactors qualifying as eligible clean energy generators. They have been feeding at the trough long enough to the detriment of consumer prices, the environment and development of truly clean energy alternatives.²



Exelon's and Entergy's comments to the Draft CES boiled down to complaints that "It's not fair" to exclude nuclear reactors from the CES. But, what is not fair is that clean energy sources have not received the subsidies that nuclear power has received for decades and continues to get.

Nuclear power has and continues to receive huge subsidies; and it still cannot make money in market economies. Nuclear reactors make rates higher than they should ever be. First, the industry received massive subsidies at its inception, reducing both the capital costs it needed to recover from ratepayers (the "legacy" subsidies that underwrote reactor construction through the 1980s) and its operating costs (through ongoing subsidies to inputs, waste management, and accident risks). Second, when industry restructuring revealed that nuclear power costs were still too high to be competitive, so-called stranded costs were shifted to ratepayers, allowing the reactors to continue operating. Pilgrim's stranded costs exceeded one billion dollars and allowed Entergy to buy Pilgrim for a song. In addition to legacy subsidies, the industry continues to

² http://www.ucsusa.org/nuclear_power/nuclear-power-and-our-energy-choices/nuclear-power-costs/nuclear-power-subsidies-report.html#.VLRFd9LF-fU

benefit from subsidies that offset the costs of uranium, insurance and liability, plant security, cooling water, waste disposal, and plant decommissioning.

Despite the unequal subsidies for nuclear reactors, they still cannot make it in market economies. It is time to level the playing field and give a lift to energy sources that are truly clean, cheaper, and reliable, and create jobs for Massachusetts.

Nuclear power should not be eligible for inclusion in a renewable portfolio standard. Nuclear power is an established, mature technology with a long history of government support. Furthermore, nuclear plants are unique in their potential to cause catastrophic damage (due to accidents, sabotage, or terrorism); it produces very long-lived radioactive wastes; and it exacerbates nuclear proliferation.

Will Reactors Close and the lights Go Off, if Nuclear Reactors Do Not Receive CES Credit?

Entergy argued that absent receiving CES credits it “may create conditions under which a ...nuclear plant retires prematurely for financial reasons.” Not so; and if so, so what?

Entergy’s nuclear reactors in market economies are losing money and not for lack of CES credits; instead, because they cannot compete with cheaper sources of electricity, namely natural gas and wind. Deregulation, competition, is working- doing what it was designed to do. Pilgrim is an antique. It requires expensive maintenance; breakdowns result in going offline for periods of time, costing money. Simply from Jan 1 to February 17, 2015 Pilgrim was offline (14) days; and in the spring, they will undergo an approximate 30 day refueling process. No CES credit can cover that loss; and the year has just begun. Pilgrim’s performance shows that there is no truth in industry’s claim that it is reliable; and we showed that there is nothing clean either about nuclear waste or its daily radioactive emissions into Massachusetts’ air and waters.

If Pilgrim cannot compete, will the lights still stay on? ISO's forecast for 2018-2023,³ shows that electricity usage and peak demand will grow slowly for 2018-2023.

ISO New England's long-term forecast for electricity use from 2014 to 2023 shows that both energy usage and peak demand will grow slowly over the 10-year period. The finalized [forecast](#), included in the *2014-2023 Forecast Report of Capacity, Energy, Loads, and Transmission*, projects a compound annual growth rate of 1.0% in total energy usage in New England, from the expected 138,390 gigawatt-hours (GWh) this year to about 151,525 GWh in 2023. Peak demand, a measure of the highest amount of electricity used in a single hour in New England, is projected to rise by 1.3%, from 28,165 megawatts (MW) this year to 31,620 MW in 2023.

These growth projections represent the baseline, or gross, forecast for future peak demand and energy usage, and do not account for the impacts of energy-efficiency (EE) savings committed through the region's Forward Capacity Market (FCM), nor the future EE savings impacts that can be expected beyond the FCM timeframe. The ISO prepares a separate Energy-Efficiency Forecast (see below) to account for projected energy-efficiency savings that are likely to be achieved after the FCM timeframe, in the final six years of the 10-year load forecast.

ISO's Energy-Efficiency Forecast

The ISO, which pioneered the first multi-state, long-term energy-efficiency forecast in 2012, released the finalized [EE forecast](#) for the 2018-2023 period on May 1. The EE forecast continues to show that the savings resulting from state-sponsored energy-efficiency programs can be expected to cause electric energy usage to remain flat in New England as a whole, with energy use in Vermont, Maine and Rhode Island declining by 2023 to levels below those expected in 2014. The EE forecast also projects that the impact of EE savings will slow the growth in peak demand across the region. When the EE savings are factored into the region's load forecast, energy usage is expected to barely grow at an average annual rate of 0.1% rather than the 1.0% in the baseline load forecast. Similarly, peak demand growth is also slower when the savings from energy efficiency measures committed through the FCM and projected future EE measures are factored in, decreasing from 1.3% to 0.7%.(Emphasis added)

³ Electricity usage and peak demand are expected to grow slowly in New England, according to long-term load forecast FRIDAY, MAY 9, 2014 AT 2:23 PM <http://isonewswire.com/updates/2014/5/9/electricity-usage-and-peak-demand-are-expected-to-grow-slow.html>

CONCLUSION

To conclude, we have alternatives to Pilgrim and other nuclear reactors servicing New England. We can reduce, and are reducing, our overall power needs by using electricity more efficiently. Global warming and pollution are similarly being reduced by energy efficiency, and the use of clean renewable energy such as wind, hydro, solar and biomass. These are the alternatives that will both keep the lights on, and create jobs for Massachusetts. We do not need to subsidize old, expensive, and risky reactors like Pilgrim. We do not need to replace the poison from one source of energy with another, nuclear. All 15 towns on Cape Cod and an additional 5 towns on Martha's Vineyard called for Pilgrim to be closed in nonbinding referendums.⁴ The people have spoken. We urge you to finalize in the CES a provision that nuclear reactors, that either are operating today or built in the future, shall not qualify for eligibility in the CES and that MassDEP drops its proposal for a regulatory requirement for MassDEP to review options for addressing existing low and zero-emissions generators in the CES in 2016.

Respectfully submitted,

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⁴ <http://capedownwinders.org/massachusetts-citizens-call-for-pilgrim-closure/>