

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE SECRETARY**

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In the Matter of

ENTERGY NUCLEAR OPERATIONS, INC.;  
ENTERGY NUCLEAR INDIAN  
POINT 2, LLC; ENTERGY NUCLEAR  
INDIAN POINT 3, LLC; HOLTEC  
INTERNATIONAL; and HOLTEC  
DECOMMISSIONING INTERNATIONAL,  
LLC; APPLICATION FOR ORDER  
CONSENTING TO TRANSFERS OF  
CONTROL OF LICENSES AND  
APPROVING CONFORMING LICENSE  
AMENDMENTS

Docket Nos.:

50-3

50-247

50-286

72-051

(Indian Point Nuclear Generating Station)

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**PETITION OF THE STATE OF NEW YORK FOR LEAVE  
TO INTERVENE AND FOR A HEARING**

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## LIST OF ABBREVIATIONS AND ACRONYMS

Applicants	Entergy Nuclear Operations, Inc.; Entergy Nuclear Indian Point 2, LLC; Entergy Nuclear Indian Point 3, LLC; Holtec International; and Holtec Decommissioning International, LLC
ASLB	Atomic Safety and Licensing Board
BWR	Boiling water reactor
CDI	Comprehensive Decommissioning International, LLC
Con Edison	Consolidated Edison Company of New York, Inc.
DEC	New York State Department of Environmental Conservation
DOE	United States Department of Energy
Enbridge	Enbridge, Inc.
ENOI	Entergy Nuclear Operations, Inc.
Entergy	Entergy Nuclear Operations, Inc.; Entergy Nuclear Indian Point 2, LLC; and Entergy Nuclear Indian Point 3, LLC
FERC	Federal Energy Regulatory Commission
GAO	Government Accounting Office
GTCC	Greater-than-class-C waste
HDI	Holtec Decommissioning International, LLC
Holtec	Holtec International
Holtec IP2	Holtec Indian Point 2, LLC
Holtec IP3	Holtec Indian Point 3, LLC
Holtec LLCs	Holtec IP2, Holtec IP3, and HDI
ISFSI	Independent spent fuel storage installation
LTA	License transfer application
NRC	United States Nuclear Regulatory Commission

NYSERDA	New York State Energy Research and Development Authority
Oyster Creek	Oyster Creek Nuclear Generating Station (New Jersey)
PFAS	Per- and polyfluorinated alkyl substances
PHMSA	Pipeline and Hazardous Materials Safety Administration
Pilgrim	Pilgrim Nuclear Power Station (Massachusetts)
PNNL	Pacific Northwest National Laboratory
PSC	New York State Public Service Commission
PSDAR	Post-shutdown decommissioning activities report
PWR	Pressurized water reactor
State	New York State
TVA	Tennessee Valley Authority

## INTRODUCTION

The Nuclear Regulatory Commission (NRC) is considering whether to grant an application by Entergy Nuclear Operations, Inc. (ENOI); Entergy Nuclear Indian Point 2, LLC; Entergy Nuclear Indian Point 3, LLC (together, Entergy); Holtec International (Holtec); and Holtec Decommissioning International, LLC (HDI and, with Entergy, Applicants) requesting approval to transfer the operating licenses for the Indian Point Nuclear Generating Station and its associated independent spent fuel storage installation (ISFSI) from Entergy to HDI and two other special purpose, limited liability subsidiaries of Holtec, Holtec Indian Point 2, LLC (Holtec IP2) and Holtec Indian Point 3, LLC (Holtec IP3 and, with HDI and Holtec IP2, the Holtec LLCs). The Holtec LLCs plan to engage another Holtec subsidiary, Comprehensive Decommissioning International, LLC (CDI) to decommission all three units at Indian Point, restore the site, and manage on-site spent nuclear fuel. The Holtec LLCs represent that they will seek partial site release for unrestricted use “within fifteen years.”<sup>1</sup>

While the State of New York supports prompt, thorough, and safe decommissioning and site restoration at Indian Point, it does not believe the Holtec LLCs possess the financial qualifications necessary to complete such a risk-intensive project. The State’s chief concerns are as follows: First, even though Holtec proposes to rapidly decommission the facility on a DECON model, the cash flow analysis that forms the basis for the Holtec LLCs’ financial qualification and decommissioning financial assurance representations assumes an annual two percent real rate of return on the

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<sup>1</sup> License Transfer Application (LTA) at 3 (Nov. 21, 2019) (ML19326B953).

Indian Point decommissioning trust funds in violation of NRC rules. Without the two percent annual growth credit, the Indian Point decommissioning trusts are approximately \$200 million short of HDI's current estimated cost to fully decommission Indian Point and the license transfer application is not approvable as submitted. This argument is further developed in Contention NY-1 below.

Second, even independently of the \$200 million shortfall identified in Contention NY-1 below, HDI's decommissioning cost estimate relies on a series of unreasonable assumptions that, either individually or cumulatively, threaten the Holtec LLCs' ability to complete license termination and site restoration activities and manage spent nuclear fuel on the timeline and within the budget proposed in the HDI post-shutdown decommissioning activities report (PSDAR). For instance, despite allocating no funding for out-of-scope project risks and delaying full site characterization until after decommissioning has begun, HDI both ignores the likelihood that on-site contamination will exceed current volume and cost estimates and fails to recognize or account for costs associated with state-law site remediation requirements that are stricter than federal standards. HDI also unreasonably assumes DOE will begin taking title to spent nuclear fuel by 2030; makes no provision for costs associated with—indeed, evinces no awareness of—the aging, high-pressure natural gas transmission lines sited next to Unit 3; and fails to account for likely project delays associated not only with the Indian Point project itself—for instance, flowing from HDI's unreasonable projected timeframes for reactor internals and pressure vessel segmentation—but with decommissioning and related obligations at the various other sites for which

HDI is or plans to be responsible. In view of these and other unreasonable assumptions and errors, HDI—an entity with no nuclear decommissioning track record—underestimates the license termination, site restoration, and spent fuel management liabilities attached to Indian Point and so fails to carry its burden to show adequate decommissioning financial assurance. This argument is further developed in Contention NY-2 below.

Third, the application materials fail to establish that the Holtec LLCs possess adequate financial qualifications to cope with the funding shortfall identified in Contentions NY-1 and NY-2. To insulate Holtec from legal and financial risk, the Applicants propose to transfer Indian Point’s substantial environmental liabilities to a group of closely held, special purpose limited liability entities about which no financial information is publicly available. The Applicants make no effort to establish that these companies are adequately capitalized or otherwise have access to the funding necessary to bankroll their own day-to-day operations, let alone procure additional financial assurance—as required by NRC rule—when the Indian Point nuclear decommissioning trusts run short. The Applicants are in fact very clear that the Holtec LLCs have no resources beyond or independent from the decommissioning trusts. What’s more, Holtec, through HDI and a rotating cast of limited liability subsidiaries, plans to assume decommissioning, site restoration, and spent fuel management obligations not only for the three reactors at historically troubled Indian Point, but also for three *other* power reactors in three states. In view of the dearth of financial information submitted in support of the license transfer application, coupled with the

structure of the proposed transfer and HDI's significant portfolio risk, the Applicants have failed to establish that the Holtec LLCs are or will be financially qualified to manage the risks associated with Indian Point. This argument is further developed in Contention NY-3 below.

For these reasons and others discussed in detail below, the State seeks leave to intervene in the pending license transfer proceedings for Indian Point and requests that a hearing be held on the questions whether the proposed licensees have demonstrated adequate financial qualification, adequate decommissioning financial assurance, and adequate funding for spent fuel management as required under the Atomic Energy Act and relevant NRC regulations.

### STANDING

Because Indian Point is a “utilization facility . . . located within the boundaries of [New York] State,” “no further demonstration of standing is required.”<sup>2</sup>

### CONTENTIONS

#### NY-1

**The Holtec LLCs have failed to comply with 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i) because the license transfer application and the supporting PSDAR and decommissioning cost estimate impermissibly assume an annual two percent real rate of return on nuclear decommissioning trust monies.**

### BASIS

1. Under section 182(a) of the Atomic Energy Act, proposed licensees must, among other things, demonstrate that they are financially qualified to hold an NRC

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<sup>2</sup> 10 C.F.R. § 2.309(h)(2).



license.<sup>3</sup>

2. NRC rules require non-utility proposed licensees to show they have the financial ability to “carry out, in accordance with [NRC regulations], the activities for which the permit or license is sought.”<sup>4</sup>

3. As part of the necessary showing of financial qualification, proposed licensees “must provide reasonable assurance that sufficient funds will be available to decommission the facility.”<sup>5</sup>

4. For power reactor licensees, the necessary amount of decommissioning funding may be based on a site-specific decommissioning cost estimate.<sup>6</sup>

5. Under NRC regulations, a proposed licensee may elect to prepay its decommissioning obligation by segregating funds in an amount “sufficient to pay decommissioning costs *at the time permanent termination of operations is expected.*”<sup>7</sup>

6. Under 10 C.F.R. § 50.75(e)(1)(i), “[a] licensee that has prepaid funds based on a site-specific estimate . . . may take credit for projected earnings on the prepaid decommissioning trust funds, using up to a [two] percent annual real rate of return from the time of future funds’ collection through the projected decommissioning period, *provided that the site-specific estimate is based on a period of safe storage*

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<sup>3</sup> See 42 U.S.C. § 2232(a).

<sup>4</sup> 10 C.F.R. § 50.33(f); *see id.* § 50.80(b)(1)(i) (requiring, with respect to license transfer proceedings, that proposed transferees comply with the financial qualification requirements set forth in 10 C.F.R. § 50.33).

<sup>5</sup> Exelon Generation Co. (Oyster Creek Nuclear Generating Station), CLI-19-06, 2019 WL 2632851, at \*3 (2019); *see* 10 C.F.R. §§ 50.33(k)(1), 50.75(b), 72.30(b).

<sup>6</sup> *See* 10 C.F.R. § 50.75(b)(1).

<sup>7</sup> *See id.* § 50.75(e)(1)(i) (emphasis added).

*that is specifically described in the estimate*” (emphasis added).<sup>8</sup>

7. Contrary to the regulations at 10 C.F.R. § 50.75(e)(1)(i), the Holtec LLCs claim an earnings credit equal to a two percent annual real rate of return despite proceeding under a DECON decommissioning plan—that is, a plan that does *not* contemplate a period of safe storage. DECON is a decommissioning approach wherein “decontamination [and] dismantlement [are performed] as rapidly after reactor shut-down as possible to achieve termination of the nuclear license.”<sup>9</sup> SAFSTOR, by contrast, is a decommissioning alternative involving “*a period of safe storage* of the stabilized and defueled facility followed by final decontamination [and] dismantlement and license termination.”<sup>10</sup>

8. Without the benefit of the two percent annual earnings credit, the current trust fund balances are approximately \$200 million less than HDI’s own decommissioning cost estimate. Accordingly, the Holtec LLCs fail to show adequate decommissioning financial assurance as required under 10 C.F.R. § 50.75(b)(1).

## **SUPPORTING EVIDENCE**

1. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

2. The license transfer application represents that Holtec IP2 and Holtec

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<sup>8</sup> See also 67 Fed. Reg. 78332, 78338 (Dec. 24, 2002) (“[A] 2-percent credit can be used when a site-specific estimate *is explicitly based on deferred dismantlement*.”) (emphasis added).

<sup>9</sup> NRC, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, NUREG-1437, supp. 1, vol. 1, pt. 7 at § 7.2.2 (Nov. 2002) (decommissioning methods).

<sup>10</sup> *Id.* (emphasis added).

IP3 will “us[e] the prepayment method” at 10 C.F.R. § 50.75(e)(1)(i) to satisfy their decommissioning financial assurance obligations.<sup>11</sup> Both the license transfer application and the HDI PSDAR make clear that the Holtec LLCs plan to immediately decommission Indian Point using the DECON approach.<sup>12</sup>

3. The Holtec LLCs’ alleged prepayment of their decommissioning financial assurance obligation is based on a site-specific cost estimate, but that estimate is *not* “based on a period of safe storage.”<sup>13</sup> Therefore, under the applicable NRC rule, the Holtec LLCs are not entitled to take a two percent annual net earnings credit on monies in the Indian Point decommissioning trusts during the decommissioning period.<sup>14</sup>

4. The Applicants represent that license termination, site restoration, and spent fuel management costs at Indian Point will total slightly more than \$2.3 billion.<sup>15</sup> The Applicants represent that the cumulative value of the Indian Point trust funds as of October 31, 2019 was “approximately \$2.1 billion.”<sup>16</sup> Based on HDI’s own cost estimate (and assuming the Holtec LLCs receive an exemption to use trust monies for non-decommissioning purposes—an exemption for which they have yet to apply), the Holtec LLCs currently face a \$200 million shortfall in decommissioning funding.

5. 10 C.F.R. § 50.75(e)(1)(i) requires that the decommissioning financial

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<sup>11</sup> LTA at 18.

<sup>12</sup> *See, e.g., id.* at 3; PSDAR at 1–2 (Dec. 19, 2019) (ML19354A698).

<sup>13</sup> 10 C.F.R. § 50.75(e)(1)(i).

<sup>14</sup> *See id.*

<sup>15</sup> *See* LTA, attach. D, at unnumb. p. 1.

<sup>16</sup> *Id.* at 17.

assurance prepayment amount be “sufficient to pay decommissioning costs at the time permanent termination of operations is expected.” Because the cash flow analysis included in HDI’s PSDAR assumes a two percent annual real rate of return in violation of NRC rules,<sup>17</sup> that analysis—and, thus, the Applicants’ showing of decommissioning financial assurance—is deficient. To the extent the Applicants are suggesting the Commission *should* allow such an earnings credit during the DECON period, the Commission explicitly rejected that argument during the rulemaking process leading to the 2002 decommissioning rule revisions.<sup>18</sup>

6. Because the license transfer application does not show that adequate decommissioning funding will be available at the time of permanent shutdown, it does not comply with applicable NRC rules and may not be approved as submitted.<sup>19</sup>

## NY-2

**The Holtec LLCs fail to show adequate decommissioning financial assurance and/or adequate funding for spent nuclear fuel management in violation of 10 C.F.R. §§ 50.33(f) and (k)(1), 50.40(b), 50.54(bb), 50.75(b)(1) and (e)(1)(i), 50.80(b)(1)(i), 50.82(a)(8)(vii), and 72.30(b) because HDI’s PSDAR and decommissioning cost estimate underestimate license termination, site restoration, and spent fuel management costs.**

## BASIS

1. Because the Applicants’ decommissioning financial assurance representations are predicated on what HDI claims is a site-specific estimate of the costs to

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<sup>17</sup> See, e.g., PSDAR at 100–105.

<sup>18</sup> See 67 Fed. Reg. 78332, 78338 (Dec. 24, 2002).

<sup>19</sup> See, e.g., 10 C.F.R. §§ 50.33(k)(1), 50.75(b)(1), 50.80(b)(1)(i), 72.30(b).

decommission Indian Point, restore the site, and manage spent fuel in the manner set forth in its PSDAR, the accuracy of both the PSDAR and the accompanying cost estimate are directly relevant to the core question whether the Holtec LLCs are financially qualified to decommission Indian Point under applicable NRC rules.

2. The Holtec LLCs' showing of decommissioning financial assurance is deficient because HDI's PSDAR and cost estimate are inaccurate or otherwise defective, in at least the following ways:

- A. The PSDAR impermissibly assumes the Holtec LLCs will receive a regulatory exemption authorizing the use of decommissioning trust monies for site restoration and spent fuel management. Since the Holtec LLCs have yet to seek such an exemption and have shown no other source of funding for site restoration and spent fuel management, they fail to satisfy NRC regulations at 10 C.F.R. §§ 50.54(bb) and 72.30(b).
- B. The PSDAR and cost estimate fail to account for the likely existence of—and cost to remediate—additional radiological and non-radiological contamination. Because HDI fails to account for these costs, the Holtec LLCs fail to show adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i).
- C. The PSDAR and cost estimate fail to recognize or adequately account for increased remediation costs associated with stricter state-law site restoration standards. Because HDI fails to account for these costs,

the Holtec LLCs fail to show adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i).

- D. The PSDAR and cost estimate fail to account for the presence of two aging natural gas transmission lines sited in close proximity to Unit 3. Resultant limitations on decommissioning activities are likely to increase costs, rendering HDI's cost estimate inaccurate. Because HDI fails to account for these costs, the Holtec LLCs fail to show adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i).
- E. The PSDAR and cost estimate assume, without any basis, that the United States Department of Energy (DOE) will begin taking possession of spent nuclear fuel by 2030. This assumption requires either that a permanent geologic repository be constructed in the next decade—a highly unlikely turn of events—or that Congress amend the Nuclear Waste Policy Act to allow DOE to move spent fuel to an interim storage site. The Holtec LLCs have failed to establish the reasonableness of either assumption. And because these unreasonable assumptions lead HDI to underestimate spent fuel management costs, the Holtec LLCs fail to demonstrate adequate financial qualification or funding for spent fuel management in violation of 10 C.F.R. §§ 50.33(f), 50.54(bb), and 50.82(a)(8)(vii)(B) and (C).
- F. The PSDAR and cost estimate fail to account for costs associated with

repackaging spent nuclear fuel for transportation (as is required under the current DOE standard contract) or, in the event repackaging is ultimately not required, for reimbursements to DOE for packaging costs DOE has paid or will pay to licensees. The Holtec LLCs fail to carry their burden to establish adequate funding for on-site spent nuclear fuel management as required by 10 C.F.R. §§ 50.54(bb) and 50.82(a)(8)(vii)(B) and (C).

- G. The PSDAR and cost estimate fail to account for costs associated with the disposal of mixed waste currently stored at Unit 1, rendering the cost estimate inaccurate. Because HDI fails to include these costs, the Holtec LLCs fail to show adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i).
- H. The PSDAR projects an exceedingly short timeframe for reactor internals and pressure vessel segmentation; delay at this early stage of the decommissioning process could increase project costs by tens or even hundreds of millions of dollars. Because HDI's cost estimate fails to account for these costs, the Holtec LLCs fail to demonstrate adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i).
- I. The PSDAR appears to show that HDI plans to use Unit 3 trust funds to pay for work at other, less well-funded units. This practice is impermissible under NRC regulations, rendering the PSDAR and cost

estimate unapprovable as submitted.

3. For any or all of the foregoing reasons, HDI's cost estimate is unreasonably low. Because HDI fails to include a meaningful contingency amount to address potential out-of-scope project costs, cost increases of the sorts described above are likely to cause a shortfall in the decommissioning, site restoration, and/or spent fuel management funding. Accordingly, the Holtec LLCs have failed to demonstrate adequate decommissioning financial assurance or adequate funding for spent fuel management as required under NRC rules.

4. The bases for Contention NY-2 are further developed below:

**A. Because the PSDAR and cost estimate impermissibly rely on regulatory exemptions the Holtec LLCs have neither sought nor received, the Holtec LLCs fail to demonstrate their financial qualification or show adequate funding for spent fuel management and ISFSI decommissioning as required under 10 C.F.R. §§ 50.33(f), 50.54(bb), 50.82(a)(8)(vii), and 72.30(b).**

### **BASIS**

5. The State incorporates the allegations in subparts B through I of Contention NY-2 as if fully set forth herein.

6. According to the Applicants, the Holtec LLCs plan to spend approximately \$140 million on site restoration activities and an additional \$630 million on spent fuel maintenance activities.<sup>20</sup> In all, the Holtec LLCs plan to spend over \$770

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<sup>20</sup> See LTA, attach. D, at unnumb. pp. 2–4.



million on non-decommissioning activities, or approximately *one third* of the current cumulative balance of the Indian Point decommissioning trusts.

7. NRC rules prohibit the use of decommissioning funds for purposes other than for radiological decommissioning.<sup>21</sup>

8. The cost analysis upon which the Holtec LLCs base their financial qualification and decommissioning financial assurance representation assumes the LLCs will seek and the NRC will grant an exemption from 10 C.F.R. § 50.82(a)(8)(i)(A). Because neither of these events has occurred, the HDI decommissioning cost estimate is speculative and unreliable.

9. Until the Holtec LLCs obtain a final, non-appealable order granting an exemption from 10 C.F.R. § 50.82(a)(8)(i)(A) and authorizing them to expend decommissioning trust monies on non-decommissioning activities, they must establish that they are financially qualified to hold the Indian Point licenses<sup>22</sup> and that they have the independent means to fund spent fuel management activities and decommission the Indian Point ISFSI as required by NRC regulations at 10 C.F.R. §§ 50.54(bb), 50.82(a)(8)(vii), and 72.30(b).

10. Alternatively, because the license transfer application is based on an exemption from 10 C.F.R. § 50.82(a)(8)(i)(A), the Holtec LLCs have ceded jurisdiction to an Atomic Safety and Licensing Board (ASLB) on the question whether they are in fact entitled to such an exemption.

11. Further, while the Holtec LLCs claim the potential recovery of hundreds

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<sup>21</sup> See 10 C.F.R. §§ 50.2, 50.82(a)(8)(i)(A).

<sup>22</sup> See *id.* § 50.33(f).

of millions of dollars in spent fuel management expenses from DOE represents a conservatism in their cost estimate,<sup>23</sup> they do not commit to use the recovered funds to defray decommissioning or site restoration expenses or replenish the trust funds.

### SUPPORTING EVIDENCE

12. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

13. To “decommission” under the NRC rules means “to remove a facility or site safely from service and reduce residual radioactivity to a level that permits,” as relevant here, “[r]elease of the property for unrestricted use and termination of the [NRC] license.”<sup>24</sup>

14. The regulatory definition of decommissioning excludes site restoration and spent fuel management activities.<sup>25</sup>

15. NRC rules require power reactor licensees to provide spent fuel management funding assurance until DOE takes title to and possession of all spent nuclear fuel at the reactor.<sup>26</sup> ISFSI licensees must submit a decommissioning plan demonstrating adequate funding for ISFSI decommissioning following the removal of all spent nuclear fuel and reactor-related greater-than-Class-C (GTCC) waste from the site.<sup>27</sup>

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<sup>23</sup> See LTA at 18.

<sup>24</sup> 10 C.F.R. § 50.2.

<sup>25</sup> See General Requirements for Decommissioning Nuclear Facilities, 53 Fed. Reg. 24018, 24019 (June 27, 1988); *see also* 10 C.F.R. §§ 50.2, 50.82(a)(8)(i)(A).

<sup>26</sup> See 10 C.F.R. § 50.54(bb).

<sup>27</sup> See *id.* §§ 72.30(a)–(b).

16. NRC regulations authorize the granting of exemptions from regulatory requirements under certain circumstances.<sup>28</sup> While the Applicants indicate that the Holtec LLCs intend to seek an exemption from 10 C.F.R. § 50.82(a)(8)(i)(A) to allow them to use decommissioning trust monies for site restoration and spent fuel management purposes,<sup>29</sup> no such exemption request has been submitted.

17. Until the Holtec LLCs establish that they are in fact entitled to such an exemption, NRC rules require that they show they are financially qualified to hold the Indian Point licenses and establish adequate financial assurance for spent fuel management and ISFSI decommissioning without resort to the funds currently in the Indian Point nuclear decommissioning trusts.<sup>30</sup> Neither the license transfer application nor the PSDAR indicates how the Holtec LLCs would fund these non-decommissioning commitments without recourse to the trusts.<sup>31</sup>

18. Accordingly, the Holtec LLCs fail to carry their burden to show they are financially qualified to hold the Indian Point licenses under 10 C.F.R. § 50.33(f). The Holtec LLCs also fail to carry their burden to show adequate funding for spent fuel management or ISFSI decommissioning as required under 10 C.F.R. §§ 50.54(bb) and 72.30.

19. In addition and evidently, insofar as the Holtec LLCs propose to spend decommissioning trust fund monies on costs that are not license termination costs, they violate 10 C.F.R. § 50.82(a)(8)(i)(A) unless an exemption is granted.

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<sup>28</sup> See *id.* § 50.12.

<sup>29</sup> See LTA at 18.

<sup>30</sup> See 10 C.F.R. §§ 50.33(f), 50.54(bb), 72.30(b).

<sup>31</sup> See Trabucchi decl. ¶ 20.

20. Moreover, to the extent Holtec IP2 and Holtec IP3 spend money on spent fuel management (which money, absent a final, non-appealable exemption, cannot be drawn from the Indian Point decommissioning trusts), they will be able to recover the bulk of those costs in litigation with the Department of Energy (DOE).<sup>32</sup> While the Applicants claim the existence of the DOE recoveries bolsters the Holtec LLCs' financial qualifications,<sup>33</sup> they fail to note that Holtec nowhere commits to return such recoveries to the trust funds or otherwise ensure their availability to the Holtec LLCs if and when additional license termination, site restoration, or spent fuel management funds are needed. If the Holtec LLCs ultimately obtain an exemption to use trust fund monies to pay spent fuel management costs but are not required to reimburse the trusts for monies so used—that is, if HDI is allowed to treat the DOE recoveries purely as a revenue stream—the recoveries will become a profit windfall realized by HDI before it has satisfied the entirety of its decommissioning and site restoration obligations. Absent a requirement that the Holtec LLCs return any DOE recoveries to the trust funds, the Holtec LLCs fail to show they are financially qualified to complete license termination and site restoration activities and manage spent nuclear fuel at Indian Point.

21. The Indian Point decommissioning trusts were funded entirely by New York ratepayers for the sole purpose of underwriting radiological decontamination at the facility. The Commission should not allow the Holtec LLCs to divert decommissioning trust fund monies to their shareholders by granting an unconditioned future

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<sup>32</sup> See, e.g., *System Fuels, Inc. v. United States*, 818 F.3d 1302, 1304 (Fed. Cir. 2016).

<sup>33</sup> See LTA at 18.

exemption. At the very least, if it chooses to approve the license transfer application, the Commission should mandate that the Holtec LLCs ensure adequate financial qualification and decommissioning financial assurance by returning the anticipated DOE recoveries to the nuclear decommissioning trusts or to a supplemental trust for use in the likely event of an unanticipated cost overrun. In that case, the DOE recoveries would serve as the collateral necessary for the additional financial assurance required under 10 C.F.R. §§ 50.82(a)(8)(vi) and (vii)(C). Once the facility has been satisfactorily decommissioned and the site restored, and once all spent nuclear fuel has been delivered to DOE, any remaining recoveries not slated for return to ratepayers by order of the New York State Public Service Commission (PSC) can be released to HDI.

- B. Because the PSDAR and cost estimate fail to account for the likely existence of and cost to remediate additional radiological and non-radiological contamination, the Holtec LLCs fail to show financial qualification or adequate decommissioning funding assurance as required under 10 C.F.R §§ 50.33(f) and 50.75(b) and (e)(1)(i).**

## **BASIS**

22. The State incorporates the allegations in subparts A and C through I of Contention NY-2 as if fully set forth herein.

23. In view of the long history of significant radiological and non-radiological releases at Indian Point, HDI's decommissioning cost estimate unreasonably fails to account for the substantial likelihood that CDI will discover additional contamination once work has begun. Because HDI assigns no value to such out-of-scope risk in

its cost estimate,<sup>34</sup> the cost estimate unreasonably undervalues costs associated with, among other things, staffing, overhead, and waste disposal.<sup>35</sup>

24. With respect to site restoration, HDI indicates that it will remove existing buildings to a nominal depth of three feet below grade and remediate any portions of remaining below-grade structures that exceed the radiological threshold for license termination and partial site release.<sup>36</sup> But neither the PSDAR nor the accompanying cost estimate addresses the likely need for additional, expensive remediation of radiological and non-radiological hazardous substances contamination in the soils, fill, groundwater, and bedrock beneath and surrounding the plant's built infrastructure.

25. Notwithstanding Indian Point's lengthy history of radiological and non-radiological contamination—the full extent of which is presently unknown—HDI has not performed the rigorous site characterization necessary to formulate an accurate remedial plan and to accurately estimate remediation costs.<sup>37</sup> Instead, HDI plans to characterize site contamination *after* the licenses transfer.<sup>38</sup> HDI gives no indication how it will ultimately conduct such a characterization, other than to say it “will be performed with systems and components in place.”<sup>39</sup>

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<sup>34</sup> See *infra* ¶¶ 26–30.

<sup>35</sup> See Brewer decl. ¶¶ 16–17.

<sup>36</sup> See PSDAR at 13.

<sup>37</sup> See Rice decl. ¶¶ 4, 17–19, 25–27; Heitzman decl. ¶¶ 15, 17; see also DEC Commissioner's Policy 51, Soil Cleanup Guidance at 1, 4 (Oct. 21, 2010), available at [https://www.dec.ny.gov/docs/remediation\\_hudson\\_pdf/cpsoil.pdf](https://www.dec.ny.gov/docs/remediation_hudson_pdf/cpsoil.pdf) (noting that the *first step* in remediating a contaminated property under, *inter alia*, the State's Superfund Law or the Brownfields Cleanup Program is to “fully investigate[ ]” the site to “determine the nature and extent of contamination”).

<sup>38</sup> See PSDAR at 8–10 (indicating that HDI and CDI will begin site characterization “[i]n the time leading up to[ ] and immediately following[ ] the . . . license transfers” and that site characterization activities will continue “during the decommissioning process”).

<sup>39</sup> *Id.* at 61.

26. HDI's failure to thoroughly assess the extent of on-site contamination is exacerbated by its failure to account for out-of-scope risk. In a section of the PSDAR entitled "Contingency," HDI concedes that variance from "[e]xpected site conditions" may distort cost estimates.<sup>40</sup> However, to the extent it considers them, HDI's cost estimate appears to assign virtually no value to costs associated with out-of-scope risks, including the likely discovery of additional radiological and non-radiological contamination.

27. HDI claims, in keeping with customary estimating practice, that its cost estimate includes an "uncertainty allowance" to account for "ill-defined work scope or elements of costs and schedules expected to be incurred" but "[that] cannot be explicitly foreseen."<sup>41</sup> Separately, HDI defines "risk allowance" as "funds added to the base-line schedule and [cost] estimate to account for discrete risk events . . . that may or may not occur."<sup>42</sup>

28. HDI never describes which risks or uncertainties, if any, are accounted for in the uncertainty allowance or risk allowance categories. However, based on its purported consideration of these categories, HDI resolves to include a "contingency allowance" of eighteen percent in its cost estimates for all decommissioning activities other than those related to ISFSI decommissioning.<sup>43</sup> HDI notes that the allowance "is an integral part of the cost to complete the [Indian Point] decommissioning and is

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<sup>40</sup> *Id.* at 93.

<sup>41</sup> *Id.* at 94.

<sup>42</sup> *Id.* at 94–95.

<sup>43</sup> *Id.* at 95

*expected to be fully consumed.*”<sup>44</sup>

29. HDI’s treatment of contingency and risk undermines the validity of the cost estimate. To the extent HDI expects its eighteen-percent contingency allowance to be completely consumed, the contingency appears to account—according to HDI’s own definition—only for uncertainty within the existing scope of work. If so, HDI is unreasonably failing to account for the likelihood that it will encounter out-of-scope issues including, for instance, the discovery of additional contaminants and/or contaminants in unexpected volumes.

30. If HDI is evaluating out-of-scope risk, it unreasonably fails to explain how or why it arrives at a contingency amount that is nearly identical—albeit less in real dollars<sup>45</sup>—to that calculated in Entergy preliminary decommissioning cost estimates *expressly excluding* unexpected or out-of-scope risk.<sup>46</sup>

31. By deferring full site characterization until *after* they had prepared their cost estimate and by failing to adequately account for out-of-scope risk, HDI and CDI effectively ensure that unknown contamination, once discovered, will increase the project’s cost. And by performing site characterization activities with systems and components in place, HDI and CDI only increase the likelihood that unknown contamination will remain undiscovered until actual dismantlement begins.<sup>47</sup>

32. Accordingly, the cost estimate fails to satisfy regulatory requirements

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<sup>44</sup> *Id.* (emphasis added).

<sup>45</sup> See Brewer decl. ¶ 16.

<sup>46</sup> See, e.g., Preliminary Decommissioning Cost Analysis for the Indian Point Energy Center, Unit 3, at 6–7 (Dec. 2010) (ML103550608).

<sup>47</sup> See Heitzman decl. ¶ 17.



at 10 C.F.R. §§ 50.33(f) and 50.75(b) and (e)(1)(i).

### SUPPORTING EVIDENCE

33. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

34. Indian Point's long history of radiological and non-radiological releases has led to significant site contamination, at least some of which has migrated into the adjacent Hudson River.<sup>48</sup>

35. At Unit 1, the use of leak-prone stainless steel fuel cladding allowed fission products to escape from spent fuel assemblies into the water of the spent fuel pools.<sup>49</sup> Structural defects in the unlined fuel pools in turn allowed contaminated water to leak out of the pools for years, contaminating structural concrete and surrounding soil, fill, and fractured bedrock.<sup>50</sup> Radioactive water also entered the Unit 1 drainage system, ultimately making its way into the plant's storm drains, the discharge canal, the outfall structure, and the Hudson River.<sup>51</sup>

36. The Unit 1 spent fuel pool leaked contaminated water from at least the mid-1990s until the pool complex was drained in November 2008.<sup>52</sup>

37. As a result of the Unit 1 leaks, there is an extensive plume of tritium, strontium-90, radioactive cesium, and other radionuclides extending from Unit 1 to

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<sup>48</sup> See Rice decl. ¶¶ 4, 13–22; Heitzman decl. ¶¶ 9–13.

<sup>49</sup> See Rice decl. ¶ 13.

<sup>50</sup> See *id.* ¶¶ 13, 17.

<sup>51</sup> See *id.* ¶ 13.

<sup>52</sup> See *id.* ¶ 17.

the Hudson River.<sup>53</sup> A graphic showing the currently known extent of this plume is included with this petition as Attachment A.

38. In 2005, crews excavating in the vicinity of the Unit 2 spent fuel pool observed what was later determined to be tritiated water seeping from cracks in the concrete pool wall.<sup>54</sup> Entergy later discovered and repaired a weld defect in the transfer canal liner likely dating to the pool's construction in 1976.<sup>55</sup>

39. As at Unit 1, radiologically contaminated water leaking from the Unit 2 fuel pool has contaminated structural concrete and adjacent soil, fill, and fractured bedrock, and has formed a plume extending from Unit 2 to the Hudson River.<sup>56</sup> Radioactive water from the Unit 2 fuel pool has also entered and contaminated the plant's storm drains.<sup>57</sup> A graphic showing the known extent of this plume is included with this petition as Attachment B.

40. DEC is aware of repeated contamination events relating to the misuse and/or misunderstanding of the floor drain system in Unit 2 and the Unit 1/Unit 2 primary auxiliary building.<sup>58</sup> These events, involving tritium and at least one other fission product, contaminated the floors and drain systems in Unit 2 and the primary auxiliary building and, in some instances, resulted in leaks to the surrounding environment.<sup>59</sup>

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<sup>53</sup> *See id.* ¶¶ 14, 18–19.

<sup>54</sup> *See id.* ¶ 15.

<sup>55</sup> *See id.*

<sup>56</sup> *See id.* ¶ 22.

<sup>57</sup> *See id.*

<sup>58</sup> *See id.*

<sup>59</sup> *See id.*

41. As a result of these and other contamination events, and because the individual units at Indian Point are closely co-located and share systems and infrastructure, radiological contamination has likely spread throughout much of the controlled area.<sup>60</sup> The full extent of on-site radiological contamination has likely yet to be determined.<sup>61</sup>

42. In addition, DEC records show a significant number of non-radiological spills, fires, and other contamination-releasing incidents at Indian Point, many of which have yet to be fully characterized or remediated.

43. DEC spill records indicate that there have been approximately 258 petroleum spills at Indian Point since 1986.<sup>62</sup> Of those spills, approximately 65 were administratively closed despite the relevant facility owner's and/or DEC's inability to fully investigate or remediate—due likely to the proximity of the spills to critical and/or immovable infrastructure.<sup>63</sup>

44. In 2010, a large transformer at Unit 2 exploded and caught fire, causing the unit to shut down.<sup>64</sup> Emergency response personnel sprayed firefighting foam on the transformer to help extinguish the blaze.<sup>65</sup> Of the nearly 20,000 gallons of dielectric fluid in the transformer, only approximately 10,000 gallons were recovered.<sup>66</sup>

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<sup>60</sup> *See id.* ¶ 28.

<sup>61</sup> *See id.* ¶¶ 20–22, 25.

<sup>62</sup> *See* Heitzman decl. ¶ 10.

<sup>63</sup> *See id.*

<sup>64</sup> *See* DEC Order on Consent ¶¶ 17–20 (March 26, 2012), available at <https://www.clearwater.org/wp-content/uploads/2011/12/ExecutedOrderonConsent-EntergyNuclearIndianPoint23LLC.pdf>.

<sup>65</sup> *See id.* ¶ 19.

<sup>66</sup> *See id.* ¶¶ 13, 28.

Defects in the transformer moat allowed petroleum, water, and firefighting foam to escape containment and enter the adjacent turbine building and nearby storm drains.<sup>67</sup> Transformer oil traveled through the storm drain system to the discharge canal, from which it was discharged through the outfall and into the Hudson River.<sup>68</sup>

45. In 2015, a large transformer at Unit 3 exploded and caught fire, causing that unit to shut down.<sup>69</sup> The transformer contained approximately 17,000 gallons of dielectric fluid, of which an estimated 2,300 gallons burned and 2,000 gallons were discharged into the Hudson River; only 6,000 gallons were ultimately recovered.<sup>70</sup> Emergency response personnel used large quantities of firefighting foam to extinguish the blaze.<sup>71</sup> The foam contained per- and polyfluorinated alkyl substances (PFAS).<sup>72</sup>

46. The PFAS used in firefighting foam are regulated as hazardous substances under New York law.<sup>73</sup>

47. During the course of the fire and ensuing cleanup, significant quantities of transformer oil, contaminated water, and firefighting foam washed into nearby storm drains.<sup>74</sup> According to Entergy's hydrogeological consultants, fluids associated with the transformer fire may have escaped into fractures in subsurface bedrock.<sup>75</sup>

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<sup>67</sup> *See id.* ¶¶ 21, 24, 26, 29–30.

<sup>68</sup> *See id.* ¶¶ 24, 30.

<sup>69</sup> *See* Heitzman decl. ¶12 and exhibit D at 2.

<sup>70</sup> *See id.*, exhibit D at 2, 5.

<sup>71</sup> *See id.* ¶ 12; exhibit D at 2.

<sup>72</sup> *See id.* ¶ 12.

<sup>73</sup> *See* 6 N.Y.C.R.R. § 597.3.

<sup>74</sup> *See* Heitzman decl., exhibit D at 2.

<sup>75</sup> *See id.*, exhibit D at 8.

48. In addition, given the age of the plant, buildings at Indian Point likely contain legacy PCB-containing oils and coatings, lead paint, chlorinated solvents, and asbestos-containing mastics, mortar mixes, caulks, floor and ceiling tiles, wall board, roofing, and insulation.<sup>76</sup>

49. The likely discovery of additional contamination after decommissioning begins is hardly hypothetical. During decommissioning at Maine Yankee, the amount of asbestos-containing material removed for disposal was nearly triple the originally estimated amount.<sup>77</sup> And during construction of the Indian Point ISFSI—which must be expanded to accommodate the spent fuel still in the Unit 2 and Unit 3 pools<sup>78</sup>—contractors for Entergy inadvertently unearthed four large abandoned underground oil storage tanks.<sup>79</sup> Discovery of these leaking tanks ultimately required the removal of nearly eighty tons of impacted soil for off-site disposal.<sup>80</sup>

50. Project cost overruns associated with the belated discovery of additional site contamination could be considerable.<sup>81</sup> At Connecticut Yankee for example, the discovery of subsurface tritium and strontium-90 contamination required expensive characterization and, ultimately, remediation of affected soils and bedrock.<sup>82</sup> Remediation proved particularly difficult where fractures in the underlying bedrock allowed radionuclides to infiltrate deep underground; in the most contaminated area,

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<sup>76</sup> See *id.* ¶ 15.

<sup>77</sup> See Brewer decl. ¶ 26.

<sup>78</sup> See PSDAR at 13.

<sup>79</sup> See Heitzman decl. ¶ 16.

<sup>80</sup> See *id.*, exhibit I at 2.

<sup>81</sup> See Brewer decl. ¶¶ 24–26.

<sup>82</sup> See EPRI, Connecticut Yankee Decommissioning Experience Report at 9-1 (Nov. 2006).

explosives were used to remove adequate amounts of bedrock.<sup>83</sup> Extensive dewatering during the bedrock remediation process caused on-site groundwater to reverse course, flowing from the adjacent Connecticut River towards the plant. The reversed groundwater flow carried additional strontium-90, apparently from the area around the plant's discharge tunnels.<sup>84</sup> Given site topography, a history of radiological contamination, and close proximity to the Hudson River, a similar risk may exist at Indian Point.

51. Ultimately, unforeseen radiological contamination at Connecticut Yankee required the excavation of an additional 1.17 million cubic feet of material, adding over \$55 million in direct costs<sup>85</sup> and engendering significant delay.<sup>86</sup> And while Connecticut Yankee's owner was able to fund unexpected decommissioning and site restoration-related costs by obtaining a rate increase,<sup>87</sup> that option is unavailable at a merchant facility like Indian Point. Unless and until the Commission requires the provisioning of additional financial assurance as a condition of approving the license transfer, significant cost overruns at Indian Point could imperil the Holtec LLCs' ability to complete the project, thus increasing the risk that New York taxpayers will be required to shoulder the cost.

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<sup>83</sup> *See id.* at 9-8. As discussed below, the use of explosives at Indian Point may be complicated by the presence of two nearby, aging high-pressure natural gas transmission lines.

<sup>84</sup> *See id.* at 9-9.

<sup>85</sup> *See id.* at 9-10 to 9-11.

<sup>86</sup> *See* Pacific Northwest National Laboratory (PNNL), Assessment of the Adequacy of the 10 C.F.R. § 50.75(c) Minimum Decommissioning Formula, at 4-5 (Nov. 2011) (ML13063A190).

<sup>87</sup> *See* EPRI, Connecticut Yankee Decommissioning Experience Report at 6-1.

- C. **Because the PSDAR and decommissioning cost estimate fail to recognize or adequately account for the costs associated with stricter state-law site restoration requirements, the Holtec LLCs fail to demonstrate financial qualification or adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.33(f) and 50.75(b) and (e)(1)(i).**

## BASIS

52. The State incorporates the allegations set forth in subparts A, B, and D through I of Contention NY-2 as if fully set forth herein.

53. While HDI claims its cost estimate is based in part on “site restoration requirements,”<sup>88</sup> it fails to explain what state-law standards will guide the scope of that work, or what the work will actually entail. Because stricter state-law remedial standards will increase site restoration costs and because HDI intends to conduct license termination and site restoration activities simultaneously, HDI’s cost estimate likely underestimates costs and so fails to comply with 10 C.F.R. §§ 50.33(f) and 50.75(b) and (e)(1)(i).<sup>89</sup>

54. Assuming the availability of a regulatory exemption they have yet to seek,<sup>90</sup> the Holtec LLCs assert, on the basis of the HDI cost estimate, that the nuclear decommissioning trusts contain adequate funds to pay all unspecified site restoration

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<sup>88</sup> PSDAR at 17.

<sup>89</sup> See PNNL, Assessment of the Adequacy of the 10 C.F.R. § 50.75(c) Minimum Decommissioning Formula, at 2-8 to 2-9 (Nov. 2011) (ML13063A190) (noting that the extent of site restoration is “dependent on plant-specific operational practices and the cleanup criteria applied during decommissioning”); see also U.S. General Accounting Office (GAO), NRC’s Assurances of Decommissioning Funding During Utility Restructuring Could Be Improved, at 37 (Dec. 2001) (noting that “[v]arying radiation cleanup standards” and “incomplete historical plant contamination data” can combine to “confound a licensee’s ability to estimate future decommissioning costs”), available at <https://www.gao.gov/assets/160/157183.pdf>.

<sup>90</sup> See PSDAR at 48.

obligations at Indian Point.<sup>91</sup>

55. But HDI fails to account for site restoration obligations flowing from: (1) the 2000 Con Edison-to-Entergy asset purchase and sale agreement for Units 1 and 2 and the contemporaneous PSC orders approving that transaction; (2) applicable DEC remedial standards and guidance values; and (3) a contractual obligation owed to the New York State Energy Research and Development Authority (NYSERDA) to remediate the leased Indian Point outfall structure.

### **SUPPORTING EVIDENCE**

56. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

57. Con Edison, the original licensee of Units 1 and 2, sold those units to Entergy in November 2000. The terms of the transaction are set forth in an asset purchase and sale agreement dated November 9, 2000 (Con Edison Agreement).<sup>92</sup>

58. Under the Con Edison agreement, Entergy and its successors and assigns assumed “any liabilities and obligations (including any Environmental Liabilities) in respect of . . . Decommissioning” Unit 1 and Unit 2.<sup>93</sup>

59. The Con Edison agreement defines “environmental liability” broadly to include all liabilities and obligations “arising from, relating to, or in connection with

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<sup>91</sup> See *id.* at 17, 18.

<sup>92</sup> See Generating Plant and Gas Turbine Asset Purchase and Sale Agreement (Nov. 9, 2000) (ML033040208).

<sup>93</sup> *Id.* at 30.



. . . compliance or non-compliance with[ ] Environmental Laws.”<sup>94</sup> The agreement in turn defines “environmental laws” to include “all former, current and future federal, state, local and foreign laws (including common law), . . . regulations, rules, ordinances, codes, decrees, judgments, directives, orders (including consent orders) . . . and [DEC] Technical Administrative Guidance Memoranda.”<sup>95</sup>

60. The Con Edison Agreement also defines “decommissioning” broadly to include both “the complete retirement and removal of the Auctioned Assets from service and the restoration of the Buyer Real Estate (*and all surface and subsurface elements thereof* including soils, surface water and groundwater).”<sup>96</sup> “Buyer real estate” is in turn defined as including both the lands associated with Unit 1 and Unit 2 and the structures themselves.<sup>97</sup>

61. DEC’s cleanup guidelines for radioactively contaminated soils are set forth in guidance document DER-38, the most current version of the circa-1993 DEC technical administrative guidance memorandum 4003.<sup>98</sup> Under these documents, absent special circumstances, radiologically contaminated soils are to be remediated to a 10 mrem annual dose limit from all reasonable pathways to qualify for unrestricted release.

62. For the reasons described above, if Holtec IP2 and Holtec IP3 purchase Indian Point, they will be obligated under the Con Edison Agreement to comply with

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<sup>94</sup> *Id.* at 7.

<sup>95</sup> *Id.*

<sup>96</sup> *Id.* at 4–5 (emphasis added).

<sup>97</sup> *Id.* at 24.

<sup>98</sup> See DEC, Cleanup Guidelines for Soils Contaminated with Radioactive Materials (April 30, 2013), available at <https://www.dec.ny.gov/regulations/23472.html>.

DEC's radiological soil remediation guidance.

63. The Holtec LLCs' obligation to comply with the 10-mrem remediation guidance also flows from applicable PSC orders. Con Edison was unable to transfer Unit 1 and Unit 2 to Entergy without approval from the PSC under New York State Public Service Law § 70. When the PSC granted such approval, it did so upon the terms and conditions set forth in a settlement proposal advanced by Con Edison, Entergy, and New York State Department of Public Service staff.<sup>99</sup>

64. The settlement proposal requested, among other things, that the PSC approve the proposed transfer "pursuant to the terms of the [Con Edison Agreement]."<sup>100</sup> When the PSC approved the transfer and incorporated the terms of the settlement agreement into its final order, it turned the formerly contractual commitments in the Con Edison Agreement into binding *regulatory* commitments.

65. HDI and CDI acknowledge no obligation to actively remediate radiological and non-radiological contamination beyond what is discovered in sublevels of on-site structures, nor do they indicate that they will remediate radiological contamination in structures to the 10-mrem DEC guidance value.<sup>101</sup> In fact, with respect to the known, significant strontium-90 and tritium plumes, HDI affirmatively indicates that it plans to leave the contamination in place.<sup>102</sup>

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<sup>99</sup> See Consolidated Edison Co. of New York, Case 01-E-0040, 2001 WL 1587290 (N.Y. Pub. Serv. Comm'n 2001).

<sup>100</sup> Joint Proposal at 2, Case 01-E-0040, available at <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=01-E-0040&submit=Search> (docket item 29).

<sup>101</sup> See PSDAR at 13.

<sup>102</sup> See *id.* at 30.

66. Under the PSC order approving the transfer of Unit 1 and Unit 2 from Con Edison to Entergy, Entergy or its successor is obligated to remediate and restore “all surface and subsurface elements” of those units *and* the surrounding real property.<sup>103</sup>

67. HDI also unreasonably indicates that it may either “abandon[ ] in place” the Indian Point discharge structure, or else “return[ it] to its owner,” NYSERDA.<sup>104</sup> While the outfall belongs to NYSERDA, NYSERDA’s lease with Con Edison—and now Con Edison’s successor, Entergy<sup>105</sup>—obligates Entergy (and its successors and assigns) to “protect, indemnify[,] and save harmless” NYSERDA from claims for, *inter alia*, damage to the outfall structure or the underlying lands resulting from or connected with plant operations.<sup>106</sup> The lease also obligates Entergy to fund efforts necessary to remediate damages caused by Indian Point-related effluent.<sup>107</sup>

68. HDI’s failure to recognize the increased scope and stricter parameters of its site restoration obligations, coupled with the likelihood that decommissioning activities will reveal additional radiological and non-radiological contamination, renders the decommissioning cost estimate insufficient. Accordingly, the Holtec LLCs

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<sup>103</sup> See *supra* ¶ 58. Site restoration requirements under other PSC orders may be even more stringent. A PSC intermediate order in the Con Edison-to-Entergy transfer proceedings notes that prior Commission orders in Con Edison rate cases had adjusted Con Edison’s rates to “assume a return of the site”—that is, Unit 1 and Unit 2—“to greenfield status.” See Consolidated Edison Co. of New York, Case 01-E-0040, 2001 WL 1573044 (N.Y. Pub. Serv. Comm’n 2001); see also Heitzman decl. ¶ 19 (Entergy committed to Westchester County that it would restore Indian Point to greenfield condition).

<sup>104</sup> See PSDAR at 22.

<sup>105</sup> See Peterson decl., exhibit B (acknowledging Entergy as Con Edison’s successor).

<sup>106</sup> See Peterson decl., exhibit A at 4–5. Given its likely contamination, see Rice decl. ¶ 19, HDI may not plan on abandoning the outfall or returning it to NYSERDA—or at least not before the structure is fully decontaminated in accordance with the lease terms.

<sup>107</sup> Peterson decl., exhibit A, at 4–5.

fail to carry their burden to establish financial qualification and adequate decommissioning financial assurance under 10 C.F.R. §§ 50.33(f) and 50.75(b) and (e)(1)(i).

69. The need to comply with stricter state-law remedial standards has led to significant cost increases at other plants. At Connecticut Yankee for instance, remediation of soil, bedrock, and groundwater to the State of Connecticut's stricter 19-mrem remedial standard expanded the scope of remediation, delayed the project, and increased costs.<sup>108</sup>

70. The Holtec LLCs' cash flow analysis indicates that HDI and CDI plan to undertake site restoration activities in parallel with license termination activities.<sup>109</sup> If Holtec IP2 and Holtec IP3 are granted an exemption to use decommissioning trust fund monies to fund site restoration activities, any overrun in projected site restoration costs risks jeopardizing Holtec IP2 and Holtec IP3's ability to fund radiological decommissioning and safely manage spent nuclear fuel.<sup>110</sup> As the Commission has long recognized, a failure of financial assurance for decommissioning could pose "significant adverse health, safety and environmental impacts."<sup>111</sup> As such, the cost estimate in its current form does not permit approval of the license transfer application.

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<sup>108</sup> See EPRI, Connecticut Yankee Decommissioning Experience Report at 6-1, 6-3, 9-1 (Nov. 2006).

<sup>109</sup> See LTA, attach. D, at unnumb. pp. 8–13.

<sup>110</sup> See Brewer decl. ¶ 27.

<sup>111</sup> General Requirements for Decommissioning Nuclear Reactors, 53 Fed. Reg. 24018, 24019 (June 27, 1988).

- D. The Holtec LLCs fail to show financial qualification and adequate decommissioning funding assurance because the PSDAR and decommissioning cost estimate do not account for costs associated with the presence of two aging, high-pressure natural gas transmission lines crossing the Indian Point site in close proximity to Unit 3.**

## **BASIS**

71. The State incorporates the allegations in subparts A through C and E through I of Contention NY-2 as if fully set forth herein.

72. HDI's decommissioning cost estimate is deficient because it fails to account for likely increased decommissioning and dismantlement costs flowing from the presence of two high-pressure natural gas transmission lines sited in close proximity to Unit 3, its spent fuel pool, and other radiation-containing structures.

73. Explosives are often used to soften reactor containment structures.<sup>112</sup> The Holtec LLCs provide no indication, however, that they have consulted with the pipelines' owner, Enbridge, Inc. (Enbridge), or otherwise considered potential blasting or other demolition-related constraints flowing from the proximity of the aging 26- and 30-inch pipelines to Unit 3. Potential limitations on the use of explosives to demolish or partially demolish the Unit 3 containment structure could result in significant and costly project delays.

74. The Holtec LLCs likewise fail to address pipeline-related limitations on the movement of heavy equipment and debris on the site or to provide any indication that HDI or CDI will create and execute policies designed to protect the lines from

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<sup>112</sup> See Brewer decl. ¶ 14.

damage during the course of decommissioning.<sup>113</sup>

75. NUREG-0586, the NRC's decommissioning generic environmental impact statement, does not bound—or even address—potential impacts associated with the proximity of a decommissioning power reactor to high-pressure, high-volume inter-regional natural gas transmission lines.

76. To the extent the Holtec LLCs have failed to analyze safety, engineering, and/or logistical issues associated with the pipelines, they have also failed to establish that they or their contractors are technically or financially qualified to decommission Indian Point.<sup>114</sup>

## SUPPORTING EVIDENCE

77. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

78. Enbridge currently owns three gas transmission lines in the immediate vicinity of Indian Point. These lines are part of the Algonquin Gas Transmission.<sup>115</sup> Two of the lines—measuring 26 and 30 inches in diameter and constructed in 1952 and 1965 respectively—are located in shallow bedrock trenches less than 400 feet from Unit 3.<sup>116</sup> The 26-inch line is permitted to operate at a maximum of 674 psig;

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<sup>113</sup> *See id.*

<sup>114</sup> *See* 10 C.F.R. §§ 50.33(f), 50.34(b)(7), 50.75(b)(1), 50.80(b)(1)(i).

<sup>115</sup> *See* Algonquin Incremental Market Pipeline Risk Analysis Report at ES-i (2018), available at [https://assets.nrdc.org/sites/default/files/cuomo-aim-risk-analysis-report.pdf?\\_ga=2.173706912.2029100683.1578346302-2017779725.1569509070](https://assets.nrdc.org/sites/default/files/cuomo-aim-risk-analysis-report.pdf?_ga=2.173706912.2029100683.1578346302-2017779725.1569509070).

<sup>116</sup> *See* Preliminary SAR for Indian Point Unit 3, supp. 1 at 7-2 (ML093480204). For perspective, an August 2019 explosion and fire at an aging Enbridge gas pipeline in Kentucky threw a 33-foot section of pipe nearly 500 feet from the blast site. *See* National Transportation

the 30-inch line is permitted to operate at 750 psig.<sup>117</sup> The third line, a recently constructed 42-inch pipe, passes some 1,500 feet south of the Indian Point security fence and 300 feet from Con Edison's Buchanan substation.<sup>118</sup> A graphic depicting the 1952 and 1965 lines is included with this petition as Attachment C.

79. To reduce its risk profile, the Federal Energy Regulatory Commission (FERC) required Enbridge to build the new 42-inch line to a heightened safety standard. Required safety enhancements included increased burial depth, the use of improved corrosion-resistant coatings, and the installation of two parallel sets of fiber-reinforced concrete barriers designed to protect the pipeline from inadvertent excavation damage.<sup>119</sup>

80. The historic 26- and 30-inch lines, buried only three feet below grade, lack such safety enhancements.<sup>120</sup>

81. The age of the 26- and 30-inch lines likely increases their fragility. In response to a series of pipeline explosions, the Pipeline and Hazardous Materials Safety Administration (PHMSA) recently promulgated the first in a series of new rules designed to improve pipeline owners' integrity management practices.<sup>121</sup> In the preamble to the rule, PHMSA notes that "[s]ome gas transmission infrastructure . . .

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Safety Board Preliminary Report PLD19FR002 at 1, available at <https://www.nts.gov/investigations/AccidentReports/Reports/PLD19FR002-preliminary-report.pdf>.

<sup>117</sup> See Algonquin Incremental Market Pipeline Safety Evaluation at 1 (ML14253A339).

<sup>118</sup> See Algonquin Incremental Market Pipeline Risk Analysis Report at ES-ii.

<sup>119</sup> See *id.*

<sup>120</sup> See Letter from New York State to FERC Chairman Kevin J. McIntyre (June 22, 2018) at 2–3, available at [https://assets.nrdc.org/sites/default/files/nys-agencies-letter-to-ferc-re-aim-safety-study.pdf?\\_ga=2.136020914.2029100683.1578346302-2017779725.1569509070](https://assets.nrdc.org/sites/default/files/nys-agencies-letter-to-ferc-re-aim-safety-study.pdf?_ga=2.136020914.2029100683.1578346302-2017779725.1569509070).

<sup>121</sup> See, e.g., Order Approving Direct and Indirect Transfer of License and Conforming Amendment, 84 Fed. Reg. 52180, 52181 (Oct. 10, 2019).

made before the 1970s us[ed] techniques that have proven to contain latent defects due to the manufacturing process.”<sup>122</sup> “Pipe manufactured using low frequency electric resistance welding,” for example, “is susceptible to seam failure.”<sup>123</sup>

82. Structural problems with certain pre-1970 pipes led Enbridge to undertake a wide-ranging evaluation of its pipeline infrastructure. In particular, Enbridge is in the process of identifying and, as necessary, remediating potential weld-related seam corrosion defects on segments of the historic Algonquin lines in the vicinity of Indian Point.<sup>124</sup>

83. Neither CDI nor its subcontractors can safely conduct decommissioning activities in or around Unit 3 without performing or procuring a rigorous evaluation of the structural integrity of the 26-inch and 30-inch pipelines.<sup>125</sup> Such evaluation must include an analysis of the impact of any blasting and/or other decommissioning-induced vibration on the nearby pipelines. The Holtec LLCs must also work with Enbridge to ensure that the pipelines are adequately protected and monitored during the decommissioning process. As submitted, neither the license transfer application nor the PSDAR indicates that HDI has taken or plans to take any of these safety- and cost-critical steps.

84. More generally, the Holtec LLCs must demonstrate that planned

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<sup>122</sup> *Id.* at 52186.

<sup>123</sup> *Id.*

<sup>124</sup> See Enbridge Fall Customer Meeting at 8, 12–14 (Sept. 2019), available at <https://info.post.spectraenergy.com/GotoLINK/GetLINKdocument.asp?Pipe=10076&Environment=Production&DocumentType=Notice&FileName=Hershey+Shipper+Presentation.pdf&DocumentId=8aa164a26d1ba2ae016d265b77ad02b8>.

<sup>125</sup> See Brewer decl. ¶ 14.



decommissioning activities at Indian Point will not increase the risk of a pipeline accident. A recent New York State-commissioned study of the Enbridge infrastructure at and around Indian Point concluded that the two most significant risks to the pipelines are (1) river traffic-related or dredging damage to the historic lines where they cross the Hudson River and (2) excavation damage by contractors working at Indian Point.<sup>126</sup>

85. To the extent HDI speculates it may use the existing dock at Indian Point to move large components by barge,<sup>127</sup> it must likewise work with Enbridge to ensure that dredging and/or river transportation-related activities do not adversely impact existing pipelines where they cross under the Hudson River.

**E. Because HDI’s groundless assumption that DOE will begin taking possession of spent nuclear fuel in 2030 leads it to underestimate likely spent fuel management costs, the Holtec LLCs fail to show adequate funding for spent fuel management in violation of 10 C.F.R. §§ 50.54(bb) and 50.82(a)(8)(vii)(B) and (C).**

### **BASIS**

86. The State incorporates the allegations in subparts A through D and F through I of Contention NY-2 as if fully set forth herein.

87. HDI’s cost estimate assumes without basis that DOE will begin transferring spent nuclear fuel and GTCC waste from at-reactor storage to an unidentified federal facility—albeit “not necessarily to a final repository”—by 2030.<sup>128</sup> HDI bases this assumption on a 2013 DOE policy document predicting that a DOE interim

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<sup>126</sup> See Algonquin Incremental Market Pipeline Risk Analysis Report at ES-iii.

<sup>127</sup> See PSDAR at 12, 20.

<sup>128</sup> PSDAR at 64.

storage facility would be available by 2025.<sup>129</sup> As HDI concedes, however, DOE has made no progress toward constructing such a facility<sup>130</sup> and Congress has made no funding available.<sup>131</sup>

88. Under the Nuclear Waste Policy Act, DOE presently *has no authority* to accept spent nuclear fuel from commercial power reactors for interim storage.<sup>132</sup> While legislation has been proposed that would amend the Nuclear Waste Policy Act to permit DOE to construct, and operate an interim storage facility or, alternatively, to transfer spent nuclear fuel to a private interim storage facility, the legislation has failed to garner majorities in both houses of Congress.<sup>133</sup>

89. HDI's reliance on the unsupported assumption that DOE will still somehow begin accepting spent nuclear fuel in 2030 renders the decommissioning cost estimate unreasonably low. Accordingly, the Holtec LLCs do not carry their burden to show adequate funding for spent fuel management as required under of 10 C.F.R. §§ 50.54(bb) and 50.82(a)(8)(vii).

## SUPPORTING EVIDENCE

90. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

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<sup>129</sup> *See id.*

<sup>130</sup> *See id.*

<sup>131</sup> *See* Congressional Research Service, Civilian Nuclear Waste Disposal at 17, available at <https://fas.org/sgp/crs/misc/RL33461.pdf>.

<sup>132</sup> *See* USDOE, Report to Congress on the Demonstration of the Interim Storage of Spent Nuclear Fuel at 6–8 (2008), available at [https://www.energy.gov/sites/prod/files/edg/media/ES\\_Interim\\_Storage\\_Report\\_120108.pdf](https://www.energy.gov/sites/prod/files/edg/media/ES_Interim_Storage_Report_120108.pdf).

<sup>133</sup> Congressional Research Service, Civilian Nuclear Waste Disposal at 18.

91. To the extent the Holtec LLCs assume the availability of a permanent geologic repository by 2030, that assumption is plainly unreasonable in view of DOE’s own projection that a permanent repository would not be available until at least 2048.<sup>134</sup>

92. In the generic environmental impact statement prepared in support of its continued storage rule, the Commission found that the “most likely” timeframe for the permanent disposition of spent nuclear fuel involved “60 years of continued [on-site] storage” following reactor shutdown.<sup>135</sup> In view of this finding, it is unreasonable to assume, as the Holtec LLCs do, that DOE will begin taking title to spent nuclear fuel and GTCC waste by 2030.

93. Based on the unreasonable assumption that DOE will begin taking title to spent nuclear fuel and GTCC waste in 2030, the Holtec LLCs also assume that all such high-level waste will be removed from Indian Point by 2061.<sup>136</sup> As discussed above, this assumption appears to depend in turn—impermissibly—on the assumption that Congress will amend the Nuclear Waste Policy Act to authorize DOE to either build an interim storage facility or transfer spent fuel to a private interim storage facility. Because Congress has so far declined to change the law—and because the Holtec LLCs and the Commission must take the law as it is currently written—the reality is that spent nuclear fuel is likely to remain at Indian Point far beyond

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<sup>134</sup> See USDOE, Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste at 2, 7 (Jan. 2013).

<sup>135</sup> NRC, Generic Environmental Impact for Continued Storage of Spent Nuclear Fuel, NU-REG-2157 at xxx (Sept. 2014).

<sup>136</sup> See PSDAR at 54.

94. Based on the information in HDI’s cost estimate, the Holtec LLCs will spend approximately twelve million dollars a year on spent fuel management costs after 2034.<sup>138</sup> If DOE does not begin accepting spent nuclear fuel on the schedule HDI predicts—and there is no reason to believe it will—the Holtec LLCs would likely experience significant, ongoing cost overruns related to spent fuel management; the Holtec LLCs have failed to meet their burden to show adequate funding for spent fuel management as required under NRC regulations.

**F. The Holtec LLCs provide no basis for HDI’s failure to account either for costs associated with repackaging spent nuclear fuel for transport or, in the event repackaging is not required, for reimbursements to DOE of monies DOE paid or will pay to licensees for licensee packaging costs. The Holtec LLCs therefore fail to demonstrate adequate funding for spent fuel management in violation of 10 C.F.R. §§ 50.54(bb) and 50.82(a)(8)(vii)(B) and (C).**

### BASIS

95. The State incorporates the allegations in subparts A through E and G through I of Contention NY-2 as if fully set forth herein.

96. HDI unreasonably fails to include costs flowing from the eventual need to repackage spent nuclear fuel into DOE-provided transportation casks in the event DOE refuses to take title to the stored fuel at Indian Point in other than DOE-

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<sup>137</sup> See *New York v. Nuclear Regulatory Commn.*, 681 F.3d 471, 479 (D.C. Cir. 2012) (noting that NRC “apparently has no long-term plan [for spent nuclear fuel storage] other than hoping for a geologic repository” and that, “[i]f the government continues to fail in its quest to establish one, then [spent nuclear fuel] will seemingly be stored on site at nuclear plants on a permanent basis”).

<sup>138</sup> See Brewer decl. ¶ 32.

provided casks.

97. Under the DOE standard contract, it is DOE’s responsibility to “arrange for, and provide, [casks] and all necessary transportation of the [spent nuclear fuel] and/or [high-level waste]” from each reactor site to a repository.<sup>139</sup> As the Court of Appeals for the Federal Circuit has held, “[i]t is undisputed that under the [s]tandard [c]ontract[ ], the government will not allow . . . *storage* casks . . . to be used as *transportation* casks.”<sup>140</sup>

98. Because DOE cannot currently accept spent nuclear fuel that has been placed in non-DOE storage canisters, HDI unreasonably fails to make provision in its cost estimate for the eventual need to “unload the spent nuclear fuel” in storage at the Indian Point ISFSI “and reload it into suitable transportation casks provided by [DOE].”<sup>141</sup>

99. Conversely, in the event DOE changes the standard contract to allow it to accept spent nuclear fuel in non-DOE casks, licensees may be required to pay back monies DOE has or will pay to licensees to compensate them for their packing-for-storage costs. This category of costs, too, is unreasonably omitted from HDI’s cost estimate.

100. Despite DOE’s partial breach of the standard contract, “[a]ll parties—the [utilities] and the government—retain their substantive rights and obligations

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<sup>139</sup> 10 C.F.R. § 961.11.

<sup>140</sup> *See* System Fuels, Inc. v. United States, 818 F.3d 1302, 1306 (Fed. Cir. 2016) (the assumption “that the government will accept the canistered fuel as is when [it] performs [under the contract] in the future . . . is wholly unsupported”).

<sup>141</sup> *Id.* at 1307.

under the contract.”<sup>142</sup> The standard contract assigns to the utility the obligation to “arrange for, and provide, all preparation, packaging, required inspections, and *loading activities* necessary for the transportation of [spent nuclear fuel] and/or [high-level waste] to the DOE facility.”<sup>143</sup>

101. As the Court of Appeals for the Federal Circuit has held, utilities are responsible under the standard contract for the cost of loading spent fuel into dry casks.<sup>144</sup> Utilities have, however, recovered loading costs from DOE on the theory that DOE will eventually require them to reload spent fuel into DOE-provided transportation casks.<sup>145</sup> If DOE amends the standard contract and takes title to spent fuel in non-DOE casks, it will also be entitled to recover payments made to utilities for costs associated with packaging spent fuel for dry storage.

102. NRC regulations require that each licensee provide notice of the “program by which [it] intends to manage and provide funding for the management of all irradiated fuel at the reactor following permanent cessation of operation of the reactor until title to the fuel is transferred to the Secretary of Energy.”<sup>146</sup> The rules also require that each licensee “report on the status of its funding for managing irradiated fuel,” including “the projected cost of managing irradiated fuel until title to the fuel and possession of the fuel is transferred to the Secretary of Energy.”<sup>147</sup> In the event of a funding shortfall, the licensee must submit a “plan to obtain additional funds to

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<sup>142</sup> *Carolina Power & Light Co. v. United States*, 573 F.3d 1271, 1277 (Fed. Cir. 2009).

<sup>143</sup> 10 C.F.R. § 961.11 (emphasis added).

<sup>144</sup> *See Carolina Power & Light*, 573 F.3d at 1277; *see also System Fuels*, 818 F.3d at 1306.

<sup>145</sup> *See System Fuels*, 818 F.3d at 1306–07.

<sup>146</sup> 10 C.F.R. § 50.54(bb).

<sup>147</sup> *Id.* §§ 50.82(a)(8)(vii), (vii)(B).

cover the cost.”<sup>148</sup>

103. Because they omit the costs associated with repackaging spent fuel at Indian Point for delivery to DOE and/or fail to account for the possibility that DOE will seek to recover costs it paid or will pay for packaging spent fuel, the Holtec LLCs fail to establish adequate funding for spent fuel management as required by NRC rule.

104. The Holtec LLCs also fail to establish adequate funding for spent fuel management because they omit substantial costs associated with the construction of a single-failure-proof crane at Unit 3.<sup>149</sup>

### **SUPPORTING EVIDENCE**

105. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

106. Because they fail to include costs associated with repackaging spent nuclear fuel, the license transfer application and supporting PSDAR appear to assume that DOE will take possession of the spent nuclear fuel at Indian Point as packaged, in non-DOE casks.<sup>150</sup>

107. If DOE requires that the fuel be repackaged for transport (as would be its right under the standard contract), HDI would incur considerable additional spent fuel management costs, none of which are accounted for in its cost estimate. The

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<sup>148</sup> *Id.* §50.82(a)(8)(vii)(C).

<sup>149</sup> See NRC, Notice of Partially Closed Meeting (Jan. 2, 2020) (ML20015A007).

<sup>150</sup> See Brewer decl. ¶ 30.

difficulty and expense associated with repackaging would be heightened because repackaging would occur *after* HDI had dismantled the Indian Point spent fuel pools. As a result, HDI would be required either to transport the fuel to another reactor or to construct an on-site dry transfer station.<sup>151</sup> The costs associated with spent fuel repackaging could total hundreds of millions of dollars.<sup>152</sup>

108. Even if DOE changes the standard contract and accepts the Indian Point spent fuel in non-DOE casks, the Holtec LLCs ignore the possibility that DOE will seek to recover some or all the monies it will have paid to the Holtec LLCs to reimburse them for their packaging costs.<sup>153</sup> These unaccounted-for costs could be considerable. To date, Entergy has recovered approximately \$31.3 million dollars from DOE for costs associated with loading twenty-six spent fuel dry storage casks.<sup>154</sup> To accommodate all remaining fuel at Indian Point, approximately 108 additional casks will be loaded.<sup>155</sup> Associated costs could thus exceed \$130 million. The Holtec LLCs provide no information indicating that they have taken this cost into consideration, or that they possess the financial ability to absorb such a cost.

109. Currently, the cumbersome and time-consuming process for packaging spent nuclear fuel from Unit 3 requires that Unit 3 fuel assemblies be loaded into a

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<sup>151</sup> *See id.*

<sup>152</sup> *See id.*

<sup>153</sup> *See id.* ¶ 31.

<sup>154</sup> *See id.*

<sup>155</sup> *See id.*



shielded transfer canister in the Unit 3 fuel pool and transferred to Unit 2 for packaging.<sup>156</sup>

110. Based on recent filings with the NRC, it appears that the Applicants intend to replace Unit 3's current fuel-handling crane with a single-failure-proof crane designed to allow direct loading of dry storage casks in the Unit 3 spent fuel pool.<sup>157</sup>

111. A similar crane construction project at Unit 2 costs approximately \$20 million to complete.<sup>158</sup> There is no reason to believe a similar project at Unit 3 would cost less.<sup>159</sup> Because the PSDAR and cost estimate make no mention of this project or its associated costs, they significantly underestimate costs associated with spent fuel management at Indian Point; the Holtec LLCs thus fail to carry their burden to show adequate funding for spent fuel management as required by NRC rule.

**G. Because the PSDAR and cost estimate fail to include disposal costs for the mixed waste currently stored at Unit 1, they underestimate waste disposal costs; the Holtec LLCs thus fail to demonstrate adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b) and (e)(1)(i).**

## **BASIS**

112. The State incorporates subparts A through F and H through I of Contention NY-2 as if fully set forth herein.

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<sup>156</sup> See Letter from Ron Gaston to NRC (Jan. 6, 2020), attach. 1 (presentation slides), at 4 (ML20008D393).

<sup>157</sup> See *id.* at 8.

<sup>158</sup> See Brewer decl. ¶ 29.

<sup>159</sup> See *id.*

113. HDI unreasonably fails to advance a plan for the disposal of—or even acknowledge the existence of—mixed waste currently stored at Unit 1. The failure to account for remediation and/or disposal costs associated with these wastes renders the decommissioning cost estimate inaccurate, and so the Holtec LLCs fail to show adequate decommissioning financial assurance as required by 10 C.F.R. §§ 50.75(b) and (e)(1)(i).

### **SUPPORTING EVIDENCE**

114. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

115. Like most large industrial facilities, Indian Point has generated and continues to generate significant quantities of hazardous waste.<sup>160</sup> Some of the hazardous waste generated at Indian Point is radiologically contaminated mixed waste.<sup>161</sup>

116. In 2001, DEC discovered that Con Edison was improperly storing mixed waste at Unit 1.<sup>162</sup>

117. Con Edison subsequently entered into an administrative consent order with DEC, acknowledged the existence of the waste, represented that no pathway for disposal was available, and agreed to safely store the waste until such time as it could properly be disposed of.<sup>163</sup>

118. Under New York law, all facilities in the state that generate, store for

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<sup>160</sup> See Evans decl. ¶¶ 13, 20.

<sup>161</sup> See 6 N.Y.C.R.R. § 374-1.9.

<sup>162</sup> See Evans decl., exhibit H at 1–2.

<sup>163</sup> See *id.* at 2.

decay, store for later transfer, or dispose of low-level radioactive waste are required to file annual reports with NYSERDA.<sup>164</sup>

119. While Entergy has routinely submitted annual reports to NYSERDA for Units 2 and 3, it has failed to submit reports for Unit 1.<sup>165</sup> In a recent conversation with NYSERDA staff, Entergy staff at Indian Point acknowledged the existence of the mixed waste at Unit 1, represented that the waste consists of approximately 600 cubic feet of PCB-contaminated material, and indicated that the company is currently seeking a disposal option for the waste.<sup>166</sup>

120. While HDI expresses its desire to minimize the generation of additional quantities of mixed waste during the decommissioning process,<sup>167</sup> it apparently fails to recognize the existence of the substantial quantity of mixed waste *already on site*.

121. Depending on the characteristics of this waste, it must be transferred to a qualified facility for stabilization and/or thermal desorption.<sup>168</sup>

122. Unless and until HDI acknowledges these legacy wastes and accounts for the expense associated with their disposal, the PSDAR and cost estimate underestimate waste management-related project costs and the Holtec LLCs fail to carry their burden to demonstrate adequate decommissioning financial assurance.

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<sup>164</sup> See 21 N.Y.C.R.R. § 502.3; Peterson decl. ¶ 2.

<sup>165</sup> See Peterson decl. ¶¶ 4, 6.

<sup>166</sup> See *id.* ¶¶ 7, 9.

<sup>167</sup> See PSDAR at 13, 67.

<sup>168</sup> See Peterson decl. ¶ 10.

- H. HDI projects an unreasonably short timeframe for reactor vessel internals and reactor pressure vessel segmentation; because unaccounted-for delay associated with these activities could increase project costs over the current estimate, the Holtec LLCs fail to show adequate decommissioning financial assurance as required by 10 C.F.R. §§ 50.75(b) and (e)(1)(i).**

## **BASIS**

123. The State incorporates the allegations in subparts A through G and subpart I of Contention NY-2 as if fully set forth herein.

124. The PSDAR and associated cost estimates assume that all radiological decommissioning and site restoration activities will be completed at Indian Point by the end of the year 2033.<sup>169</sup> HDI's schedule allots only one year per unit for reactor internals and pressure vessel segmentation and, presumably, packaging.<sup>170</sup> This time allotment is unreasonably short.<sup>171</sup> Project delay at this stage of decommissioning could significantly increase project costs at Indian Point.<sup>172</sup> Because the cost estimate fails to account for such cost increases, the Holtec LLCs have not carried their burden to show adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b) and (e)(1)(i).

125. HDI and CDI recently announced a significant delay in the decommissioning work schedule at the Pilgrim Nuclear Power Station (Pilgrim), including in

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<sup>169</sup> See LTA, attach. D, at unnumb. p. 14; *see also* PSDAR at 16.

<sup>170</sup> See LTA, attach. D, at unnumb. p. 14.

<sup>171</sup> See Brewer decl. ¶ 21.

<sup>172</sup> See *id.* ¶¶ 19, 23.

the time necessary to segment the reactor vessel internals and pressure vessel.<sup>173</sup> Based on the cost information HDI submitted in the present proceeding, a delay at Indian Point similar to the delay HDI and CDI now project for the Pilgrim project could increase project costs by tens or even hundreds of millions of dollars, leading to a funding shortfall.<sup>174</sup>

126. HDI concedes that the “detailed decommissioning project schedule” proposed in the PSDAR constitutes “the foundation for developing the [decommissioning cost estimate] model and the risk model.”<sup>175</sup> Perhaps recognizing the tenuousness of its scheduling projections, HDI nevertheless claims that its cost estimate, though “based on a [twelve]-year schedule for partial site release,” would “bound a project schedule supporting partial site release out to [fifteen] years.”<sup>176</sup> This claim is unsupported by HDI’s own cost estimate (thus constituting a failure of proof of adequate decommissioning financial assurance) and at odds with recent developments at Pilgrim.

## SUPPORTING EVIDENCE

127. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

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<sup>173</sup> See Brewer decl. in Support of Motion of the Commonwealth of Massachusetts to Amend its Petition with New Information, exhibit 1, at 4 (HDI/CDI presentation to the Pilgrim Decommissioning Citizen’s Advisory Panel, Nov. 14, 2019) (ML19347D415).

<sup>174</sup> See Brewer decl. ¶¶ 18–19; Pilgrim License Transfer Application, encl. 2 (Request for Exemption) at E-4 (ML18320A031) (showing only a projected \$3.6 million surplus in the Pilgrim decommissioning trust fund at project completion).

<sup>175</sup> PSDAR at 17.

<sup>176</sup> *Id.* at 2.

128. Reactor vessel internals and pressure vessel segmentation generally takes less time for boiling water reactors (BWRs) than for PWRs.<sup>177</sup> It follows that the segmentation process at the Indian Point PWRs would, all things equal, take longer than similar work for the BWRs at Pilgrim and at the Oyster Creek Nuclear Generating Station (Oyster Creek).<sup>178</sup> For Pilgrim’s single BWR, HDI originally projected a two-year segmentation period, now extended to nearly four years.<sup>179</sup> At the Oyster Creek BWR, HDI projected a three-year segmentation timeline.<sup>180</sup> The Holtec LLCs do not explain why, contrary to expectations, they project a *shorter* timeframe for the segmentation phase at each Indian Point PWR.<sup>181</sup>

129. The history of delays at other facilities decommissioned in the United States supports this prong of Contention NY-2. At Zion for example, ZionSolutions contractors required over four years to complete reactor internals and pressure vessel segmentation and packaging of that plant’s two PWRs—twice as long as originally expected.<sup>182</sup>

130. And at Connecticut Yankee, where the licensee also allotted one year for reactor internals and pressure vessel segmentation, what “proved to be a very challenging project” ultimately took nearly four years to complete and resulted in significantly greater worker exposure than originally estimated.<sup>183</sup>

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<sup>177</sup> See *id.* ¶ 21.

<sup>178</sup> See *id.*

<sup>179</sup> See *infra* ¶ 119.

<sup>180</sup> See Oyster Creek Revised PSDAR at 17 (Sept. 28, 2018) (ML18275A116).

<sup>181</sup> See Brewer decl. ¶ 21.

<sup>182</sup> See *id.* ¶ 22.

<sup>183</sup> PNNL, Assessment of the Adequacy of the 10 C.F.R. § 50.75(c) Minimum Decommissioning Formula, at 4-4 to 4-5, 4-9 to 4-10 (Nov. 2011) (ML13063A190); see Brewer decl. ¶ 22.

131. HDI's own record further undermines its aggressive schedule. In the PSDAR and cost estimate submitted with its application to transfer the Pilgrim license, HDI represented to the NRC that it would complete reactor internals and pressure vessel segmentation in two phases lasting in total slightly less than two years.<sup>184</sup> In a presentation delivered to the Pilgrim Nuclear Decommissioning Citizen's Advisory Panel less than three months after NRC staff conditionally approved the license transfer,<sup>185</sup> HDI publicly represented that reactor internals and pressure vessel segmentation at this single-unit BWR would take at least 3.25 years, or nearly twice as long as originally estimated.<sup>186</sup>

132. At Indian Point, delays experienced at an early stage of HDI's phased decommissioning process could delay later-stage activities, including unit dismantlement and demolition.<sup>187</sup>

133. Given a limited supply of qualified sub-contractors and HDI's ambitious plans to simultaneously decommission multiple units at multiple sites, delays at one site could also cause delays and raise costs at *other* sites.<sup>188</sup>

134. Delay generally increases project costs, including costs for project management and carrying costs including property taxes, regulatory fees, and insurance

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<sup>184</sup> See Pilgrim Revised PSDAR at 17 (Nov. 16, 2018) (ML18320A040).

<sup>185</sup> See Order Approving Direct and Indirect Transfer of License and Conforming Amendment, 84 Fed. Reg. 45176 (Aug. 28, 2019).

<sup>186</sup> See Brewer decl. in Support of Motion of the Commonwealth of Massachusetts to Amend its Petition with New Information, exhibit 1, at 4 (HDI/CDI presentation to the Pilgrim Decommissioning Citizen's Advisory Panel, Nov. 14, 2019) (ML19347D415).

<sup>187</sup> See PSDAR at 99; Brewer decl. ¶ 19.

<sup>188</sup> See Brewer decl. ¶ 10.

premiums.<sup>189</sup> At Humboldt Bay for instance, unforeseen expansions of the project scope led to increases in project staffing costs alone totaling nearly \$70 million.<sup>190</sup>

135. Based on decommissioning cost data submitted to the NRC in the course of the Pilgrim license transfer proceedings, HDI's newly postulated delay at Pilgrim may increase decommissioning costs by as much as \$100 million.<sup>191</sup>

136. Based on the cost information HDI submitted in the present proceeding, a delay at Indian Point similar to the delay HDI now projects for the Pilgrim project could significantly increase decommissioning costs. Delay at an early stage in the project timeline—associated, for example, with reactor internals and/or pressure vessel segmentation—could boost program management costs alone by as much as \$110 million *per year*.<sup>192</sup> A three-year delay of the sort now apparently expected at Pilgrim could cost as much as \$330 million, far in excess of the funding surplus HDI currently projects.<sup>193</sup> However, the Holtec LLCs have failed to provide enough information and in sufficient detail to allow for a reasonable evaluation of the effect of a segmentation delay on overall project cost. Because the Holtec LLCs have failed to provide this information and because the HDI segmentation schedule appears unreasonable, the Holtec LLCs have not carried their burden to show adequate decommissioning financial assurance under NRC rules.

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<sup>189</sup> *See id.* ¶ 17.

<sup>190</sup> *See id.*

<sup>191</sup> *See id.* ¶ 18.

<sup>192</sup> *See id.* ¶ 19.

<sup>193</sup> *See id.*



- I. The Holtec LLCs may be planning to use trust monies from Unit 3 to pay for work at other Indian Point units; this practice, unauthorized under NRC regulations, renders the license transfer application unapprovable as submitted.**

### **BASIS**

137. The State incorporates the allegations in subparts A through H of Contention NY-2 as if fully set forth herein.

138. Because the PSDAR assigns labor costs to Unit 3 after Unit 3 demolition is completed, HDI appears to be using Unit 3 trust fund dollars to pay for decommissioning activities at other Indian Point units. This is impermissible under NRC rules.

### **SUPPORTING EVIDENCE**

139. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

140. According to the PSDAR, HDI plans to complete demolition of Unit 3 in 2027.<sup>194</sup> Unit 2 demolition is scheduled for completion in 2029, and Unit 1 demolition is scheduled for completion in 2031.<sup>195</sup> The cost estimate, however, appears to assign significant labor costs to Unit 3 in the years 2028 through at least 2031—four years after that unit’s scheduled demolition.<sup>196</sup>

141. Given that Unit 3 would, according to HDI’s plans, no longer exist after 2027, it is unclear what work the employees assigned to that unit would be doing. If

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<sup>194</sup> See PSDAR at 16.

<sup>195</sup> See *id.*

<sup>196</sup> See *id.* at 84.

Holtec intends to assign those employees to work on other units, then it is effectively using the Unit 3 decommissioning fund—the largest of the three—to subsidize work at other, less well-funded units.

142. No NRC rule permits this practice. HDI may not use funds from one unit’s trust to defray costs at other units.<sup>197</sup>

143. As the PSDAR indicates, HDI’s plan is apparently to decommission Unit 3 first, then Unit 2, then Unit 1.<sup>198</sup> If the Holtec LLCs do impermissibly plan to transfer Unit 3 funds to other Indian Point units, that approach calls into question the HDI cost estimates for Unit 2 and historically troubled Unit 1.

### NY-3

**The license transfer application and supporting materials fail to show the Holtec LLCs are financially qualified within the meaning of 10 C.F.R. §§ 50.33(f), 50.40(b), 50.80(b), 50.82(a), and 72.30(b).**

### BASIS

1. Under section 182(a) of the Atomic Energy Act and corresponding NRC regulations, proposed licensees must demonstrate that they are financially qualified to hold an NRC license.<sup>199</sup>

2. The Commission has long recognized that “inadequate or untimely consideration of decommissioning, specifically in the areas of planning and financial assurance, could result in significant adverse health, safety[,] and environmental

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<sup>197</sup> See Brewer decl. ¶¶ 6–7.

<sup>198</sup> See PSDAR, exhibit D at unnumb. p. 14.

<sup>199</sup> See 42 U.S.C. § 2232(a); 10 C.F.R. §§ 50.33(f), 50.40(b), 50.80(b)(1)(i).

impacts.”<sup>200</sup>

3. Since then, in view of its statutory duty to adequately protect public health and safety and in keeping with its risk-informed regulatory approach,<sup>201</sup> the Commission has developed a set of financial qualification and decommissioning financial assurance requirements<sup>202</sup> designed to ensure that holders of NRC licenses possess the financial ability to manage risk associated with their decommissioning and related obligations.<sup>203</sup>

4. Here, if the license transfer application is granted and the transaction closes, the closely held, special purpose limited liability entities Holtec IP2 and Holtec IP3—entities with no outside source of revenue—will own all three shuttered units at Indian Point and the substantial license termination, site restoration, and spent fuel management liabilities such ownership entails. Holtec IP2 and Holtec IP3 will also gain access to the ratepayer-funded nuclear decommissioning trust for each unit.

5. In a recent order, the Commission noted that in the event of a decommissioning funding shortfall, NRC rules “require[ ] additional financial assurance to cover the estimated cost to complete the decommissioning.”<sup>204</sup>

6. The Commission’s observation only reinforces the need to ensure that

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<sup>200</sup> General Requirements for Decommissioning Nuclear Reactors, 53 Fed. Reg. 24018, 24019 (June 27, 1988).

<sup>201</sup> See NRC, Consolidated Decommissioning Guidance: Financial Assurance, Recordkeeping, and Timeliness, NUREG-1757 at 31 (Feb. 2012); *see also* Briefing on Power Reactor Decommissioning Rulemaking at 9 (March 15, 2016) (ML16078A034) (noting that NRC’s “present decommissioning rules are performance-based and risk-informed”).

<sup>202</sup> See, e.g., 10 C.F.R. §§ 50.33(f), 50.75, 72.30.

<sup>203</sup> See Trabucchi decl. ¶ 16.

<sup>204</sup> Exelon Generation Co. (Oyster Creek Nuclear Generating Station), CLI-19-06, 2019 WL 2632851, at \*6 (2019); *see* 10 C.F.R. § 50.82(a)(8)(vi).

proposed licensees are financially qualified *before* authorizing a license transfer or granting an exemption allowing trust reimbursement for non-decommissioning expenses. And proposed licensees' financial qualifications cannot be predicated solely on access to existing decommissioning trusts, as the Applicants propose here. Instead, the Holtec LLCs must be required to demonstrate to the Commission what the license transfer application currently fails to demonstrate: that the Holtec LLCs are healthy corporate entities with access to the financial resources necessary to procure additional financial assurance, if needed, *now*—not at some indeterminate point in the future when exemptions have been granted and the trusts run short of funds.<sup>205</sup>

7. If the license transfer application is approved, the Holtec LLCs will bear the total risk of decommissioning the three units at Indian Point (and, in HDI's case, the risk of decommissioning up to three other shuttered units) without access to parent company financing, a revenue stream generated by operating electrical power stations, or ratepayer funding. Based on the materials submitted, it is unlikely the Holtec LLCs would be able to comply with the NRC rules requiring that they provide additional financial assurance in the event of a projected cost overrun.<sup>206</sup> There is little reason to believe banks, insurers, or other purveyors of third-party financial assurance instruments would offer such instruments at a price accessible to limited liability entities saddled with environmental cleanup obligations in excess of their assets and with no stream of operating revenue.<sup>207</sup>

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<sup>205</sup> See 10 C.F.R. § 50.33(f).

<sup>206</sup> See Trabucchi decl. ¶¶ 28–29.

<sup>207</sup> See *id.* ¶ 29.

8. Prudent risk management requires that regulators consider who will finance the consequences of industrial activities *before* those activities result in injury to the public.<sup>208</sup> Financial assurance models typically assume facility owners are revenue-generating going concerns, capable of setting aside funds now to offset future decommissioning and site restoration obligations.<sup>209</sup> Reflecting this view, the Commission has aptly described its financial assurance requirements as “*a second line of defense*[ ],” to be called upon “if the financial operations of the licensee are insufficient . . . to ensure that sufficient funds are available to carry out decommissioning.”<sup>210</sup>

9. In the transaction now before the Commission, however, decommissioning financial assurance—in the form of the Indian Point decommissioning trusts—appears to be the *sole* line of defense. The Applicants represent that Holtec IP2 and Holtec IP3 are financially qualified to hold the Indian Point licenses not by demonstrating the independent strength of those entities’ own financial operations, but by representing that the monies currently held in the decommissioning trust funds are adequate to decommission the facility, restore the site, and fund all spent fuel management activities.<sup>211</sup> And the Applicants claim that HDI is financially qualified to operate Indian Point not by representing that HDI itself is a viable going concern, but by stating that Holtec IP2 and Holtec IP3 will be obligated to reimburse HDI for all decommissioning-related expenses under a decommissioning operator services

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<sup>208</sup> *See id.* ¶ 10.

<sup>209</sup> *See id.*

<sup>210</sup> Financial Assurance Requirements for Decommissioning Nuclear Power Reactors, 63 Fed. Reg. 50465, 50474 (Sept. 22, 1998) (emphasis added).

<sup>211</sup> *See* LTA at 17.

agreement.<sup>212</sup>

10. Give the nonstandard risks associated with nuclear power plant decommissioning and related activities (the consequences of which may not be apparent for years or even decades) and in view of the structure of the proposed transfer, the Applicant's sole reliance on the trust funds to demonstrate financial qualification does not meet regulatory standards.<sup>213</sup>

11. As the proposed license transfer is currently structured, corporate parent Holtec, while nominally an Applicant, would assume no Indian Point-related liability. Instead, the Applicants propose to transfer all Indian Point liabilities to two as-yet unformed special purpose limited liability entities, Holtec IP2 and Holtec IP3,<sup>214</sup> apparently to shield Holtec from financial risk and legal liability flowing from the environmental remediation obligations at Indian Point.<sup>215</sup> The Commission has affirmatively stated that it lacks the ability to shift unmet liabilities to the corporate parent.<sup>216</sup> The license transfer application and supporting materials fail to either demonstrate that Holtec IP2 and Holtec IP3 are adequately capitalized to independently satisfy their regulatory obligations or explain how Holtec IP2 and Holtec IP3 plan to fund their day-to-day operating expenses. Nor has there has been a showing that either of these entities has the independent financial ability to meet its obligations under the decommissioning operator services agreement with HDI or procure

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<sup>212</sup> See *id.* at 19.

<sup>213</sup> See 10 C.F.R. § 50.33(f).

<sup>214</sup> See LTA at 1.

<sup>215</sup> See Trabucchi decl. ¶ 26–28.

<sup>216</sup> See NRC, Questions and Answers on Decommissioning Financial Assurance, SECY-11-0133, encl. 5, at 2 (Sept. 28, 2011) (ML111940157).

adequate third-party financial assurance in the event of a project cost overrun (as would be required under 10 C.F.R. § 50.82(a)(8)(vi)).<sup>217</sup> The dearth of publicly available financial data for either company reinforces the need for heightened scrutiny.

12. The same information deficiencies apply with respect to HDI. A newly formed entity without a proven decommissioning track record, HDI has assumed all decommissioning-related obligations at Pilgrim<sup>218</sup> and Oyster Creek<sup>219</sup> and has announced plans to acquire and decommission the Palisades Nuclear Generating Station.<sup>220</sup> Including the three units at Indian Point and assuming NRC approval of the license transfer application, HDI would be obligated to decommission *six* reactors at four separate sites in four states within approximately the same fifteen-year period.<sup>221</sup>

13. To succeed, HDI must effectively manage a suite of non-standard risks as it incurs post-shutdown operations costs at multiple complex sites over a decades-long timeframe.<sup>222</sup> While HDI appears to account for a degree of in-scope project risk in its decommissioning cost estimates, it either ignores or fails to properly value out-of-scope project risk.<sup>223</sup> There is long history at Indian Point of radiological and non-

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<sup>217</sup> *See id.* ¶ 29.

<sup>218</sup> *See* Order Approving Direct and Indirect Transfer of License and Conforming Amendment, 84 Fed. Reg. 45176, 45177–78 (Aug. 28, 2019).

<sup>219</sup> *See* Order Approving Direct and Indirect Transfer of License and Conforming Amendment, 84 Fed. Reg. 30250, 30252 (June 26, 2019).

<sup>220</sup> *See* Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-19-11, 2019 WL 7585273, at \*6 (2019).

<sup>221</sup> *Compare* LTA, attach. D, at unnumb. p. 14 *with* Oyster Creek License Transfer Application, encl. 4, at unnumb. p. 1 (ML18243A489) *and* Pilgrim License Transfer Application, attach. D, at unnumb. p. 1 (ML18320A031) (collectively indicating that reactor vessel internals and pressure vessel segmentation activities, for example, will overlap at all three sites).

<sup>222</sup> *See* Trabucchi decl. ¶ 40.

<sup>223</sup> *See supra*, Contention NY-2, ¶¶ 30–34.

radiological releases to the environment.<sup>224</sup> Because the full scope of many of these releases is unknown and because HDI plans to characterize the site only *after* the licenses are transferred,<sup>225</sup> it is likely that the Holtec LLCs' decommissioning and site restoration costs will exceed current estimates. And because HDI relies, among other things, on the unreasonable proposition that DOE will begin taking title to spent nuclear fuel and GTCC waste in 2030,<sup>226</sup> it is likely that the Holtec LLCs will incur greater-than-expected spent fuel management costs. HDI's apparent failure to envision or account for out-of-scope project risk, coupled with its concentration of position in the nuclear decommissioning market, only increases the overall level of portfolio risk the company faces. Accordingly, the Holtec LLCs have failed to carry their burden to demonstrate financial qualification or adequate decommissioning funding assurance and the Commission must rigorously scrutinize the Holtec LLCs' finances to ensure they are able to responsibly address the risks they are likely to face.<sup>227</sup>

14. In the event the Holtec LLCs fail to bolster their insufficient showing of financial qualification, the Commission can and should require that the Applicants provide additional forms of financial assurance.

15. If HDI experiences unforeseen delays at any of the six units it plans to decommission—as it announced would happen at Pilgrim less than three months after NRC staff approved the transfer of that facility's license<sup>228</sup>—those delays could in

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<sup>224</sup> See, e.g., Rice decl. ¶¶ 4, 12; Heitzman decl. ¶¶ 9–13.

<sup>225</sup> See PSDAR at 10.

<sup>226</sup> See *supra*, Contention NY-2, ¶¶ 83–90.

<sup>227</sup> See Trabucchi decl. ¶¶ 42–43.

<sup>228</sup> See *supra*, Contention NY-2, at ¶ 120.



turn delay work at other HDI-controlled sites, resulting in increased costs at Indian Point and elsewhere.<sup>229</sup> This cascading delay could adversely affect HDI's day-to-day finances and compromise its ability to function as a going concern.

16. Holtec's plan to simultaneously decommission multiple power reactors at several sites introduces the risk that trust reimbursements for decommissioning work performed at separate units will be commingled into a single revenue stream within HDI. If so, cost exceedances at one unit could reduce the funds available to decommission other units. HDI must institute a financial structure with the internal controls necessary to correctly manage tiered reimbursement structures with multiple revenue streams from multiple dedicated trusts associated with numerous simultaneously decommissioning units. Any failure to do so increases the risk that HDI may use reimbursement receipts to subsidize time- and/or cost-intensive units in the near term, leading to a funding shortfall over the long term.<sup>230</sup>

17. Given the State's present inability to access key financial information on Holtec and its subsidiaries, it will take advantage of available discovery tools to obtain full disclosure of relevant financial information. The ASLB should likewise exercise its authority under 10 C.F.R. § 50.33(f)(4)(iii) to request and review, among other things, complete audited year-end financial statements for Holtec, Holtec

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<sup>229</sup> See Brewer decl. ¶ 10.

<sup>230</sup> See Trabucchi decl. ¶¶ 37–40. Instability in the HDI corporate structure may increase the likelihood of an internal-controls failure. A comparison of the Holtec organizational charts submitted in the Oyster Creek, Pilgrim, and Indian Point license transfer proceedings shows that HDI recently replaced its chief financial officer and CDI recently replaced its president. And since the LTA was filed, HDI has eliminated the position of president and chief nuclear officer. See Letter from Andrea L. Sterdis to NRC (Jan. 17, 2020) (ML20017A290).

Power, NAMCo, HDI, Holtec IP2, Holtec IP3, and CDI.<sup>231</sup> In the course of such review, the ASLB should assess these entities' solvency, profitability, and liquidity to determine whether they are financially qualified to respond to long-tailed risks—that is, whether they can satisfy their financial obligations as necessary and in the dollar amounts required.<sup>232</sup> The license transfer application and supporting materials provide insufficient information upon which to make such a determination.

18. The license transfer application is predicated on the strength of HDI's financial projections and decommissioning cash flow analyses benchmarked against the projected growth of the decommissioning trusts. As discussed in Contention NY-1, the basis for which is incorporated as if fully set forth herein, the Holtec LLCs' DECON approach requires that they show full decommissioning funding *now*.<sup>233</sup> Regardless, as part of its financial qualifications review and its assessment of the adequacy of the funds accumulated for decommissioning, the Commission has reserved to itself the right to review the rate of accumulation of decommissioning funds.<sup>234</sup> NRC rules also envision that “[a]ctual earnings on existing funds may be used to calculate future fund needs.”<sup>235</sup> Because the Commission must determine whether the Holtec LLCs are financially qualified to bear the risk of decommissioning Indian Point, NRC staff should request and review historic fund valuation statements for each of the decommissioning trusts (none of which the Applicants have provided).

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<sup>231</sup> See Trabucchi decl. ¶¶ 21–22.

<sup>232</sup> See *id.* ¶ 23.

<sup>233</sup> See *supra*, Contention NY-1, ¶¶ 3–15; see also 10 C.F.R. § 50.75(e)(1)(1).

<sup>234</sup> See 10 C.F.R. § 50.75(e)(2).

<sup>235</sup> *Id.* § 50.75(e)(1)(i).

19. Because the actual rate of return on the trust funds will be impacted by the funds' tax treatment, NRC staff should request and review any private letter rulings obtained by the Applicants from the Internal Revenue Service. Staff should be particularly aware that the granting of an eventual exemption to allow the use of trust fund monies for non-decommissioning purposes could impact the tax rate applied to disbursements from the funds, potentially reducing the monies available to fund ongoing decommissioning and related activities.<sup>236</sup>

20. HDI's proposed investment guidelines are attached to the membership interest purchase agreement as a schedule but were not submitted with the license transfer application<sup>237</sup>

21. Because the Holtec LLCs propose to keep any monies remaining in the Indian Point trust funds at the end of the project, they have a financial incentive to *increase* investment risk to maximize returns.<sup>238</sup> Without access to the guidelines, neither the State nor NRC staff can verify that the guidelines appropriately *minimize* investment risk, increasing the likelihood that funds will be available as necessary to complete all decommission and related activities—even those occurring twenty, thirty, or forty years in the future. The ASLB should review the Holtec LLCs' proposed investment guidelines as part of its financial qualifications inquiry to ensure that they are adequately conservative.

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<sup>236</sup> *See id.*

<sup>237</sup> *See* LTA, attach. B., at vi.

<sup>238</sup> *See* Trabucchi decl. ¶¶ 30–32, 57–58.

22. In the likely event of a cost overrun,<sup>239</sup> the license transfer application fails to establish that the Holtec LLCs will be financially healthy enough to provide additional financial assurance as required pursuant to 10 C.F.R. §§ 50.82(a)(8)(vi) and (vii).

### **SUPPORTING EVIDENCE**

23. The State incorporates the accompanying Declarations of Warren K. Brewer, Daniel J. Evans, George W. Heitzman, Alyse L. Peterson, Timothy B. Rice, and Chiara Trabucchi as if fully set forth herein.

24. Holtec, Holtec Power, NAMCo, and HDI are all closely held entities for which virtually no financial information is publicly available. The as-yet-unformed Holtec IP2 and Holtec IP3 are likely to be similarly configured. Any information in the membership interest purchase agreement that might shed light on the Holtec corporate family's finances is redacted and therefore unavailable for public review.

25. Firms that lack sufficient financial resources to conduct normal day-to-day business operations are less likely to be able to cope effectively with long-term environmental obligations.<sup>240</sup> Lack of adequate financial qualification contributes to an increased risk of default and eventual bankruptcy.<sup>241</sup> Here, given that Holtec has created a corporate structure designed to insulate itself from the financial risk borne by its subsidiaries, a default by the Holtec LLCs could leave the task of funding any remaining decommissioning, site restoration, and/or spent fuel-related obligations at

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<sup>239</sup> *See supra*, Contention NY-2, the bases and supporting evidence for which are incorporated as if fully set forth herein.

<sup>240</sup> *See* Trabucchi decl. ¶ 14.

<sup>241</sup> *See id.* ¶¶ 14, 27.

Indian Point to New York taxpayers—many of whom already contributed to the Indian Point decommissioning trusts as ratepayers.<sup>242</sup>

26. The potential bankruptcy of a financially weak corporate entity with significant environmental liabilities poses a real risk to taxpayers. In recent bankruptcy proceedings, parent FirstEnergy Corp. attempted to absolve itself of all environmental liability associated with its bankrupt subsidiary's fleet of coal and nuclear power plants. This attempt, ultimately rejected by the bankruptcy court,<sup>243</sup> extended even to regulatory enforcement actions.<sup>244</sup> In the Tronox matter, Kerr-McGee, wishing to shield itself from a stunning array of legacy environmental liabilities, created a new entity, Tronox, and saddled it with Kerr-McGee's clean-up costs.<sup>245</sup> Tronox, severely undercapitalized and unable to cope with its environmental liabilities, almost immediately sought bankruptcy protection.<sup>246</sup>

27. New York has taken steps in the past to ensure that in-state nuclear facilities are held by financially sound entities. In the mid-2000s, Entergy attempted to spin off its merchant nuclear power plants (including Indian Point) into a new company called Enexus.<sup>247</sup> The plan would have burdened Enexus with considerable

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<sup>242</sup> See *id.* ¶¶ 13–15, 28–32, 35, 43.

<sup>243</sup> See Anya Litvak, Judge Rejects FirstEnergy's Plan to Get Rid of Subsidiary's Liabilities in Bankruptcy, *Pittsburgh Post-Gazette* (April 4, 2019).

<sup>244</sup> See United States supp. reply brief, *In re FirstEnergy Solutions Corp.*, Case No. 50757 (Bankr. N.D. Ohio) (March 29, 2019), at ¶ 7, n.2.

<sup>245</sup> See *In re Tronox Inc.*, 503 B.R. 293, 249–63 (Bankr. S.D.N.Y. 2013).

<sup>246</sup> See *id.* at 260–63.

<sup>247</sup> See Scott DiSavino, New York to Look Again at Entergy-Enexus Reactor Spinoff, *Reuters* (March 23, 2010), available at <https://www.reuters.com/article/utilities-entergy-enexus/ny-to-again-look-at-entergy-enexus-reactor-spinoff-idUSN239851220100323>.

debt.<sup>248</sup> In proceedings before the PSC, New York State Department of Public Service staff (and the New York State Office of the Attorney General) opposed the spinoff on the ground that the new company would lack financial qualification.<sup>249</sup> The PSC rejected the plan as not in the public interest.<sup>250</sup>

28. Holtec’s use of special purpose limited liability entities to isolate itself from legal and financial exposure is a risk-mitigation strategy designed to avoid providing additional financial assurance or committing additional capital.<sup>251</sup> This structure, insofar as it shields corporate parents and their affiliates from liability, encourages riskier behavior and induces companies to underreport liabilities.<sup>252</sup> Any failure to transparently disclose all liabilities undermines the Commission’s ability to effectively and adequately assess financial qualifications.<sup>253</sup>

29. While the Applicants represent that Holtec IP2 and Holtec IP3 will hold nuclear decommissioning trust assets “segregated from their other assets and outside of their administrative control,”<sup>254</sup> the Holtec LLCs appear to reserve to HDI the ability to set investment guidelines for the trusts.<sup>255</sup> The guidelines that inform the trustees’ investment decisions directly impact the trusts’ financial performance. Broad or permissive investment guidelines can result in increased investment risk, which

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<sup>248</sup> *See id.*

<sup>249</sup> *See In re Entergy Nuclear FitzPatrick, LLC*, Case 08-E-0077, 2010 WL 3297408, \*2 (N.Y. Pub. Serv. Comm’n 2010).

<sup>250</sup> *See id.*

<sup>251</sup> *See* Trabucchi decl. ¶¶ 26–27, 32.

<sup>252</sup> *See id.* ¶¶ 13, 30–31.

<sup>253</sup> *See id.* ¶ 31.

<sup>254</sup> LTA at 10.

<sup>255</sup> *See id.* (indicating that the HDI chief financial officer will be responsible for “establish[ing] trust fund] investment policy guidelines”).

can in turn limit the availability of funds when funds are needed.

30. In its cash flow analysis, HDI credits a two percent real rate of return on the trust principal amounts for each of Units 1, 2, and 3.<sup>256</sup> Under the NRC rules, a licensee electing to prepay its decommissioning liability based on a site-specific cost estimate “may take credit for projected earnings” at a real rate of two percent, “*provided* that the site-specific estimate is based on a period of safe storage that is specifically described in the estimate.”<sup>257</sup> As discussed in Contention NY-1 above, because the Holtec LLCs’ intent is to immediately decommission Indian Point, they are not entitled to assume a two percent real rate of return on the funds.<sup>258</sup> Without the benefit of the two-percent assumption, HDI’s own submissions show a \$200 million funding deficit.<sup>259</sup>

31. In addition to the above factors, Holtec’s past behavior does not inspire confidence in either its management culture or its ability to comply with regulatory requirements. In 2010, the Tennessee Valley Authority (TVA) inspector general released a report describing a Holtec-driven scheme to bribe TVA employees to obtain lucrative nuclear services contracts.<sup>260</sup> An attached audit report indicated that Holtec had also overbilled the TVA for Holtec-supplied equipment.<sup>261</sup> As a result, Holtec

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<sup>256</sup> See LTA attach. D, at unnumb. pp. 8–13.

<sup>257</sup> 10 C.F.R. § 50.75(e)(1)(i) (emphasis added).

<sup>258</sup> See 67 Fed. Reg. 78332, 78338 (Dec. 24, 2002) (“[A] 2-percent credit can be used when a site-specific estimate *is explicitly based on deferred dismantlement.*”) (emphasis added).

<sup>259</sup> See LTA at 17; *id.*, attach. D, at unnumb. p. 1.

<sup>260</sup> See Tennessee Valley Authority Inspector General’s Report at unnumb. p. 1 (March 23, 2010), available at <https://www.politico.com/states/f/?id=0000016b-d7ca-d6eb-a96f-fffefbfa70001>. Even in redacted form, the TVA inspector general’s report clearly suggests that Krishna Singh personally participated in the bribery scheme. See *id.* at 4–5.

<sup>261</sup> See *id.*, attach. 8, at 1.

was temporarily debarred from contracting with the TVA.<sup>262</sup> The State of New Jersey later froze a \$260 million economic development tax credit previously awarded to Holtec after investigative journalists discovered that Krishna Singh, Holtec's president and chief executive, falsely certified that Holtec had never been debarred from state or federal contracting.<sup>263</sup>

## CONCLUSION

For the reasons stated, the Commission should grant the State's petition to intervene and associated request for hearing.

Respectfully submitted,

LETITIA JAMES  
Attorney General  
State of New York

Signed (electronically) by

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<sup>262</sup> See ProPublica, *The Tax Break Application Had a False Answer. Now the State Has Put the Break on Hold* (June 4, 2019), available at <https://www.propublica.org/article/holtec-inter-national-tax-break-application-false-answer-new-jersey-on-hold>.

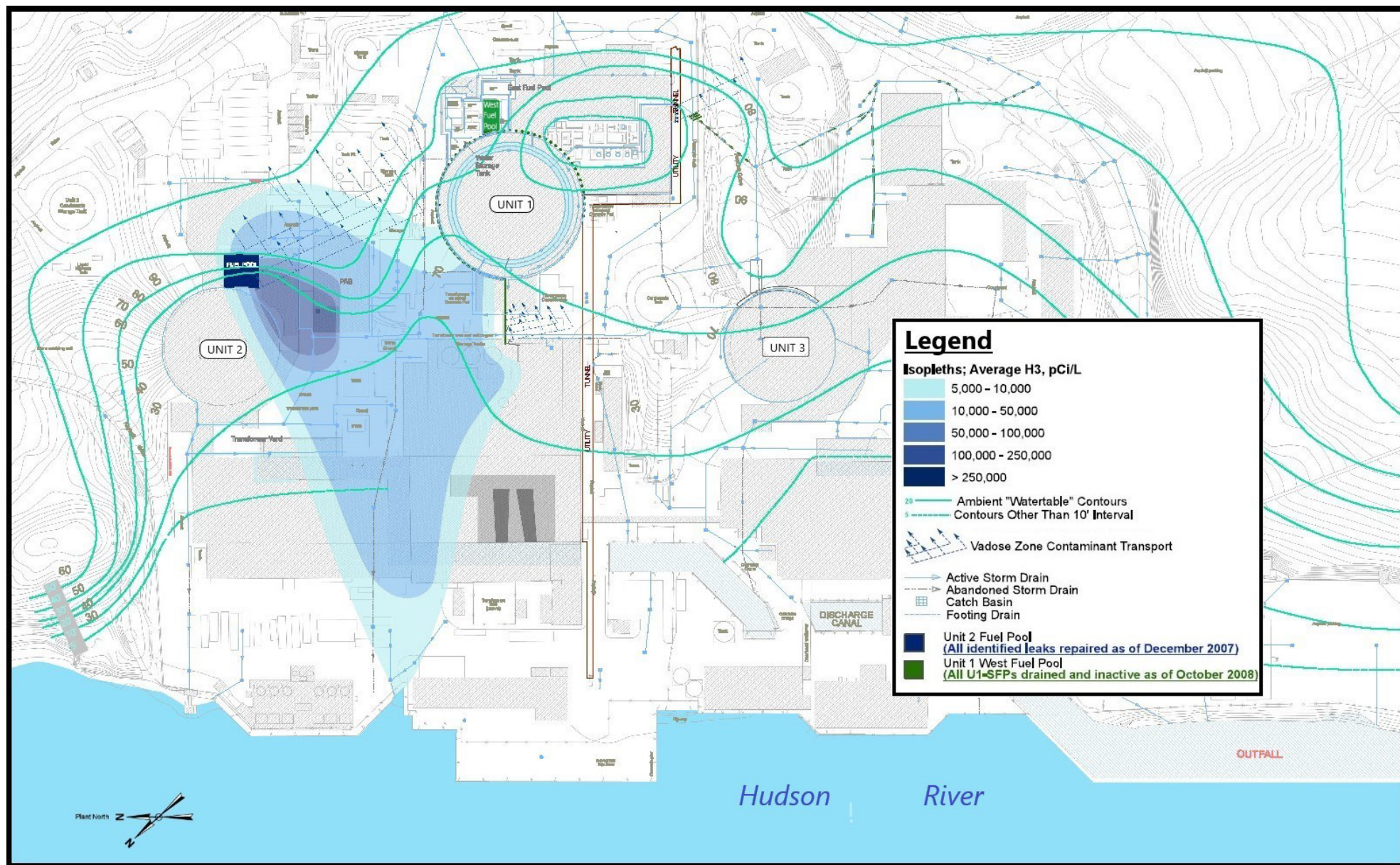
<sup>263</sup> See *id.*

<sup>264</sup> Pursuant to 10 C.F.R. § 2.304(e), the State designates Joshua M. Tallent, Assistant Attorney General, to receive service in this proceeding.



## **ATTACHMENT A**

# Known Tritium Plume at Indian Point

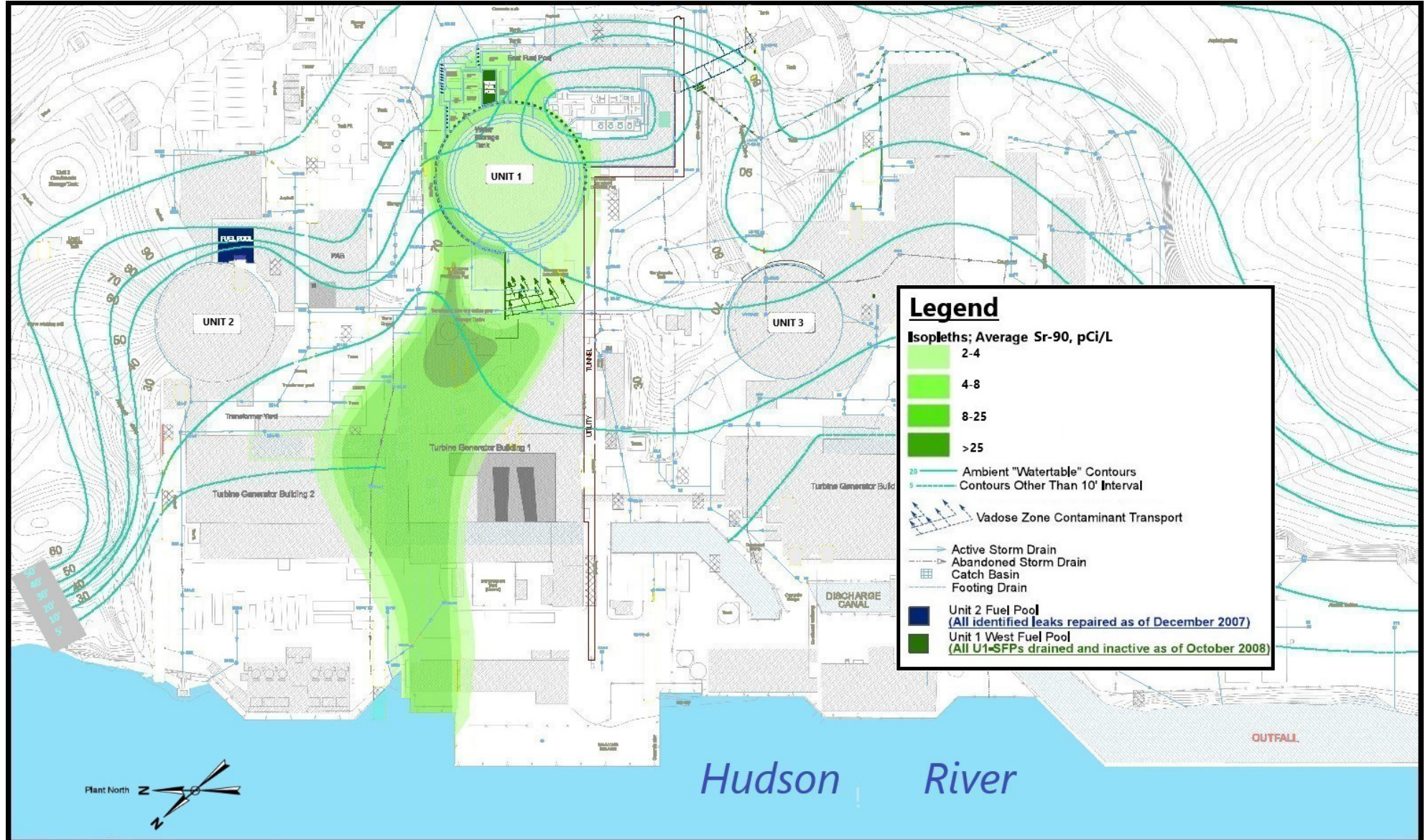


Derived from IPEC Quarterly Long-Term Groundwater Monitoring Report,  
Report No. 43, GZA GeoEnvironmental, Inc. (2019)

## **ATTACHMENT B**



# Known Strontium-90 Plume at Indian Point

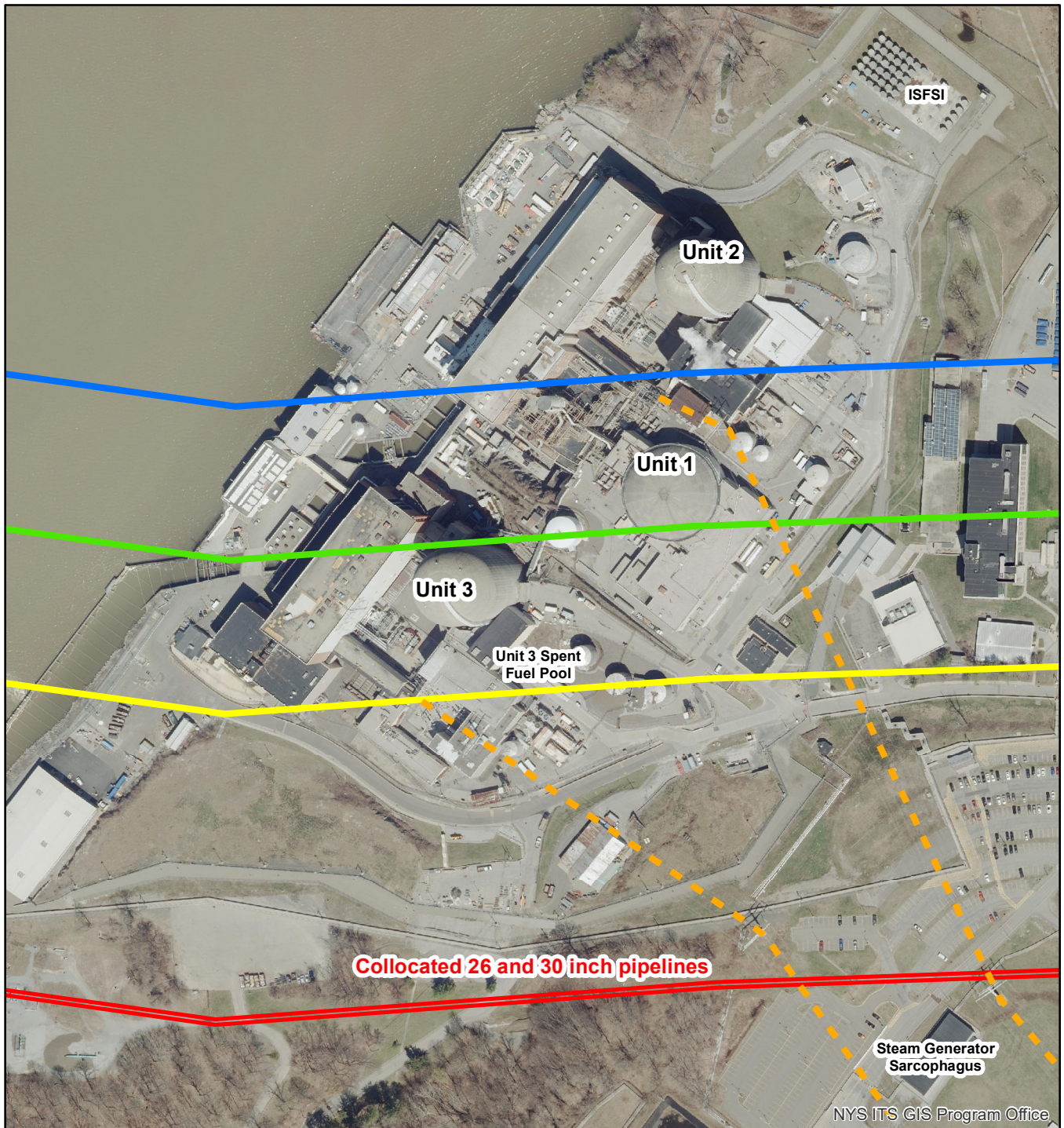


Derived from IPEC Quarterly Long-Term Groundwater Monitoring Report,  
Report No. 43, GZA GeoEnvironmental, Inc. (2019)

## **ATTACHMENT C**



# Pipelines and Potential Impact Radius Locations Near Indian Point



--- Powerline

— Pipeline

□ Potential Impact Radius

□ Potential Impact Radius x 1.5

□ Potential Impact Radius x 2



400

Feet

Projection: NAD\_1983\_UTM\_Zone\_18N  
 Basemap Source: NYS ITS GIS Program Office  
 Data Sources: 1.) IPEC Quarterly Long-Term  
 Groundwater Monitoring Report, Report No. 43,  
 GZA GeoEnvironmental, Inc. (2019)  
 2.) Algonquin Incremental Market Pipeline Risk  
 Analysis Report, Executive Summary, available at  
[https://assets.nrdc.org/sites/default/files/cuomo-aim-risk-analysis-report.pdf?\\_ga=2.70452368.1627892985.1581368241-660283485.1581368241](https://assets.nrdc.org/sites/default/files/cuomo-aim-risk-analysis-report.pdf?_ga=2.70452368.1627892985.1581368241-660283485.1581368241)

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE SECRETARY**

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In the Matter of

ENTERGY NUCLEAR OPERATIONS, INC.;  
ENTERGY NUCLEAR INDIAN  
POINT 2, LLC; ENTERGY NUCLEAR  
INDIAN POINT 3, LLC; HOLTEC  
INTERNATIONAL; and HOLTEC  
DECOMMISSIONING INTERNATIONAL,  
LLC; APPLICATION FOR ORDER  
CONSENTING TO TRANSFERS OF  
CONTROL OF LICENSES AND  
APPROVING CONFORMING LICENSE  
AMENDMENTS

Docket Nos.:

50-3

50-247

50-286

72-051

(Indian Point Nuclear Generating Station)

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**CERTIFICATION OF SERVICE**

Pursuant to 10 C.F.R. § 2.305, I certify that I served the State's Petition for Leave to Intervene and for a Hearing in the above-captioned proceeding via the NRC's Electronic Information Exchange on this 12th day of February, 2020.

Signed (electronically) by

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