

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

In the Matter of

Docket No. 50-293 & 72-1044 LT

Entergy Corporation

Pilgrim Nuclear Power Station

License Transfer Agreement Application

**PILGRIM WATCH MOTION UNDER 10 C.F.R §2.323 TO STAY STAFF ORDER OF
AUGUST 22, 2019 GRANTING EXEMPTION**

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Date: September 3, 2019

Pursuant to 10 C.F.R §2.323, the “all motions” rule, Pilgrim Watch moves to stay the Staff order granting the exemption unless and until: (1) Holtec International, Holtec Pilgrim, and HDI agree to seek DOE reimbursement from DOE for all spent fuel management costs and to deposit all recovery from DOE into the DTF, and (2) Holtec, International provides insurance, a surety or a parent company guarantee to provide reasonable assurance that the Commonwealth will not be stuck with decommissioning costs if the DTF proves insufficient.

Absent these, there is not, and cannot be, “reasonable assurance” that the funds available are sufficient.

Background

Holtec Pilgrim will own Pilgrim, and HDI will be responsible for Pilgrim, for many years. Reg. Guide 1.185 and 10 CFR 72.30(b) require HDI and Holtec Pilgrim to show that they are financially responsible, e.g., that the DTF now owned by Holtec Pilgrim and from which HDI will be paid enough money to decommission Pilgrim. To show that they are financially responsible, these licensees must demonstrate that they will be financially capable of dealing with costs – in addition to costs of radiological decommissioning, that will almost certainly have to be paid between now and whenever all spent fuel has been removed from the Pilgrim site.¹

The NRC agrees that a shortfall in funding would place public health, safety, and the environment at risk:

¹ We recognize that the NRC normally considers only the costs of radiological decommissioning, but that is too narrow a view here. In determining whether HDI and Holtec Pilgrim are in fact financially responsible, the NRC cannot forget that, between now and whenever all spent fuel has been removed from the Pilgrim site, both will incur costs, in addition to the costs of radiological decommissioning, that will have to be paid. Neither HDI or Holtec has any source of revenue; their only source of funds is the DTF.

The NRC has a statutory duty to protect public health and safety and the environment. The requirements for financial assurance were issued because *inadequate or untimely consideration of decommissioning, specifically in the areas of planning and financial assurance, could result in significant adverse health, safety and environmental impacts....* (53 FR 24018 italics added)

The purpose of financial assurance is to provide a second line of defense, if the financial operations of the licensee are insufficient, by themselves, to ensure that sufficient funds are available to carry out decommissioning (63 FR 50465, 50473, italics added).

In *Entergy*, LBP-15-24, at 22, the NRC repeated that "assuring adequate funds for a reactor owner to meet its decommissioning obligations is part of the bedrock on which NRC has built its judgment of reasonable assurance of adequate protection for the public health and safety and protection of the environment."

On August 22, 2019, the Staff granted Holtec Decommissioning International ("HDI") and Holtec Pilgrim "an exemption from 10 CFR 50.82(a)(8)(i)(A) to allow them to use a portion of the funds from the Pilgrim DTF for spent fuel management and site restoration activities" (Exemption dated August 22, 2019 ("Exemption," 12).

The total amount of money in the DTF, *none of which was contributed by either Entergy or Holtec*, is about \$1.03 billion dollars. The Exemption allows Holtec Pilgrim and HDI to remove about 48%, almost half, of the total among of the total amount of money that is or will be available in the fund, and to spend it for spent fuel management and site restoration. Less than \$600 million will be left not only to pay for radiological decommissioning, but also to pay for site restoration and all other costs that HDI and Holtec Pilgrim will incur between now and when all

of Pilgrim’s licenses have been terminated and all spent fuel has been removed from the Pilgrim site.

The evidence that was available to the Staff and that it should have considered shows that there is no reasonable assurance that money left in the DTF, even with fund growth,² will be enough. Holtec’s and the Staff’s hopes that there will be ignore that (i) “reasonable assurance” requires a substantial probability that the DTF funds will be sufficient, (ii) the estimates made by HDI and on which the Staff relied are unrealistically low, and (iii) Holtec will not, and cannot be forced to, contribute any additional funds.

The Standard for Reasonable Assurance is a High Probability That the DTF has Enough Money

There are two steps in determining whether there is “reasonable assurance.” The first is what is the standard for “reasonable assurance?” The second is whether the evidence as a whole proves that the standard has been met.

“Reasonable Assurance” is one of the NRC’s favorite and most repeated buzzwords, but except for saying that it is the equivalent of “high assurance” (<https://www.nrc.gov/docs/SECY-16-0723>), and that it “could say that a 95 percent confidence does define reasonable assurance” (<https://www.nrc.gov/reading-rm/doc-collections/acrs/tr/fullcommittee/2001/ac010906.htm>, p. 87), it has said remarkably little about what the standard for reasonable assurance actually is. As one NRC Staff Member put it: “I do believe that this has been the subject of some extensive discussions with the Commission . . . , and I don't believe that anyone has come up with an acceptable definition.” (*Id.*)

² The Staff based its “reasonable assurance” determination on Holtec’s estimate that the total amount of money in the fund, including future growth, would be \$1.134 billion. The Exemption allows Holtec to use \$541.646 for purposes other than decommissioning.

Some EPA decisions provide better guidance. The EPA standard would require assurance, to every extent possible, that there will be enough money in the DTF (See, https://www.epa.gov/sites/section_7_final_0.pdf). The EPA standard would also require that implementation of the Holtec PSDAR *almost certainly will* result in the funds in the DTF being sufficient to cover all of the costs of performing decommissioning, spent fuel management and site restoration activities outlined in Holtec's PSDAR. (See, <https://www3.epa.gov/region9/water/npdes/pdf/stormwater/meeting-2016-09/dev-reasonable-assur-guide-model-base-analys-munic-stormw-prog-plan-2017-02.pdf>)

Pilgrim Watch submits that, at the very least, the standard of “reasonable”, i.e., “high,” assurance is that there is a substantial probability that the DTF funds will be sufficient to cover the costs between now and when HDI and Holtec Pilgrim are no longer responsible for the Pilgrim site. The “reasonable assurance” standard does not require absolute certainty that this will be so, but it does must require significantly more than “maybe it will and maybe it won’t.”

The Evidence is Not Sufficient to Prove the Standard Was Met.

The Exemption and SE seem clear that, in concluding that there was “reasonable assurance,” the Staff considered only what Holtec told it - a small and incomplete part of the evidence. As a whole, the evidence before and readily available to the Staff would not support a conclusion that it is substantially or highly probable that the DTF alone was sufficient. To the contrary, the evidence as a whole shows, by more than a preponderance, that it is not.

The Staff's decision that there would be enough money was based almost entirely on the costs that Holtec estimated in its November 16, 2018 PSDAR and the NRC's minimum formula,³ and, as discussed below, its incorrect assumption that the NRC could force Holtec International to make-up any shortfall.

Essentially, the Staff looked at Holtec's cash flow analysis, and accepted without analysis that Holtec's estimate of \$593 million decommissioning costs were reasonable, even though those costs were less than required by the formula and provided only a 3.6% margin of error.

The Staff ignored undisputable facts, including most importantly that the only money available to HDI or Holtec Pilgrim is what is now in (or through growth may be in) the DTF; no one will contribute any other funds.

1. Holtec International has refused either to provide a parental company guarantee or to agree to use any spent fuel management costs recovered from DOE to replenish the DTF. (Pilgrim Watch Petition to Intervene and Hearing Request, 17-18 ("PW Petition", ML 19051A019); Pilgrim Watch Reply to Applicants' Answer Opposing Pilgrim Watch Petition to Intervene and Hearing Request, 4-7 ("PW Petition Reply", ML9091A189 4-7); Applicants' Answer

³ "[T]he staff relied on the revised PSDAR as a reference for the HDI's decommissioning plant and site-specific cost estimate." Safety Evaluation, p.9, fn.1

⁴ The Exemption, at 8, implies that the Staff compared Holtec's estimated costs with the costs of similar decommissioning projects (SE, Exception, 8), but there is no indication that the Staff actually made any such comparison or showed that the sites were in fact comparable. The SE simply says that "the Applicants stated that the HDI Pilgrim site-specific "DCE was reviewed against estimates of cost estimates associated with license termination (radiological decommissioning) in NUREG/CR-6174, benchmarked against nine comparable decommissioning projects, and compared with costs for similar radioactive decommissioning activities at seven boiling water reactors. (SE, 11). Neither the SE, the Exemption, nor Holtec's PSDAR (pp. 27-38) identify any of these "comparable projects" or "similar radioactive decommissioning activities," or says what costs they involved. And neither the SE nor the Exemption give any indication that the Staff did any investigation of any of these itself.

Opposing Pilgrim Watch Petition for Leave to Intervene and Hearing Request, 65 (“Holtec Opposition to PW Petition,” ML 19077A235).

2. Holtec Pilgrim and HDI are the only licensees. Holtec Pilgrim and HDI are each “organized as a separate company or subsidiary of a holding company to isolate the risks and rewards.” (76 Federal Register 35517).
3. Holtec International is not a licensee. It is “protected by limited liability” (*Id.*).
4. Holtec Pilgrim’s only asset is the Pilgrim Decommissioning Trust Fund (PW Petition, 17, 126). HDI has no apparent assets.
5. Pilgrim is a merchant plant, not a utility. It cannot recover decommissioning costs from rate payers.
6. If the DTF runs short, no one is legally required, or can be forced, to supply more money. (See pp, 19-20, below; PW Petition Reply, 4-7). The Staff’s statement that the NRC has “the ability to take action on any actual or potential funding deficiencies” (Exemption, 10) is simply wrong. At January NRC meetings in Plymouth, Mr. Bruce Watson and other NRC representatives made clear that the NRS has no authority to require that spent fuel management funds recovered DOE be returned to the Decommissioning Trust Fund.
7. Vermont Yankee, another merchant plant, was granted an exemption to use DTF funds for purposes other than radiological decommissioning only because “NorthStar VY has committed ... to return recoveries for ISFSI expenses from DOE reimbursements to the trust fund. (ML1842,1842A639, 11).
8. The NRC has recognized that, “in some cases, reactor decommissioning costs have exceeded the initial DCE. For example, the Connecticut Yankee Nuclear Plant experienced higher decommissioning costs than planned, due in part to a larger volume of

contaminated soil than was identified in the initial site characterization.” (76 Federal Register 35517)

9. Holtec’s PSDAR and Decommissioning Cost Estimate provide essentially no margin for error. Holtec optimistically said that only \$3.6 million (about one-third of one percent of the supposed current value of the DTF) will remain after the decommissioning work set forth in the PSDAR and LTA have been completed. Holtec also admitted that it expects to spend the entire Contingency Allowance simply to accomplish the work outlined in the PSDAR. (PSDAR. Sec. 4.5)

The Exemption and SE also ignore the evidence submitted by Pilgrim Watch and the Commonwealth of Massachusetts, more than five months before the Staff issued its decisions, evidence that the Staff had, or at the very least knew about and could easily have obtained from NRC files.

This unconsidered evidence includes the PW Petition and the Commonwealth’s Petition to Intervene,⁵ and also the extensive comments on the Holtec PSDAR that Pilgrim Watch sent to the Staff.⁶ This evidence proves that the Pilgrim DTF is not, or at the very least is highly likely not be, sufficient to pay for even Holtec’s originally planned decommissioning activities. It also shows that neither HDI nor Holtec Pilgrim has any financial ability to deal with any costs that cannot be paid out of the Fund or that result from unforeseen events.

⁵ Commonwealth of Massachusetts’ Petition for Leave to Intervene and Hearing Request, ML 19051A114 (“Commonwealth Petition”)

For example, the Exemption and SE failed to consider at least the seventeen (17) examples of decommissioning costs, ignored by Holtec, that are listed at pages 20-21 of PW's Petition to Intervene filed February 20, 2019 and discussed at pp. 22-82 of the Petition. These examples show, among other things, that:

1. Holtec's estimated decommissioning costs are unrealistically low because Holtec they are based on Holtec's incorrect assumption that decommissioning costs will not rise faster than inflation. Any reasonable estimate of decommissioning costs would be hundreds of millions of dollars more than Holtec's PSDAR estimates.
2. Holtec's projected Contingency Allowance is far too small and could not pay many costs that will have to be paid, and others that are highly likely to occur.
3. Holtec's estimated spent fuel management costs depend entirely on its unlikely assumption that DOE will start accepting Pilgrim's spent fuel in 2035 and will have moved all of Pilgrim's spent fuel to a permanent storage site by the end of 2062.⁷
4. Holtec took advantages of its lack of knowledge about the extent of contamination on the Pilgrim and its incorrect assumption that the Pilgrim site is essentially "clean," and as a result grossly underestimated the likely costs of site restoration.

We pointed out the same facts, again not considered in the Exemption or SE, in our that were sent to the Staff on March 3, 2019 (See pp. 10-25).⁸

Consistent with this motion, but also not mentioned in either the Exemption or SE, our Comments said (p. 9) that the "Staff, as part of its review, should require an enforceable

⁷ Holtec's assumptions about when DOE will take spent fuel, charitably, are far from consistent. In trying to show that the Pilgrim DTF has sufficient decommissioning funds, Holtec said sixty (60) years. In trying to justify its proposed New Mexico CIS storage site, told the NRC that it assumed that it could be approximately 120 years before a final geologic repository is licensed and operating.

⁸ Holtec's cost estimates additionally ignore the costs of managing low level radioactive waste, and unrealistically assume that there will be no other significant likely costs. such as those that would result from fires in structures, systems and components containing radioactive and hazardous material, climate change impacts. repackaging of spent nuclear fuel into new containers approved by DOE for transportation and mitigating radiological accidents.

agreement that Holtec International will put any funds recovered from DOE into the Pilgrim DTF).”

**The Evidence Shows That There is No Reasonable Assurance that the DTF Will
Cover Decommissioning Costs**

Had the Staff considered all of the evidence, it could not properly have found reasonable assurance. Taken as a whole, the evidence before the Staff, and that the Exemption and SE should have considered, show precisely the contrary.

These facts and the evidence in PW’s Petitions and Answers, the Commonwealth’s Petition and Answer and our Comments show that decommissioning costs will be far higher than Holtec estimated or that can be paid from the DTF.

We expect Holtec to argue that Pilgrim Watch has not provided enough evidence to prove that these costs will be incurred, but that is not the issue. The question is whether the totality of the evidence that the Staff had, but in large measure did not consider, prove that it is substantially more probable that the DTF has enough money than that it does not.

The unavoidable answer is that the evidence does not prove that. Both singly or in the aggregate, the Pilgrim Watch evidence show precisely the opposite – the costs that both Holtec and the Staff ignored make it impossible for the Staff properly to conclude that there is “reasonable assurance,” i.e., a substantial probability, that the DTF funds will be sufficient to cover the costs between now and when HDI and Holtec Pilgrim are no longer responsible for the Pilgrim site.

Decommissioning Costs Will Be Far More than Holtec Estimated

Holtec’s PSDAR assumed that the Decommissioning Trust Fund would grow at the

pre-tax rate of 2% more than inflation. The estimated decommissioning costs also assumed that decommissioning costs would not rise faster than inflation:

"The decommissioning costs presented in this report are reported in 2018 dollars. Escalation of future decommissioning costs over the remaining decommissioning project life-cycle are excluded." (PSDAR, p. 19; DCE. pp. 7, 18)

* * *

"[C]ontributions to the PNPS NDT and cost escalation are both assumed to be zero in the Table 1 analysis. (HDI Request for Exemption, p. E-3

These assumptions are simply wrong. Because they are wrong, decommissioning costs will be more than Holtec has estimated, and there will not be sufficient money in the DTF to pay the actual costs of even radiological decommissioning.

The NRC Questions and Answers on Decommissioning Financial Assurance (ML1905/ /MLI 19050031) could not be more explicit: "The NRC formulas represent the cost to decommission today, not in the future. Due to rising costs, the future value of decommissioning will be much larger than the NRC formula calculated today."

Due to rising costs, the future value of decommissioning will be much larger than the NRC formula calculated today. For example, using the range of cost escalation rates based on NUREG - 1307, the increase in cost over a 20-year license renewal period would range from 2.5 to 5.6 times today's estimated cost. not counting costs that are not included in the formula, such as soil contamination. The rates of increase in decommissioning cost are higher than general inflation."⁹

The NRC statement that decommissioning costs will rise faster than inflation is confirmed by Callan Associates annual analyses and reports of decommissioning funds and costs. Callan's 2015 Nuclear Decommissioning Funding Study,¹⁰ said that 'Total

⁹ A 2.5 to 5.6 times increase over a 20- year period corresponds to about 5% to 9% annually.

¹⁰ <http://www.callan.com/library/2015>.

decommissioning cost estimates have risen 60% since 2008," an annual rate of about 6%, and Callan's 2018 study reported that decommissioning costs increased by about 80% (from \$55 billion to \$89 billion, an annual rate of about 5percent) from 2008 and 2017.¹¹ Both of these far exceed the average annual 1.55% rate of inflation between 2008 and 2018.

In short, both the NRC statement and Callan's historical analysis show that there is no rational support for Holtec's assumption that decommissioning costs will not increase faster than inflation. Both show that they will, and that necessarily leads to the conclusion that the DTF does not and will not have enough money.

For example, HDI's estimated "License Termination Costs" are \$592.553 million. If those license termination costs alone (forgetting about spent fuel management costs and site restoration costs) were to increase to by as little as 4% annually (1% less than the 5% low end of what the NRC says the increase will be, and 1% to 2% below the historical increases reported by Callan Associates), Holtec's actual license termination costs over only the next six years, Holtec's actual license termination costs during the period in which it says it will decommission Pilgrim, will *increase by about \$70 million- to a total of about \$646 million*. Such an increase in costs plainly could not be paid by "left-over money in the DTF

Site Restoration Costs Will Be Far More than Holtec Estimated

Holtec and the NRC appear to agree that an accurate cost estimate is necessary for a safe and timely plant decommissioning (NUREG-0586, Supplement 1, p. 68; DCE. p.55.)

NUREG-0586 requires HDI's PSDAR to provide 'accurate decommissioning cost [that is] necessary for a safe and timely plant decommissioning.' (NUREG-0586, supra.)

¹¹ <http://www.callan.com/library/2018>

HDI admits that site characterization must be completed as part of "planning and *preparing for* the prompt decontamination and dismantlement of PNPS" (PSDAR, pp 10-11, italics added), and that site characterization is essential for Holtec "to supplement plant historical knowledge" and further the identification, categorization, and quantification of radiological, regulated, and hazardous wastes." (PSDAR, p. 11).

The fundamental problems with Holtec's estimated \$40.079 million site restoration costs are two-fold. First, at the time it prepared and filed its PSDAR, Holtec could not have made any reasonable or realistic estimates; for the simple reason that it did not know the extent of contamination of the Pilgrim site. Second, Holtec limited its estimate to "costs associated with conventional dismantling, demolition, and removal from the site of structures and systems after confirmation." (PSDAR, 19).

The PSDAR and DCE filed by Holtec on November 16, 2018 said that, sometime in the future, "planning and preparing for the prompt decontamination and dismantlement of PNPS will begin by completing the following activities: ... Conduct site characterization activities so that radiological, regulated, and hazardous wastes are identified, categorized, and quantified to support decommissioning and waste management planning." (Holtec PSDAR, pp 10-11)

When prepared the cost estimates in its PSDAR and DCE, Holtec had not characterized the Pilgrim site. Indeed, it then had done essentially nothing to determine what contaminants are on the site or what it would cost to remove them; and it still has not. On June 19, 2019, Jeremy Parriott, VP of communications for Comprehensive Decommissioning International ("CDI"), told the Massachusetts Nuclear Decommissioning Citizens Advisory Panel that

“environmental studies have not happened yet.”

In short, HDI could not and did not base its estimated costs on the actual condition of the Pilgrim site. It did not, and even today could not, provide the "accurate decommissioning cost necessary for a safe and timely plant decommissioning." (NUREG-0586, *supra*.)

The PSDAR Review Staff undoubtedly knows that the "discovery" of previously unaccounted for waste has resulted in actual site restoration costs far exceeding what the licensee had earlier assumed (See PW Petition, pp. 34, 92; Commonwealth Petition, 19 and cited Declarations). In reaching its determination of “reasonable assurance,” the Staff should have remembered this. More importantly, it should have considered the significant evidence in the PW Petition and the Commonwealth Petition showing that there is extensive contamination at the Pilgrim site that HDI did not consider, and should have recognized that Holtec’s estimate of \$40.079 Site Restoration Costs was simply a “guess” with no adequate factual basis.

Pilgrim Watch’s Petition and Comments show, and Holtec’s LTA, PSDAR and DCE ignore, that over the years Pilgrim has buried contaminated materials on site and has had many leaks and releases.

Pilgrim opened with bad fuel and no off-gas treatment system; later it blew its filters prompting Mass. Dept. Public Health to do a case-control study of adult leukemia testing the hypothesis that the closer you lived or worked at Pilgrim there would be an increase in

leukemia. The hypothesis was confirmed.¹² Due to these leaks, many lethal radionuclides, including tritium, manganese-54, cesium-137, Sr-90, I-131, cobalt-60, and neptunium¹³ were found in the surface water, groundwater, and soils at Pilgrim at levels exceeding "background" levels. (See PW Petition, p 36)

The PW Petition also provides extensive evidence showing multitudinous instances of on-site contamination, including a history of releases and contamination resulting from buried pipes and tanks, tritium and other radionuclides in ground water, storm drains and electrical vaults, and hazardous waste dumping. (See PW Petition, pp. 36-48, 50-54, 97-104). The Commonwealth Petition also shows examples of onsite contamination. See Mass. AGO Petition, pp. 13-14 and cited Declarations, particularly the Declaration of John M. Priest, now the Director of the Radiation Control Program at the Massachusetts Department of Public Health.

Mr. Priest was employed at PNPS from 2008-2014 as Pilgrim's Radiation Protection Manager, Project Manager, and Emergency Preparedness Manager. Mr. Priest's Declaration describes his personal knowledge of contamination at the Pilgrim site:

"Based on my site knowledge, contamination has previously been identified by the utilities in the soil in the vicinity of the condensate water storage tank, the reactor truck lock and radioactive waste building. Further, there were other releases into the environment associated with a former condenser tube

¹² *The Southeastern Massachusetts Health Study* [published in the *Archives of Environmental Health*, Vol. 51, p.266, July-August 1996 (Pilgrim Motion Request for Hearing and Motion to intervene. May 2006, Exhibit F-2. RC Adams. EHD. Pilgrim LR, Pleadings 2006)]

¹³ *The Southeastern Massachusetts Health Study* [published in the *Archives of Environmental Health*, Vol. 51, p.266, July-August 1996 (Pilgrim Motion Request for Hearing and Motion to intervene. May 2006, Exhibit F-2. NRC Adams. EHD. Pilgrim LR, Pleadings 2006)]

refurbishment building east of the radioactive waste truck lock. Historically, contaminated soil from previous site remediation has been “stockpiled” on a small hill along the east protected area fence. DPH does not know whether these sites and others were captured as part of decommissioning records required by 10 C.F.R. §50.75(g), communicated to Holtec and evaluated by Holtec in its decommissioning cost estimate. Based on my knowledge of this site and experience at other nuclear power plants, it is reasonable to assume based on this site's history that other contaminants will be identified once excavation and demolition begins.

Removing and remediating the actual contamination will cost far more than Holtec's estimated site restoration costs.

The Costs of Spent Fuel Management Will Be More than Holtec Estimated

Holtec's DCE (p 23) says that

"Consistent with ENOI's Spent Fuel Management Plan (SFMP) for PNPS (Reference 3), HDI assumes a spent fuel management plan for the Pilgrim spent fuel that is based on the assumption that DOE will commence acceptance of PNPS's spent fuel in 2030 and, assuming a maximum rate of transfer described in the DOE Acceptance Priority Ranking & Annual Capacity Report (Reference 10), the spent fuel is projected to be fully removed the Pilgrim site in 2062, consistent with the current DOE spent fuel management and acceptance strategy (References 9 and 10)."

The Staff recognized that Holtec's spent fuel removal plan was “dependent upon the DOE's ability to remove spent fuel from the site in a timely manner” and that “spent fuel operations will continue at the site ... until the transfer of the fuel is complete” (Exemption, 13). But it simply accepted Holtec's assumptions that on fuel removal without any apparent consideration of whether those assumptions were likely to be correct. (*Id.*)

So far as can be told, the Staff gave no consideration to the fact that the DOE January 2013 *Strategy for The Management and Disposal of Used Nuclear Fuel and High -Level*

Radioactive Waste. ("DOE Strategy")¹⁴ on which HDI based its assumptions is nothing more than "a framework for moving toward a sustainable program to deploy an integrated system capable of transporting, storing, and disposing of used nuclear fuel" (DOE Strategy, p. 1). The DOE Strategy does not even try to guess by when an interim or geologic repository might actually exist and be ready to accept spent nuclear fuel.

Holtec's assumption that --DOE will commence acceptance of PNPS's spent fuel in 2030 appears to rest on the DOE Strategy's statement that "With *appropriate authorizations from Congress*," "The Administration currently *plans to implement a program over the next 10 years (italics added)*. The keys here are "With appropriate authorizations from Congress" and "plan to implement." To our knowledge there have been no such authorizations or plans in the 6 years since the DOE Strategy was published; none are mentioned by Holtec.

Holtec's assumptions as to when DOE will accept spent fuel vary widely depending on what Holtec is trying to accomplish. Here, Holtec assumed that DOE "would start removing spent fuel from commercial facilities in 2025" – five years before Holtec expected it to start accepting any of Pilgrim's spent fuel - and said that "spent fuel is projected to remain at the Pilgrim site for approximately 43 years after the termination of operations in 2019.") In its current and on-going efforts to obtain a license for its proposed New Mexico interim storage site, Holtec made a very different assumption - that spent fuel could be stored at its proposed New Mexico facility for approximately 120 years before any final geologic repository is licensed and operating.

(Environmental Report on the HI-STORE CIS Facility 14 (May 2019) (ADAMS Accession No.

¹⁴ <https://www.energy.gov/sites/prod/files/Strategy%20for%20the%20Management%20and%20Disposal%20of%20Used%20Nuclear%20Fuel%20and%20High%20Level%20Radioactive%20Waste.pdf>

ML19163A146), <https://www.nrc.gov/docs/ML1916/ML19163A146.pdf>). The NRC's Continued Storage Rule is much the same as Holtec's 120-year assumption; the NRC envisions on-site storage for 100 years.

Even without any future increase in costs, Holtec's DCE estimated that the cost of spent fuel storage would be about \$7.2 million per year. The DOE Strategy on the basis of which Holtec guessed that all spent fuel would leave the Pilgrim site by the end of 2062 has already slipped six years – necessarily increasing Holtec's estimated spent fuel storage costs by more than \$40 million. If Holtec used its 120-year assumption, rather than 43 years spent fuel would remain at Pilgrim until 2139, and the likely cost of Pilgrim's spent fuel storage would be about \$400 million more than Holtec's \$501.467 million estimate.

The unavoidable fact is that no one knows when there will be an off-site repository that is ready and willing to accept Pilgrim's spent nuclear fuel. Given the lack of progress in Congress, the assumption that all of Pilgrim's spent fuel will be removed by 2062 is not supported even by the DOE Analysis. Holtec's 120-year New Mexico assumption, and the NRC's 100-year projection are much more realistic.

Given all the unavoidable uncertainty and wide range of expected dates, the facts show the Staff could not have properly based its "reasonable assurance" decision on Holtec's assumption that no spent fuel would remain at Pilgrim after 2062. No one may know exactly how much money will have to be spent at Pilgrim for spent fuel management, but it clearly will be millions, likely hundreds of millions, of dollars, more than Holtec estimated and the Staff should not have accepted.

Holtec's "Contingency Allowance" is too Small

HDI included a 17% contingency allowance, i.e., about \$193 million, into its estimated License Termination, Spent Fuel Management and Site Restoration costs. This is insufficient, and there is not enough money in the DTF for more.

HDI admits that the "Contingency Allowance is ... expected to be fully consumed." It also admits that its Contingency Allowance "does not account for inflation or escalation of the price of goods and services over the course of the project."

(PSDAR. Sec. 4.5)

In other words, *none* of Holtec's Contingency Allowance will be available to cover (i) decommissioning costs that will increase faster than the rate of inflation. (ii) spent fuel management costs that will be incurred after 2062, (iii) higher site restoration costs resulting from the facts that the Pilgrim site is not clean and that HDI had no basis for its estimated site restoration costs, or any (iv) of the other myriad costs will be incurred and that HDI's DCE and PSDAR have essentially ignored. Much less is there is any suggestion that either HDI or Holtec Pilgrim will have anything akin to the "rainy-day fund" that financially responsible company would find essential to deal with unforeseen events over at least the next almost half-century.

The Staff Assumption that NRC Regulations Provide "Reasonable Assurance" that Holtec Will Make-Up any Funding Shortage is Simply Wrong.

At page 13 of the SE, the Staff cited 10 CFR §§ 50.33(f), 50.33(k), 50.75 and 50.82 for its finding that the requirements of these rules provide "reasonable assurance of obtaining the funds

necessary ... for decommissioning.” At page 15, it cited these four rules, and also 10 CFR § 50.44(b) for the same proposition.

In doing so, the Staff made a fundamental mistake. These rules recite various reporting requirements, but none of them make it possible for the NRC to require that Holtec or any of its subsidiaries provide any funds beyond whatever might remain in the DTF.

10 CFR §§ 40.36(e)(2) and 72.30(e)(2), that the Staff did not cite, says that a surety, insurance or parent company guarantee will “guarantee that decommissioning costs will be paid.” Holtec has refused to provide any of these. Absent such a guarantee by Holtec, the NRC has no recourse. If the balance in the DTF is insufficient to cover the cost of decommissioning, 10 CFR §§ 40.36(g) and 72.30(g) require a licensee to “replenish the funds,” and give a licensee 30 days after the end of a calendar quarter to “increase the balance to cover the cost.” These are nice words, but they and the Staff’s statement that the NRC has “the ability to take action on any actual or potential funding deficiencies” (Exemption, 10) is not only wrong, it also ignores reality.

The reality is that if the DTF is insufficient, neither HDI (that has no assets) cannot “make-up” or pay anything. These two licensees, HDI and Holtec Pilgrim, are subsidiaries of Holtec International, but Holtec organized them as limited liability companies to ensure that Holtec International had isolated itself from any of their debts or liabilities. And because Holtec International is not a licensee, the NRC has no authority or ability to require Holtec International or any of its other subsidiaries to supply any money to cover decommissioning costs. (See PW Petition Reply, 4-7)

Conclusion

The Staff Order permits Holtec to withdraw funds from the DTF and to use them to pay costs other than decommissioning. The evidence as a whole proves that there is no “reasonable

assurance” that the remaining DTF will be sufficient, at least unless Holtec is required to replenish the DTF and ensure that it will have sufficient funds.

Pilgrim Watch’s motion should be granted.

Respectfully submitted (Electronically signed),

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September 3, 2019

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE COMMISSION

In the Matter of
Entergy Corporation
Pilgrim Nuclear Power Station
License Transfer Agreement Application

Docket No. 50-293 & 72-1044 LT

CERTIFICATION OF SERVICE AND CONSULTATION

Pursuant to 10 C.F.R. § 2.305, I certify that copies of Pilgrim Watch Motion Under 10 C.F.R §2.323 to Stay Staff Order of August 22, 2019 Granting Exemption have been served upon the Electronic Information Exchange, the NRC's e-filing system, in the above-captioned proceeding, on September 3, 2019

Pursuant to 10 C.F.R. § 2.323, I also certify that I contacted other parties in this Proceeding. Counsel for the Commonwealth of Massachusetts said that the Commonwealth supports Pilgrim Watch's request for a stay of the NRC Staff's approval of request for an exemption to use the decommissioning trust fund for non-decommissioning purposes. Counsel for Holtec and Entergy said Holtec and Entergy oppose the motion.

Signed (electronically) by

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