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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
ENTERGY NUCLEAR OPERATIONS, INC.)
)
(Indian Point Nuclear Generating Units 2 and 3))
)

Docket Nos. 50-247-LR and
50-286-LR

April 13, 2009

**APPLICANT'S ANSWER OPPOSING CLEARWATER'S MOTION FOR LEAVE AND
NEW CONTENTION CONCERNING THE ALLEGED IMPACTS OF INDIAN POINT
LICENSE RENEWAL ON THE HUDSON RIVER AS A DRINKING WATER SOURCE**

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(h)(1), Entergy Nuclear Operations, Inc. ("Entergy"), applicant in the captioned proceeding, submits this Answer to the New Contention filed by Hudson River Sloop Clearwater, Inc. ("Clearwater") on March 19, 2009.¹ Clearwater alleges deficiencies in Entergy's April 2007 Environmental Report ("ER") and the NRC Staff's December 2008 Draft Supplemental Environmental Impact Statement ("DSEIS") for the proposed renewal of the operating licenses for Indian Point Nuclear Generating Units 2 and 3 ("IP2" and "IP3").² The New Contention claims that Entergy and the NRC Staff must evaluate the environmental and public health impacts of license renewal on the Hudson River as a potential source of drinking water.³

As shown below, Clearwater's Motion for Leave and the proposed New Contention must be denied because Clearwater has not meet the NRC's late-filed contention requirements set forth in

¹ Hudson River Sloop Clearwater Inc.'s Motion for Leave to File a New Contention Regarding Environmental Impacts and Public Health Impacts of Indian Point on the Hudson Water as a Source of Drinking Water Supply (Mar. 19, 2009) ("Motion for Leave"); Hudson River Sloop Clearwater, Inc.'s Petition to File a New Contention Based Upon New Information (Mar. 19, 2009) ("New Contention").

² NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supp. 38, Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3, Draft Report for Comment, Vol. 1, Main Report (Dec. 2008). Together, IP2 and IP3 also are referred to herein as Indian Point Energy Center ("IPEC").

³ New Contention at 8.

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10 C.F.R. § 2.309(c) and (f)(2), or the contention admissibility requirements codified in 10 C.F.R. § 2.309(f)(1). Specifically, Clearwater has not demonstrated that its proposed New Contention is based on “data or conclusions” in the NRC Staff’s DSEIS that “differ significantly” from those contained in Entergy’s ER, nor has it demonstrated that the alleged “new” information upon which it relies is materially different from information previously available to it.⁴ In fact, Clearwater clearly could have raised this issue when it filed its original Petition to Intervene and Request for Hearing almost a year-and-a-half ago. Having failed to do so, its proposed New Contention cannot be admitted at this late date.

But extreme tardiness is not the only fatal defect plaguing Clearwater’s New Contention. It also fails to meet each of the admissibility requirements set forth in 10 C.F.R. § 2.309(f)(1)(iii)-(vi). In this regard, the New Contention, in part, impermissibly challenges the Commission’s generic findings regarding health impacts from radiation exposures during the license renewal term, as set forth in the NRC’s 1996 Generic Environmental Impact Statement (“GEIS”)⁵ for reactor license renewal and in Table B-1 of Appendix B to Subpart A of 10 C.F.R. Part 51 (“Table B-1”). Furthermore, the New Contention lacks an adequate factual or legal basis in support of its claims about alleged deficiencies in the ER and the DSEIS, thereby failing to establish a genuine material dispute relative to the NRC Staff’s National Environmental Policy Act (“NEPA”) analysis. Thus, the New Contention must be dismissed as impermissibly late and inadmissible under law.

II. BACKGROUND

On April 23, 2007, Entergy submitted its license renewal application (“LRA”) for IP2 and IP3 in accordance with 10 C.F.R. Parts 51 and 54. In response to a Notice of Opportunity for

⁴ See 10 C.F.R. § 2.309(f)(2).

⁵ NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants (May 1996).

Hearing published in the *Federal Register* on August 1, 2007,⁶ Clearwater filed a Petition to Intervene and Request for Hearing (“Petition”) in this proceeding on December 10, 2007. On July 31, 2008, the Atomic Safety and Licensing Board (“Board”) granted, in part, Clearwater’s Petition, admitting for hearing two Clearwater environmental contentions, including Clearwater EC-1 regarding radiological leaks from spent fuel pools at IPEC.⁷

In December 2008, the NRC issued the IPEC DSEIS.⁸ By Order dated February 4, 2009, the Board extended the deadline for filing new or amended contentions based on the DSEIS until February 27, 2009.⁹ Clearwater did not file any such contentions. On March 19, 2009, however, Clearwater submitted the instant New Contention, which states:

The Environmental Report submitted by Entergy and Supplement 38 to Generic Environmental Impact Statement for License Renewal for Nuclear Plants, Regarding Indian Point Generating Units 2 and 3 (hereinafter referred to as “DSEIS”) issued by the NRC Staff on December 22, 2008 fail to satisfy the requirements of NEPA, 42 U.S.C. §4332 et seq., and NRC regulations implementing NEPA, because the ER and DSEIS do not assess the impacts of the license renewal on drinking water quality and drinking water degradation as it relates to the use of the Hudson River as a source of drinking water.¹⁰

In support, Clearwater repeats claims that it originally made in Clearwater EC-1 that IPEC site groundwater is contaminated with tritium, strontium-90, and cesium-137 at levels above U.S. Environmental Protection Agency (“EPA”) mandated drinking water limits, and that this

⁶ Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing Regarding Renewal of Facility Operating License Nos. DPR-26 and DPR-64 for an Additional 20-Year Period, 72 Fed. Reg. 42,134 (Aug. 1, 2007).

⁷ See *Entergy Nuclear Operations Inc. (Indian Point Nuclear Generating Units 2 & 3)*, LBP-08-13, slip op. at 188-92, 196-203, 225-27 (July 31, 2008) (“Board Order”) (admitting Clearwater EC-1 and EC-3). The Board consolidated Clearwater EC-1 with Riverkeeper EC-3 given that both contentions allege that the ER does not adequately assess “new and significant information” concerning the environmental impacts of radionuclide leaks from spent fuel pool at IPEC. Clearwater and Riverkeeper submitted a consolidated version of their contentions on August 21, 2008. See Consolidated Contention of Petitioners Riverkeeper, Inc. (EC-3) and Hudson River Sloop Clearwater, Inc. (EC-1)—Spent Fuel Pool Leaks (Aug. 21, 2009) (“Consolidated Contention”).

⁸ DSEIS.

⁹ Memorandum and Order (Summarizing Pre-Hearing Conference) at 2-3 (Feb. 4, 2009) (unpublished) (“Pre-Hearing Conference Order”).

¹⁰ New Contention at 8.

contaminated groundwater is migrating to the Hudson River.¹¹ In addition, Clearwater *now* claims that a *proposed* desalination plant 3.5 miles downstream of IPEC will routinely extract “contaminated” water from the Hudson River for use as drinking water.¹² Thus, Clearwater maintains that the NRC must consider the alleged environmental and public health impacts of IPEC license renewal on “the *potential* for future degradation of the Hudson River as a drinking water source.”¹³

III. LEGAL STANDARDS GOVERNING THE ADMISSIBILITY OF NEW AND AMENDED CONTENTIONS

A. Timeliness Requirements

Under 10 C.F.R. § 2.309(f)(2), an intervenor may file new environmental contentions “if there are data or conclusions in the NRC draft or final environmental impact statement, environmental assessment, or any supplements relating thereto, that *differ significantly* from the data or conclusions in the applicant’s documents.”¹⁴ Otherwise, in the absence of such circumstances, an intervenor may file new contentions “only with leave of the presiding officer” upon a showing that all three of the following criteria are met: (i) the information upon which the amended or new contention is based was *not previously available*; (ii) the information upon which the amended or new contention is based is *materially different than information previously available*; and (iii) the amended or new contention has been *submitted in a timely fashion* based on the availability of the subsequent information.¹⁵

¹¹ *Id.* at 4-5.

¹² *Id.* at 2-3.

¹³ *Id.* at 1-2 (emphasis added).

¹⁴ 10 C.F.R. § 2.309(f)(2) (emphasis added).

¹⁵ *Id.* § 2.309(f)(2)(i)-(iii) (emphasis added).

Thus, new contentions will be admitted only “provided that [the information] is truly new and materially different and provided that the Petitioner acts promptly.”¹⁶ A new NEPA contention “is not an occasion to raise additional arguments that could have been raised previously.”¹⁷ Accordingly, this Board itself has made clear that it “will not entertain contentions based on environmental issues that *could have been raised* when the original contentions were filed.”¹⁸

If an intervenor cannot satisfy the requirements of 10 C.F.R. § 2.309(f)(2), then a contention is considered “nontimely,” and the intervenor must demonstrate that it satisfies the eight-factor balancing test in 10 C.F.R. § 2.309(c)(1)(i)-(viii).¹⁹ The first factor identified in that regulation, whether “good cause” exists for the failure to file on time, is entitled to the most weight.²⁰ Without good cause, a “petitioner’s demonstration on the other factors must be particularly strong.”²¹

B. Substantive Admissibility Requirements

In addition to the late-filing criteria identified above, a proposed new contention must meet *all* of the substantive admissibility criteria set forth in 10 C.F.R. § 2.309(f)(1). Failure to do so is

¹⁶ *Entergy Nuclear Vt. Yankee, LLC* (Vt. Yankee Nuclear Power Station), LBP-06-14, 63 NRC 568, 573, 579 (2006) (rejecting petitioner’s attempt to “stretch the timeliness clock” because its new contentions were based on information that was previously available and petitioners failed to identify precisely what information was “new” and “different”).

¹⁷ *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-28, 56 NRC 373, 385-86). As the D.C. Circuit put it, it is “unreasonable to suggest that the NRC must disregard its procedural timetable every time a party realizes based on NRC environmental studies that maybe there was something after all to a challenge it either originally opted not to make or which simply did not occur to it at the outset.” *Union of Concerned Scientists v. NRC*, 920 F.2d 50, 55 (D.C. Cir. 1990).

¹⁸ Pre-Hearing Conference Order at 3 (emphasis added).

¹⁹ See 10 C.F.R. § 2.309(c)(2) (“The requestor/petitioner *shall* address the factors in paragraphs (c)(1)(i) through (c)(1)(viii) of this section in its nontimely filing.”) (emphasis added). These factors include: (i) good cause, if any, for the failure to file on time; (ii) the nature of the petitioner’s right under the Atomic Energy Act to be made a party to the proceeding; (iii) the nature and extent of the petitioner’s property, financial or other interest in the proceeding; (iv) the possible effect of any order that may be entered in the proceeding on the petitioner’s interest; (v) the availability of other means whereby the petitioner’s interest will be protected; (vi) the extent to which the petitioner’s interests will be represented by existing parties; (vii) the extent to which the petitioner’s participation will broaden the issues or delay the proceeding; and (viii) the extent to which the petitioner’s participation may reasonably be expected to assist in developing a sound record. See *id.* § 2.309(c)(1).

²⁰ See *State of New Jersey* (Dept. of Law and Pub. Safety’s Requests Dated Oct. 8, 1993), CLI-93-25, 38 NRC 289, 296 (1993).

²¹ *Tex. Utils. Elec. Co.* (Comanche Peak Steam Elec. Station, Units 1 & 2), CLI-92-12, 36 NRC 62, 73 (1992) (quoting *Duke Power Co.* (Perkins Nuclear Station, Units 1, 2, & 3), ALAB-431, 6 NRC 460, 462 (1977)).

grounds for the dismissal of a proposed new or amended contention.²² Entergy's Answer to Clearwater's original proposed contentions contains an extensive discussion of the NRC's contention admissibility standards and we do not repeat those standards here.²³

IV. CLEARWATER'S NEW CONTENTION DOES NOT MEET THE NRC'S CONTENTION TIMELINESS AND ADMISSIBILITY CRITERIA

A. Clearwater's New Contention Does Not Meet the Timeliness Standards Set Forth in 10 C.F.R. § 2.309(f)(2), (f)(2)(i)-(iii), and (c)

1. The New Contention Does Not Meet 10 C.F.R. § 2.309(f)(2)

NRC regulations permit the filing of new contentions based on the NRC Staff's DSEIS if there are data or conclusions in the DSEIS that differ significantly from the data or conclusions in Entergy's ER.²⁴ The Board required that any such contentions be filed by February 27, 2009.²⁵ Clearwater did not file any new contentions by that date. Accordingly, Clearwater's New Contention fails to comply with 10 C.F.R. § 2.309(f)(2) and the Board's Pre-Hearing Conference Order.

2. The New Contention Does Not Meet 10 C.F.R. § 2.309(f)(2)(i)-(iii)

Although Clearwater is permitted, with leave of the Board, to file new contentions based on recent developments other than the Staff's issuance of the DSEIS, the New Contention fails to meet the mandatory requirements for such new contentions as defined in 10 C.F.R. § 2.309(f)(2)(i)-(iii).

²² See Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2221 (Jan. 14, 2004) (final rule); see also *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

²³ See Answer of Entergy Nuclear Operations, Inc. Opposing Hudson River Sloop Clearwater, Inc.'s Petition to Intervene and Request for Hearing at 11-18, 24-30 (Jan. 22, 2008).

²⁴ 10 C.F.R. § 2.309(f)(2).

²⁵ Pre-Hearing Conference Order at 2-3.

a. *The New Contention Is Not Based on Previously Unavailable Information, Contrary to 10 C.F.R. § 2.309(f)(2)(i)*

Clearwater asserts that its New Contention is based on new information it “discovered” on February 25, 2009.²⁶ Specifically, Clearwater points to a January 26, 2009 letter of the New York State Department of Environmental Conservation (“DEC”) stating its intent to act as lead agency for the United Water New York (“UWNY”) proposal to build a water desalination plant in Rockland County, NY along the Hudson River.²⁷ Clearwater claims that, because it did not learn of the DEC’s plan to act as lead agency for UWNY’s application until February 25, 2009, the New Contention was submitted in a timely fashion.²⁸

The DEC’s January 26, 2009 letter about UWNY’s proposed desalination plant does not constitute new or previously unavailable information because the subject matter of that letter—plans for the possible future construction of a desalination facility in the Town of Haverstraw, Rockland County—was publicly announced *over two years ago*. As just one example, after UWNY submitted its initial plans to the New York State Public Service Commission (“PSC”) in *early 2007*, plans for the proposed desalination plant were publicized in local newspapers.²⁹ The proposed project was further publicized in *late 2007* when UWNY submitted additional project details to the PSC.³⁰

In fact, plans for the proposed facility were so well known that several individuals mentioned the potential desalination project during the NRC Staff’s public scoping meeting for the IPEC DSEIS

²⁶ New Contention at 14-15.

²⁷ *Id.* at 2-3 (citing Ex. 1, Letter from Bethany Ann Hughes, New York State DEC, to Involved Agencies, “Re: Coordination to Establish SEQR Lead Agency, Proposed Long-Term Water Supply Project by United Water New York, Inc., Town of Haverstraw, Rockland County, DEC #3-3922-0021” (Jan. 26, 2009) (“DEC Letter”).

²⁸ New Contention at 14-15.

²⁹ See, e.g., Anahad O’Connor, *Looking to the Hudson for Rockland’s Water Needs*, N.Y. Times, Jan. 30, 2007, available at <http://www.nytimes.com/2007/01/30/nyregion/30water.html?partner=rssnyt&emc=rss> (“A regional water supply company that serves Rockland County submitted a plan this month to build a desalination plant that would tap the Hudson to address Rockland’s long-term water needs. The company, United Water New York, would build the plant by 2015 and supply Rockland residents with 7.5 million gallons of drinking water a day.”).

³⁰ Letter from Michael J. Pointing, UWNY, to New York State Public Service Commission, “United Water New York Long-Term Major Water Supply Project” (dated Sept. 28, 2007, filed Oct. 1, 2007). PSC documents referenced herein are publicly available under Case/Matter Number 06-00131 at <http://documents.dps.state.ny.us/public/Common/AdvanceSearch.aspx>.

held in *September 2007*.³¹ Clearwater representatives attended and participated in that same meeting and submitted written scoping comments.³² Other participants in this adjudicatory proceeding even proffered contentions that mention the proposed desalination plant.³³ Ironically, one of Clearwater's own standing declarations, submitted on *December 10, 2007*, in support of Clearwater's Petition to Intervene, mentions the proposed desalination project—a fact omitted in Clearwater's New Contention.³⁴ Thus, not only has information about the proposed desalination plant been in the public domain for a substantial period, but it also clearly was known to Clearwater at the *outset* of this proceeding, and obviously could have been incorporated into a proposed contention at that time.³⁵

In view of the above, it is untenable for Clearwater to claim that information contained in the DEC's January 26, 2009 letter was not previously available. The New Contention thus fails to meet 10 C.F.R. § 2.309(f)(2)(i).

³¹ See, e.g., Indian Point License Renewal Public Meeting: Evening Session, Tr. 99:17-24 (Sept. 19, 2007), available at ADAMS Accession No. ML072830682 (“Evening Scoping Session Transcript”) available at ADAMS Accession No. ML072890209 (“Evening Scoping Session”) (“[W]e have a desalination plant that has been proposed by United Water New York that will be placed either in Stony Point or Haverscroll [sic]” and “we ask that . . . it be considered in the review process because it is intended to be drinking water for over 260,000 people”). The Staff responded to these comments in its Scoping Summary Report, which is incorporated by reference into the DSEIS. See Environmental Impact Statement Scoping Process, Summary Report Indian Point Nuclear Generating Station Unit Nos. 2 and 3, Village of Buchanan, NY at 92-94 (Dec. 19, 2008), available at ADAMS Accession No. ML083360115 (“Scoping Summary Report”); DSEIS at xiii, 1-6 & 9-1.

³² See Evening Scoping Session Tr. 32:15-36:7; Scoping Summary Report at 4, 8, 33, 85, 145 & 311.

³³ See Petition For Leave To Intervene With Contentions and Request For Hearing at 266 (Dec. 10, 2007) (filed by Westchester Citizen's Area Network, Rockland County Conservation Association, Public Health and Sustainable Energy, Sierra Club-Atlantic Chapter, and New York State Assemblyman Richard Brodsky) (noting recent proposal from UWNY for a desalination plant as part of leaks-related contention).

³⁴ Petition Standing Ex. 1.15 Declaration of George Potanovic, Jr. at 2 (dated Nov. 23, 2007).

³⁵ Even if Clearwater only learned of the desalination plant in February 2009—which unequivocally is not the case—such a claim is insufficient to establish that UWNY's plan constitutes new information, because “a petitioner must show that the information on which the new contention is based was not *reasonably available to the public*, not merely that the *petitioner* recently found out about it.” *Dominion Nuclear Conn., Inc.* (Millstone Power Station, Unit 3), CLI-09-5, slip op. at 15 (Mar. 5, 2009) (emphasis in original).

b. *The New Contention Is Not Based on Materially Different Information, Contrary to 10 C.F.R. § 2.309(f)(2)(ii)*

Clearwater fails to explain why the information contained in the DEC's January 26, 2009 letter is *materially different* from information available to the public at a much earlier date. The DEC letter simply conveys a ministerial action—*i.e.*, the DEC's announcement of its intent to act as the “lead agency” in performing the environmental review of UWNY's earlier-submitted applications for pilot and full-scale desalination plants. The letter indicates that the DEC *previously* received permit applications from UWNY, and is initiating its environmental review of the applications. The principal purpose of the letter is to solicit the views of other reviewing agencies regarding DEC's intent to act as lead agency. To be clear, all of the information that Clearwater needed to support its New Contention, including specific knowledge of the proposed desalination facility, was available when it filed its initial Petition. NRC tribunals have held that the unavailability of a specific document does not justify admission of a new contention when the contention's “factual predicate” was previously available.³⁶ UWNY's proposal (made over two years ago) to build the desalination facility—not the DEC's ministerial action to assume lead agency status—provides the factual predicate for the New Contention. Clearwater makes *no* attempt to explain why identification of the DEC as lead agency was “necessary” or “integral” to the formulation of the New Contention. In fact, its reliance on the January 26, 2009 letter appears to be a pretext for submitting an extremely belated contention.³⁷ Accordingly, Clearwater fails to comply with 10 C.F.R. § 2.309(f)(2)(ii).

³⁶ *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 208, *aff'd*, CLI-98-13, 48 NRC 26 (1998) (*citing Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), CLI-83-19, 17 NRC 1041, 1043 & 1045 (1983)); *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-15, 44 NRC 8, 26 (1996); *Phila. Elec. Co.* (Limerick Generating Station, Units 1 & 2), LBP-83-39, 18 NRC 67, 69 (1983)) (ruling that the intervenor's reliance on newly-disclosed proprietary materials was not “necessary” or “integral” to the development of its late-filed contention, such that delay in filing was not justified).

³⁷ In fact, more than two weeks *before* it claims to have learned of this “newly available information,” Clearwater discussed the desalination plant in a press release addressing the NRC Staff's DSEIS. See Environmental Advocacy, *Indian Point Environmental Impact Study Ignores Health Risks, Environmental Justice Impacts and Benefits of Renewable Energy* (Feb. 10, 2009), available at <http://www.clearwater.org/indianpoint021209-cw.html>.

3. The New Contention Is Not Admissible Under 10 C.F.R. § 2.309(c)(1)

Because Clearwater has not satisfied the criteria in 10 C.F.R. § 2.309(f)(2) or (f)(2)(i)-(iii) for a timely new contention, it must satisfy the test set forth in 10 C.F.R. § 2.309(c)(1). Clearwater, however, has not even addressed *any* of the Section 2.309(c)(1) criteria. This omission alone renders the contention fatally defective, in that Clearwater must affirmatively demonstrate that the Section 2.309(c)(1) factors weigh in favor of admitting the New Contention.³⁸ Clearwater cannot simply foist this duty upon the Board.

As demonstrated above, Clearwater has not met its burden under 10 C.F.R. § 2.309(f)(2) or (c). Accordingly, the New Contention must be rejected.

B. Clearwater's New Contention Does Not Meet the Contention Admissibility Standards Set Forth in 10 C.F.R. § 2.309(f)(1)

Even assuming that the New Contention could pass muster under 10 C.F.R. § 2.309(f)(2) as a timely-filed contention—which it cannot—it must be rejected because it does not meet each of the mandatory contention admissibility requirements in 10 C.F.R. § 2.309(f)(1)(i)-(vi). As demonstrated below, Clearwater's purported showing of compliance with these requirements is deficient for multiple reasons, each of which independently mandates rejection of the New Contention.

1. Clearwater Raises Issues That Are Beyond the Scope of This Proceeding, Contrary to 10 C.F.R. § 2.309(f)(1)(iii)

The New Contention must be dismissed insofar as it challenges generic findings made by the Commission in the GEIS and codified in 10 C.F.R. Part 51. At its core, the New Contention challenges Entergy's and the NRC Staff's assessments of the radiological impacts of extended plant operation on *human health*. For example, Clearwater asserts that the potential withdrawal of radiologically-contaminated Hudson River water by a proposed downstream desalination facility is

³⁸ See *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-25, 48 NRC 325 347 & n.9. Even if the Board were to consider this balancing, the most important factor, "good cause" weighs against admission of the New Contention for the same reasons it fails to satisfy 10 C.F.R. § 2.309(f)(2)(i)-(ii). See *Commonwealth Edison Co.* (Braidwood Nuclear Power Station, Units 1 & 2), CLI-86-8, 23 NRC 241, 244 (1986); *Shaw Areva MOX Servs.* (Mixed Oxide Fuel Fabrication Facility), LBP-07-14, 66 NRC 169, 210 n.95 (2007).

“a source of *public health* concern.”³⁹ Clearwater also broadly avers that “Indian Point cannot be operated without adversely affecting the *health of the public* in the vicinity of the plant,”⁴⁰ because the plant allegedly has released, or will release, “radioactive isotopes and other toxic substances” into the Hudson River.⁴¹ Thus, Clearwater contends that “the NRC Staff must fully assess and adequately account for the [human health] risks associated with using the Hudson River water in the vicinity of IP2 and IP3 as a source of municipal drinking water.”⁴²

Given Clearwater’s manifest focus on public health impacts, the New Contention collaterally attacks NRC regulations and, in so doing, raises issues that are beyond the scope of this proceeding. Specifically, Table B-1 in Part 51 indicates that the issue of continued radiation exposure during the license renewal term is deemed to have a small significance level based on the expectation that “[r]adiation doses to the public will continue at current levels associated with normal operations.”⁴³ This regulation codifies the GEIS finding that radiation exposure from power reactor operation is a “Category 1 issue.”⁴⁴ As the Commission noted in *Turkey Point*, “[t]he GEIS study found that renewing reactor operating licenses would not increase radioactive effluents in nearby waters.”⁴⁵

This GEIS finding rests on the NRC’s assessment of “how well nuclear power plants have met applicable NRC radiological dose limits, design objectives, or guidelines (found under Appendix I to 10 C.F.R. Part 50, 10 C.F.R. Part 20, and 10 C.F.R. § 50.36a).”⁴⁶ Appendix I to Part 50 requires

³⁹ New Contention at 10.

⁴⁰ *Id.* at 10 & 13 (emphasis added). It warrants mention that, in support of these claims, Clearwater cites the Mangano Declaration and Mangano Report attached to its original Petition in support of proposed contention Clearwater EC-2, which, in the Board’s words, “purports to show that the continued operation of Indian Point would *raise the risk of exposure to radioactivity*.” LBP-08-13, slip op. at 193 (emphasis added). The Board rejected Clearwater EC-2 as raising “a Category 1 environmental issue regarding the radiological impact of the continued operation of the Indian Point facility that is adequately addressed in the GEIS, and is thus outside the scope of this proceeding.” *Id.* at 195.

⁴¹ New Contention at 3.

⁴² *Id.* at 13.

⁴³ 10 C.F.R. pt. 51, subpt. A, app. B, Table B-1, “Radiation exposures to public (license renewal term).”

⁴⁴ GEIS at 4-95.

⁴⁵ *Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-01-17, 54 NRC 3, 17 (2001).

⁴⁶ *Id.* at 16.

licensees to keep levels of radioactive material in effluents “as low as is reasonably achievable” (“ALARA”).⁴⁷ In addition, 10 C.F.R. § 50.36a imposes license conditions in the form of technical specifications on effluents from nuclear power reactors. These specifications require compliance with the public dose limits in Part 20 and the use of operating procedures and radioactive waste systems to maintain radioactive effluents ALARA—both during the current *and* extended periods of operation. According to the GEIS, data collected on all nuclear power plants “demonstrates that the ALARA process has been effective at controlling and reducing radiation doses to the public.”⁴⁸

In asserting that IPEC license renewal will adversely affect public health (and thereby challenging a Category 1 determination), Clearwater fails to recognize that, during the period of extended operation, Entergy must comply with the radiological dose limits, design objectives, and environmental monitoring and reporting requirements that apply to current operations, which ensure that radiation doses to the public remain of small significance. These requirements thus do *not* permit the release of radioactive effluents that exceed NRC dose limits and design objectives during the current or renewed operating license terms.

Liquid releases to the Hudson River, in particular, are limited to the extent possible to satisfy the dose design objectives of Appendix I to Part 50. IP2 and IP3 have controls, described in the IPEC offsite dose calculation manual (“ODCM”), for limiting the release of radioactive liquid effluents. The controls are based on the concentrations of radioactive materials in liquid effluents and the calculated projected dose to a hypothetical member of the public.⁴⁹ Entergy maintains

⁴⁷ See 10 C.F.R. Part 50, App. I.

⁴⁸ GEIS at 4-95.

⁴⁹ Concentrations of radioactive material that may be released in liquid effluents are limited to the concentrations specified by 10 CFR Part 20. For the calendar year, the ODCM limits the dose to a member of the public from liquid effluents to 3 millirems (mrem) to the total body and 10 mrem to any organ. Under NRC-required technical specifications, if the quantity of radioactive material actually released in effluents to unrestricted areas from a plant during any calendar quarter is such that the resulting radiation exposure, calculated on the same basis as the respective design objective exposure, would exceed one-half the design objective annual exposure, the licensee must investigate the cause(s), initiate a corrective action program, and report these actions to the NRC within 30 days from the end of the quarter during which the release occurred. See 10 C.F.R. Part 50, App. I, Sec. IV.A.

radioactive liquid effluent discharges in accordance with the procedures and methodology described in the ODCM. The ODCM also specifies the radiological environmental monitoring activities that Entergy must perform as part of its NRC-required Radiological Environmental Monitoring Program (“REMP”). The results of the REMP supplement the results of the radiological effluent controls program by verifying that any measurable concentrations of licensed radioactive material and levels of radiation in the environment are not higher than expected on the basis of the effluent measurements and modeling of the exposure pathways.

In accordance with the REMP, Entergy must obtain measurements of radiation and radioactive material in those exposure pathways and for those radionuclides that may lead to the highest potential exposures of individuals as a result of plant operation. Entergy, therefore, must account for all credible exposure pathways, as it has done in the case of site groundwater contamination caused by historical spent fuel pool leakage. Using data obtained from the REMP and IPEC’s supplemental groundwater monitoring program, Entergy quantitatively assesses the contribution of site groundwater contamination to offsite dose. As reflected in the ER and DSEIS, the calculated total body dose to the maximally exposed individual from *all* liquid effluents—including the IPEC site’s combined groundwater and storm drain pathways—is 2.79×10^{-3} mrem/year, which is less than 0.1% of the NRC limit of 3 mrem/year for liquid effluent releases.⁵⁰

Thus, while there currently is no credible drinking water exposure pathway at IPEC,⁵¹ if such a pathway were to arise (*e.g.*, due to actual operation of a nearby water supply facility), federal regulations would require Entergy to evaluate that pathway and demonstrate continued compliance

⁵⁰ See ER at 5-5; DSEIS at 2-108. As reflected in the DSEIS, the calculated maximum whole-body dose to an offsite member of the general public from liquid effluents is 8.80×10^{-4} mrem (8.80×10^{-6} mSv) for IP1 and IP2 and 1.27×10^{-4} mrem (1.27×10^{-6} mSv) for IP3. *Id.* at 2-109. The calculated maximum total whole-body dose to an offsite member of the general public from the site’s combined ground water and storm drain pathways is 1.78×10^{-3} mrem (1.78×10^{-5} mSv). *Id.* at 2-110. Thus, the total calculated total body dose to the maximally exposed individual from all liquid effluents (*i.e.*, the sum of the foregoing doses) is 2.79×10^{-3} mrem/year.

⁵¹ See ER at 5-4 to 5-6; DSEIS at 2-107 to 2-109.

with NRC dose limits. In fact, Section IV.B.3 of Appendix I to Part 50, which provides guidance to licensees in developing the effluent-related technical specifications required by 10 C.F.R. § 50.36(a), states explicitly that a licensee must “[i]dentify *changes in the use of unrestricted areas . . . to permit modifications in monitoring programs for evaluating doses to individuals from principal pathways of exposure.*”⁵² Clearwater, in raising what plainly is a Category 1 issue, fails to acknowledge this critical point. The New Contention accordingly must be rejected on this basis.

NRC case law supports this ineluctable conclusion. In the *Turkey Point* license renewal proceeding, the Commission affirmed the Board’s rejection of a similar contention alleging that “renewing [the facility’s] license will result in *aquatic contamination affecting public health.*”⁵³ The Commission noted that the GEIS “declared radiological exposure from power reactor operation a ‘Category 1 issue.’”⁵⁴ It also confirmed that “[t]his classification covers all public exposure pathways — gaseous and liquid effluents, including the buildup and concentration of radioactive materials in soils and sediment, which could in turn impact radionuclide levels in bottom-feeder fish.”⁵⁵ Finally, the Commission noted that the GEIS also addresses the discharge of non-radioactive effluents, including chlorine and other biocides, metals in wastewater, sanitary wastes, and minor chemical spills.⁵⁶

In the 2006 *Palisades* license renewal proceeding, the Board expressly applied the Commission’s holding in *Turkey Point* and rejected a contention very similar to that proffered by Clearwater.⁵⁷ The *Palisades* petitioners alleged that the “radioactive and toxic chemical emissions” from the Palisades nuclear power plant into the waters of Lake Michigan contaminated a “recently-

⁵² 10 C.F.R. Part 50, App. I, Sec. IV.B.3 (emphasis added).

⁵³ *Turkey Point*, CLI-01-17, 54 NRC at 16-17 (emphasis added).

⁵⁴ *Id.* at 17.

⁵⁵ *Id.*

⁵⁶ *Id.* This aspect of the Commission’s ruling is relevant here insofar as Clearwater alleges adverse human health effects from exposure to “other toxic substances,” which Entergy infers to mean non-radiological substances.

⁵⁷ *Nuclear Mgmt. Co., LLC* (Palisades Nuclear Plant), LBP-06-10, 63 NRC 314, 354-57 (2006).

installed” drinking water supply intake for the City of South Haven, built just downstream from the Palisades reactor.⁵⁸ The petitioners cited the direction of the flow of Lake Michigan’s waters and the proximity of the Palisades reactor to the drinking water supply intake.⁵⁹ The Board ruled that “Petitioners’ contention—that a license renewal for the Palisades plant will result in excessive radioactive and toxic chemical contamination of the local drinking water—may be viewed as a Category 1 issue covered under the heading ‘Radiation exposures to public (license renewal term).’”⁶⁰

Accordingly, because the New Contention asserts that the NRC must assess the “public health” impacts resulting from the future consumption of Hudson River “drinking water” allegedly “contaminated” by IPEC operation, such allegations must be rejected as raising a Category 1 issue that is outside the scope of the proceeding. Absent a meritorious waiver request, which Clearwater has not provided here, a contention that collaterally attacks an NRC rule or regulation is barred by NRC regulations.⁶¹

2. Clearwater Fails to Demonstrate That the New Contention Raises Issues Material to the NRC’s NEPA Review, Contrary to 10 C.F.R. § 2.309(f)(1)(iv)

Even putting aside Clearwater’s impermissible challenge to an NRC Category 1 finding, the New Contention also must be dismissed for another reason; *i.e.*, it fails to meet 10 C.F.R. § 2.309(f)(1)(iv). That provision requires a showing “that the issue raised in the contention is *material* to the findings that the NRC must make to support the action that is involved in the

⁵⁸ *Id.* at 354.

⁵⁹ *See id.*

⁶⁰ *Id.* at 357.

⁶¹ *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 218 (2003). As the Board noted in rejecting proposed contention Clearwater EC-2, “Clearwater has not demonstrated any special circumstances at Indian Point that are sufficiently different from those that are present at other nuclear plants to warrant site-specific treatment.” LBP-08-13, slip op. at 195. *See also Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), Nos. 50-247-LR & 50-286-LR, Licensing Board Order (Denying CRORIP’s 10 C.F.R. § 2.335 Petition) (July 31, 2008) (unpublished), *aff’d*, CLI-08-27, slip op. (Nov. 6, 2008) (denying petition to waive portions of the GEIS relating to exclusion of radiation exposures to the public and occupational radiation exposures during the license renewal term as Category 1 issue).

proceeding.”⁶² Clearwater provides absolutely no legal authority for the notion that NEPA requires evaluation of the postulated radiological effects of IPEC license renewal on a proposed project that is neither inevitable nor even imminent.⁶³ As discussed below, because the mere existence of the proposed *pilot* desalination facility is highly speculative, so too are any alleged effects of extended IPEC operation on the contemplated full-sized facility.⁶⁴ Such a speculative chain of purported causation renders the New Contention inadmissible as a matter of law under NEPA.

There is no doubt that NEPA and 10 C.F.R. Part 51 require the NRC to assess “the environmental impacts of the proposed action” in its environmental impact statement, but there are clear and reasonable legal constraints on the scope of that analysis.⁶⁵ As set forth in Council on Environmental Quality (“CEQ”) regulations, impacts or “effects” include “ecological . . . aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative.”⁶⁶ “Direct effects” of a proposed action are those that “are caused by the action and occur at the same time and place.”⁶⁷ “Indirect effects” are those that “are caused by the action and are later in time or farther removed in distance, *but are still reasonably foreseeable.*”⁶⁸ Finally, a “cumulative impact” is “the

⁶² 10 C.F.R. § 2.309(f)(1)(iv) (emphasis added).

⁶³ See *City of Dallas, Tex. v. Hall*, 2009 WL 622959, at *5 (5th Cir. Mar. 12, 2009) (“Plaintiffs do not cite to any authority for the proposition that an agency must account for the effects on a municipal water supply of precluding a *proposed but as-yet-nonexistent* water source”) (emphasis added).

⁶⁴ Faced with analogous circumstances in *City of Dallas*, the Fifth Circuit last month rejected the appellants’ argument that the Fish and Wildlife Service was required to analyze the effect of establishing a wildlife refuge at a site where the City of Dallas and the Texas Water Development Board had planned to build a water supply reservoir. *City of Dallas*, 2009 WL 622959 at *5. The court held that the effects of establishing the refuge, and thus precluding the reservoir, were “highly speculative.” *Id.* Moreover, the court stated that, given the uncertainty associated with the construction of the reservoir and the long time frame for the project, “the effects of establishing the refuge on water supplies are not concrete enough, nor closely enough related to the federal action,” to require analysis under NEPA. *Id.* The same principles apply here. The alleged effects of IPEC license renewal on a proposed desalination facility are highly speculative, particularly given the uncertainty and long time frame associated with UWNY’s proposed desalination project. See also *City of Shoreacres v. Waterworth*, 420 F.3d 440, 451-454 (holding that the Army Corps of Engineers did not abuse its discretion by treating deepening of the Houston Ship Channel as too speculative to warrant consideration as a cumulative impact of the Port of Houston’s dredge and fill permit).

⁶⁵ 42 U.S.C. § 4332(2)(C)(i).

⁶⁶ 40 C.F.R. § 1508.8(a).

⁶⁷ *Id.*

⁶⁸ *Id.* (emphasis added).

impact on the environment which results from the incremental impact of the action when added to other past, present, and *reasonably foreseeable future actions*” and “can result from individually minor but collectively significant actions taking place over a period of time.”⁶⁹

NEPA thus requires evaluation of only those effects that are “reasonably foreseeable.”⁷⁰ It does not require assessment of “highly speculative harms,” consideration of which may distort an agency’s decisionmaking process.⁷¹ Although an agency must “make an informed judgment, and . . . estimate future impacts on that basis, especially if trends are ascertainable,” it is “not required to engage in speculation or contemplation about . . . future plans.”⁷² In short, an agency’s preparation of an EIS is subject to NEPA’s “rule of reason,” such that the EIS need only contain a “reasonably thorough discussion of *probable* environmental consequences” of the proposed action.⁷³

The threshold determination as to whether an environmental effect requires analysis under NEPA is governed by these well-established legal principles. Here, Clearwater fails to demonstrate that Entergy and the NRC Staff improperly excluded analysis of the effects of IPEC license renewal on drinking water sources, including the hypothetical desalination project, from the ER and DSEIS, respectively. Although Clearwater claims to present “clear evidence that the Hudson River, across from IP, *will* be a source of drinking water,”⁷⁴ such evidence is conspicuously lacking from the New Contention. Indeed, Clearwater’s key supporting exhibit belies this claim.⁷⁵ The January 26, 2009 DEC Letter states that at least a half-dozen permits or approvals would be required from the DEC

⁶⁹ *Id.* § 1508.7 (emphasis added).

⁷⁰ See 42 U.S.C. § 4332(2)(C)(ii); 40 C.F.R. §§ 1502.16(a) & (b); 40 C.F.R. § 1508.7.

⁷¹ *City of Shoreacres*, 420 F.3d at 453 (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 356 (1989); *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 551 (1978)).

⁷² Forty Most Asked Questions Concerning CEQ’s NEPA Regulations, 46 Fed. Reg. 18,026, 18,031 (Mar. 23, 1981) (emphasis added).

⁷³ *Selkirk Conservation Alliance v. Forsgren*, 336 F.3d 944, 958 (9th Cir. 2003) (citations omitted; emphasis added).

⁷⁴ New Contention at 13 (emphasis added).

⁷⁵ Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to Board scrutiny, “both for what it does and does not show.” *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90, *rev’d in part on other grounds*, CLI-96-7, 43 NRC 235 (1996).

alone “to enable the proposed [project] to proceed.”⁷⁶ This does *not* include the myriad non-DEC approvals that UWNY must obtain from other agencies.⁷⁷ The DEC letter also makes clear that completion of the “pilot” desalination project is a crucial prerequisite to the development and approval of the full-scale desalination facility that would provide water for public consumption:

UWNY has indicated to DEC that data from the pilot desalination plant is necessary for UWNY to proceed with the design and reviews of its proposed LTWSP, to help establish parameters for operation as well as design of the LTWSP, and to provide DEC with information required for development of draft permits for the LTWSP.⁷⁸

Thus, contrary to Clearwater’s suggestion, the proposed desalination facility is *not* an imminent action that will result in use of the Hudson River as a drinking water source, such that consideration of the project is material to the NRC Staff’s NEPA review. At best, it is a *proposal* to build a *pilot* facility to determine the *feasibility* of constructing a full-scale facility that meets applicable performance and regulatory requirements. Clearly, any alleged harms to the end-users of the proposed facility (*i.e.*, Rockland County residents) are not “sufficiently likely” or “probable” to require evaluation under NEPA.⁷⁹ At this juncture, they are purely speculative, because the mere *existence* of the proposed desalination facility is subject to countless contingencies and eventualities,⁸⁰ including the receipt of numerous regulatory approvals. Moreover, it is unreasonable

⁷⁶ DEC Letter at 2.

⁷⁷ As reflected in Chapter 2 of its Draft EIS, UWNY will need to obtain over two dozen separate permits and approvals from various federal, state, county, and local entities. United Water New York, Haverstraw Water Supply Project Draft Environmental Impact Statement at 2-23 to 2-25 (Sept. 26, 2008) (“UWNY Draft EIS”).

⁷⁸ DEC Letter at 3. The DEC Letter refers to the proposed full-scale desalination facility as the proposed Long-Term Water Supply Project, or LTWSP. *Id.* at 1.

⁷⁹ *City of Shoreacres*, 420 F.3d at 453; *Selkirk Conservation Alliance*, 336 F.3d at 958.

⁸⁰ *Cf. Airport Impact Relief v. Wykle*, 192 F.3d 197, 206 (1st Cir. 1999) (concluding that airport expansion was not reasonably foreseeable for NEPA purposes because it was “contingent on several events that may or may not occur over an eight-year span,” including the “acquisition of permits, the arrangement of funding, the drafting of expansion plans, and other contingencies that must occur before even the trilateral land exchange can occur,” contingencies which “render any possibility of airport expansion speculative, . . . neither imminent nor inevitable”); *Gulf Restoration Network v. U.S. Dep’t of Transp.*, 452 F.3d 362, 365, 369-71 (5th Cir. 2006) (holding that the Secretary of Transportation did not act arbitrarily or capriciously in concluding that the effects of three potential future projects were speculative in light of the uncertainty regarding whether they would be constructed, and if constructed, what technology they would deploy to warm liquified natural gas).

to assume, as Clearwater apparently does, that the DEC and other reviewing agencies would approve the proposed desalination facility if it does not comply with applicable federal and state drinking water quality standards. Finally, as shown below, Clearwater has presented no information to suggest that IPEC license renewal will have adverse radiological impacts on Hudson River water quality, including use of the river as a drinking water source.

For the foregoing reasons, the New Contention fails to meet the “materiality” requirement of 10 C.F.R. § 2.309(f)(1)(iv) and must be dismissed.

3. Clearwater Fails to Provide Adequate Factual and Technical Support for the New Contention, Contrary to 10 C.F.R. § 2.309(f)(1)(v)

As shown below, the New Contention is replete with assertions that lack any factual or technical underpinning and, in many instances, are patently incorrect. Notwithstanding Clearwater’s various citations to technical journals, NRC/EPA fact sheets, and other references, the New Contention does not credibly explain why IPEC license renewal would adversely affect use of the Hudson River as a source of drinking water or public health. Although Clearwater purportedly presents “technically meritorious contentions based upon diligent research efforts and supported by valid information,”⁸¹ it does not provide the “technical analysis” or “reasoned basis” required for an admissible contention.

Section 2.309(f)(1)(v) requires a petitioner to “provide documents or other factual information or expert opinion that set forth the necessary technical analysis to show why the proffered bases support its contention.”⁸² Instead, Clearwater here asks the Board to accept a *series* of assumptions—all unsubstantiated—concerning present and future sources of contaminants in the

⁸¹ New Contention at 10.

⁸² *PFS*, LBP-98-7, 47 NRC at 176, (emphasis added); see also *Ga. Inst. of Tech.* (Ga. Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 305 (1995), *vacated in part and remanded on other grounds*, CLI-95-10, 42 NRC 1, and *aff’d in part*, CLI-95-12, 42 NRC 111 (1995) (stating that a petitioner must “provide the analyses and expert opinion showing why its bases support its contention”). Conclusory statements cannot provide “sufficient” support for a contention, even if they are made by an expert. *USEC, Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) (emphasis added) (*quoting PFS*, LBP-98-7, 47 NRC at 181). Even an expert—which Clearwater has *not* furnished in this instance—must provide “a reasoned basis or explanation” for his or her its conclusions. *Id.*

Hudson River, the transport of such contaminants downstream, and the intake of those contaminants by a still-hypothetical facility. The failure of any one of the links in Clearwater's *assumed* causal chain invalidates Clearwater's entire argument.⁸³ Numerous links in Clearwater's chain are defective and fail, as explained below.

a. Clearwater's Claim that the Proposed Desalination Facility Will Extract "Contaminated" Water Lacks a Factual or Technical Basis

First and foremost, the New Contention rests precariously on the notion that the proposed desalination plant "will extract contaminated water on a continuing and regular basis," ostensibly due to its relative proximity to IPEC.⁸⁴ Clearwater provides no information demonstrating that water extracted from the Hudson River by the proposed facility is likely to be radiologically-contaminated, much less contaminated at levels that exceed applicable federal limits. As discussed further in Section IV.B.4, *infra*, the NRC Staff's DSEIS explains that numerous recent measurements of radionuclides in the environment surrounding IPEC—including Hudson River water—indicate that radioactivity levels are consistent with levels resulting from natural and manmade sources for the detected radionuclides, and that IP2 and IP3 operations thus have not resulted in radiological contamination that exceeds environmental background levels.⁸⁵ Thus, Clearwater's claims regarding potential withdrawal of Hudson River water contaminated by IPEC operation are pure conjecture.

⁸³ Notably, much of the information tendered by Clearwater in support of the New Contention relates to presumably the last link in the assumed causal chain—the purported inability of a desalination plant to remove radiological contaminants—and is presented in the declaration of Clearwater representative Manna Jo Greene based upon her lay review of technical literature and other information sources. Respectfully, Ms. Greene does not appear, or claim to be, an expert in desalination or water purification technology.

⁸⁴ New Contention at 2.

⁸⁵ Significantly, Clearwater neglects to mention this fact in discussing the presence of strontium in Hudson River fish and invertebrates and the presence of radionuclides in IPEC *onsite* monitoring wells. It also warrants mention that UWNY collected numerous water samples in 2007-2008 at several locations in the Hudson River for radiological analysis, in response to public expressions of "concern regarding the possible radiological contamination of groundwater as well as the Hudson River close to [IPEC]." UWNY Draft EIS at 2-9. As shown in Table 2-4 of the Draft EIS prepared by UWNY to support its application, "both gross alpha and beta were well below EPA MCLs. Also, radium, uranium, strontium 90, and tritium were well below their respective MCLs and/or guidance values." *Id.*

b. Clearwater's Allegations Regarding Release and Transport of "Harmful Substances" from IPEC Lack a Factual or Technical Basis

Clearwater contends that "the distances that radioactive isotopes or other toxic substances released from Indian Point may travel must be evaluated."⁸⁶ In support, Clearwater states that "[t]he Hudson River is a tidal estuary, which coupled with diffusion effects, is capable of transporting potentially harmful substances upriver, as well as downriver and cross-river."⁸⁷ Beyond this conclusory statement, Clearwater offers no alleged facts, documents, or expert opinion to support its claim that the NRC must analyze the transport of contaminants (radiological or otherwise) within the Hudson River beyond what already has been done.

As explained herein, there is no factual basis for the claim that radioactive isotopes of IPEC origin are present in the Hudson River at levels that exceed background levels. Nor does Clearwater provide any concrete support for its claim that IPEC is releasing "other toxic substances" into the Hudson River. Indeed, it fails even to specify the nature and source of the "harmful substances" of concern, the extent to which those substances *purportedly* are being released from IPEC, and the specific mechanism for their alleged transport to the site of the proposed desalination facility. Such vague and groundless allegations cannot provide the basis for an admissible contention.

c. Clearwater's Claim that the NRC Must Assess Hazardous Waste Products from the Proposed Desalination Facility Lacks a Factual or Legal Basis

Finally, Clearwater claims, again without factual support, that "hazardous waste products created by the desalination process must be assessed" as part of IPEC license renewal, and that "[t]he extracted radiation will be treated at a wastewater treatment plant resulting in a more concentrated hazardous material that must be disposed."⁸⁸ First, as a legal matter, Clearwater does not explain why or how this issue even is material to the NRC Staff's NEPA review of Entergy LRA for Indian

⁸⁶ New Contention at 3.

⁸⁷ *Id.*

⁸⁸ *Id.* at 3-4.

Point. Further, this claim is predicated on a chain of unsubstantiated assumptions; *i.e.*, that (1) the proposed desalination plant will withdraw radiologically-contaminated water from the Hudson River; (2) IPEC will be the source of the radiologically-contaminated water; and (3) processing of the radiologically-contaminated water by the proposed desalination plant will create “hazardous waste products.” Contrary to the requirements of 10 C.F.R. § 2.309(f)(1)(v), Clearwater provides no competent factual or expert support for these claims.

In summary, Clearwater bears the burden to present the factual information or expert opinions necessary to support its contention adequately, and its failure to do so renders the New Contention inadmissible.⁸⁹ Where a petitioner neglects to provide the requisite support for its contentions, the Board may not make assumptions of fact that favor the petitioner or supply information that is lacking.⁹⁰ Yet that is precisely what Clearwater seeks here by failing to provide the requisite supporting analysis for the various claims made in its New Contention.

4. Clearwater Fails To Controvert Relevant Information in the ER and DSEIS and Thus Does Not Raise A Genuine Material Dispute in the New Contention, Contrary to 10 C.F.R. § 2.309(f)(1)(vi)

The New Contention also must be rejected because it fails to meet the requirements of 10 C.F.R. § 2.309(f)(1)(vi), which requires a petitioner to provide “sufficient information” to show that a genuine dispute exists with the applicant and, in this case, the NRC Staff, on a material issue of law or fact. Whereas Section 2.309(f)(1)(v) “focuses on the need for some factual support for the contention,” Section 2.309(f)(1)(vi) “requires that there be a concrete and genuine dispute appropriate for litigation.”⁹¹ Here, Clearwater’s failure to controvert relevant information contained

⁸⁹ See *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 262 (1996); see also 10 C.F.R. § 2.309(f)(1)(v).

⁹⁰ See *Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, & 3), CLI-91-12, 34 NRC 149, 155 (1991).

⁹¹ *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 358 (2006).

in Entergy's ER, the NRC Staff's DSEIS, and associated supporting documentation underscores the lack of a genuine dispute and renders the New Contention fatally defective.

Clearwater contends that the ER and DSEIS "both explicitly ignore the impact of the known radioactive groundwater or potential future groundwater contamination on the quality of the Hudson River as a source of drinking water."⁹² This assertion both mischaracterizes and ignores substantial, relevant, dispositive information contained in the ER and DSEIS. For example, the ER states:

Based on currently available information and the sampling data that have been analyzed and assessed to date, the NRC and Entergy have not found any condition that indicates that occupational or public health and safety have been, or likely will be, affected by the current onsite groundwater contamination. This assessment is based on the fact that there is no drinking water pathway associated with groundwater or the Hudson River in the region surrounding Indian Point, *and samples taken in support of the NRC-required Radiological Environmental Monitoring Program (REMP) continue to indicate no detectable plant related radioactivity in groundwater above safe drinking water standards beyond the site boundary.* Samples taken include the offsite REMP sampling locations as defined in the IP2 and IP3 ODCMs, the *local municipal drinking water reservoirs*, and other groundwater monitoring wells located in the immediate vicinity of the plant.⁹³

The NRC's Staff DSEIS discusses in detail the IPEC REMP, including the results of radiological environmental monitoring conducted in 2006. As explained therein, the IPEC REMP designates sampling locations for the collection of environmental media for analysis.⁹⁴ The environmental media samples are "representative of the radiation exposure pathways to the public

⁹² New Contention at 6.

⁹³ ER at 5-5 (emphasis added). As the GEIS explains, "[e]nvironmental monitoring programs are in place at all sites to provide a backup to the calculated doses based on effluent release measurements." GEIS at 4-86. Under the NRC-required REMP, Entergy routinely monitors and documents potential radiological impacts to the environment and the public in the vicinity of IPEC, and compares those impacts to applicable standards, including the dose design objectives in Appendix I to 10 C.F.R. Part 50 and the dose limits in 10 C.F.R. Part 20. See ER at 5-5 to 5-6; DSEIS at 2-103 to 2-106. Radiological releases, doses to members of the public, and the associated environmental impacts are summarized annually in two reports for IP2 and IP3: (1) the Annual Radioactive Effluent Release Report and (2) Annual Radiological Environmental Operating Report. Limits for radiological releases and dose calculation methodologies are specified in Entergy's ODCM for IP2 and IP3. See DSEIS at 2-103.

⁹⁴ These sampling locations include both "indicator" and "control" locations to enable "the identification of potential sources of detected radioactivity as either background or from plant operations."

from *all* plant radioactive effluents.”⁹⁵ The waterborne pathway—the pathway of relevance to Clearwater’s New Contention—includes *Hudson River water*, fish and invertebrates, aquatic vegetation, bottom sediment, and shoreline soil.⁹⁶ Significantly, the DSEIS states that “[m]easurements of the media constituting the waterborne pathway indicated that, while some very low levels of plant discharged radioactivity were detected, there was no adverse radiological impact to the surrounding environment attributed to IP2 and IP3 operations.”⁹⁷

The DSEIS summarizes the 2006 REMP results, as initially reported in Entergy’s Annual Radiological Environmental Operating Report for 2006 (dated May 15, 2007). As the DSEIS indicates, a total of 1,342 analyses were performed in 2006, which is higher than required because of the inclusion of additional sample locations and environmental media by Entergy.⁹⁸ Due to the onsite groundwater contamination, Entergy has developed additional monitoring actions as part of the IPEC site groundwater monitoring program, “which supplements the existing REMP to monitor potential impacts of site operations throughout the license renewal term.”⁹⁹

Clearwater fails to acknowledge, and certainly does not controvert, the REMP-related findings presented in the DSEIS, including the following:

⁹⁵ DSEIS at 2-104.

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.* In particular, in 2006, Entergy agreed to several changes in the REMP to assure that all pathways were being evaluated. Specifically, two new groundwater wells were designated as “boundary wells” and were sampled as groundwater samples for tritium and strontium-90, as well as gamma spectroscopy analysis. These wells were specifically designed for groundwater monitoring and were placed in locations that would be representative of groundwater near the site boundary. These wells (MW-40 and MW-51) were designated as REMP sample stations 104 and 105. In addition, a change was made to the existing fish and invertebrate samples and shoreline soil samples. The locations and frequency remained the same; however, strontium-90 was added to the required analyses. Entergy committed to these additions in 2006, and these changes have been captured in the ODCM. *See* NL-07-064, Letter from T.R. Jones, Entergy, to Document Control Desk, U.S. Nuclear Regulatory Commission, “Indian Point Nuclear Power Plant Units 1, 2 and 3—Annual Radiological Environmental Operating Report for 2006,” encl. at 1-1 to 1-2 (May 15, 2007), *available at* ADAMS Accession No. ML071420088.

⁹⁹ *Id.* at 2-107

- Small amounts of tritium (386 picocuries per liter (pCi/L)) were detected in one of four quarterly composite samples from the discharge mixing zone. This is much lower than the required lower limit of detection of 3000 pCi/L.¹⁰⁰
- Strontium-90 was detected in four fish and invertebrate samples, three in the control samples and one in the indicator samples. Since the levels detected were comparable in the indicator and control location samples, atmospheric weapons testing is the likely cause.¹⁰¹
- Data resulting from analysis of the special water samples show that of 18 samples analyzed for strontium-90, only five samples showed detectable amounts of strontium-90. All of the results were very low and within the range considered to be residual levels from atmospheric weapons tests.¹⁰²
- Gamma spectroscopy analyses of the monthly drinking water samples and tritium analysis of quarterly composites showed that, other than naturally occurring radionuclides, no radionuclides from plant operation were detected in drinking water samples.¹⁰³
- Although bottom sediment samples indicated the presence of cesium-137, cesium-134 was not detected in any of the samples, suggesting that the primary source of the cesium-137 in bottom sediment is from historical plant releases at least several years old and from residual weapons test fallout.¹⁰⁴ Strontium-90 was not identified in any of the samples.¹⁰⁵

Based on the available data, the DSEIS concludes that (1) the 2006 levels of radionuclides in the environment surrounding IPEC are well below the NRC's reporting levels; (2) the radioactivity levels are within historic ranges associated with both natural and anthropogenic sources of environmental radioactivity; and (3) IPEC operations did not result in an adverse radiological impact to the public greater than environmental background levels.¹⁰⁶

¹⁰⁰ *Id.* at 2-104.

¹⁰¹ *Id.* at 2-105.

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ The DSEIS further states that the 2006 cesium-137 data are consistent with, but slightly lower than, historical levels; cesium-137 in bottom sediment has been generally decreasing over the last 10 years; and cesium-134 has not been detected in bottom sediment since 2002. DSEIS at 2-105.

¹⁰⁵ *Id.*

¹⁰⁶ *Id.* at 2-105 to 2-106. Notably, on May 15, 2008, during the Staff's development of the DSEIS, Entergy submitted its Annual Radiological Environmental Operating Report for 2007. The 2007 REMP monitoring results reported therein are consistent with those reported in 2006 and thus reinforce the conclusions stated in the DSEIS. Section 4.14 of the Annual Radiological Environmental Operating Report for 2007 states that the fallout from previous atmospheric weapons testing continues to cause sporadic detection of Cs-137 and Sr-90 in environmental samples, and that while there are "infrequent" detections of plant-related radionuclides in the plant environs, "the radiological effects are very low and are significantly less than those from natural background and other anthropogenic sources." See NL-08-081, Letter from Robert Walpole, Entergy, to Document Control Desk, U.S. Nuclear Regulatory Commission,

Clearwater's New Contention must be rejected because, contrary to 10 C.F.R. § 2.309(f)(1)(vi), it fails to controvert the foregoing information, as presented in the ER, DSEIS, and supporting documentation used to prepare those environmental review documents. Instead, Clearwater mischaracterizes the content of the ER and DSEIS. In particular, its suggestion that Entergy and the Staff have failed to address potential radiological impacts on Hudson River water quality on nearby drinking water supplies clearly is inaccurate in view of the DSEIS findings summarized above. The IPEC REMP includes sampling of Hudson River water, and has been augmented to include sampling of monitoring wells installed at locations considered to be representative of groundwater conditions near the site boundary.

Furthermore, there is no basis for the claim that the ER and DSEIS "both explicitly ignore the impact of the known radioactive groundwater or potential future groundwater contamination on the quality of the Hudson River as a source of drinking water."¹⁰⁷ Clearwater appears to allude to the statement in the ER and DSEIS that EPA drinking water limits do not apply because no drinking water exposure pathway exists at the IPEC site. This remains an accurate statement that is not controverted by the New Contention. Possible, future construction and operation of the proposed desalination facility is still highly speculative and contingent upon the successful execution of many intervening steps, including the prosecution of numerous regulatory approvals and completion of an auspicious "pilot" project. In addition, while Clearwater refers to several municipal water supply facilities "along the lower Hudson," it fails to identify where they are located relative to IPEC or why they might be affected by site groundwater contamination at IPEC.¹⁰⁸ As such, Clearwater's generalized reference to these other facilities does not controvert the conclusion that no drinking water exposure pathway currently exists for the IPEC site. Finally, as discussed above, if such a

"Indian Point Nuclear Power Plant Units 1, 2 and 3—Annual Radiological Environmental Operating Report for 2007," encl. at 4-10 (May 15, 2008), *available at* ADAMS Accession No. ML081420476.

¹⁰⁷ New Contention at 6.

¹⁰⁸ *Id.* at 3.

pathway were to come into existence, then NRC regulations would require Entergy to evaluate it in accordance with the IPEC ODCM and REMP.

For these reasons, the New Contention does not meet the requirements of 10 C.F.R. § 2.309(f)(1). Distilled, the New Contention hypothesizes that, sometime in the future, water containing unidentified contaminants at unspecified concentrations will be routinely drawn from the Hudson River by a still-conceptual facility and consumed by the public. Such indeterminate assertions do not give rise to a genuine material dispute suitable for adjudication. Moreover, Clearwater disregards relevant data and information presented in the ER and DSEIS that completely contravene its claims regarding drinking water quality degradation of the Hudson River. These data include the literally thousands of samples taken in support of the NRC-required REMP, analyses of which indicate that IPEC has not exceeded any dose limits or design objectives. Indeed, as indicated above, the calculated total body dose to the maximally exposed individual from *all* liquid effluents—including the IPEC site's combined groundwater and storm drain pathways—is less than 0.1% of the NRC limit of 3 mrem/year for liquid effluent releases. Clearwater presents no credible contrary data or analysis of its own to suggest that the calculated total body dose based on a postulated drinking water pathway would be materially different; *i.e.*, exceed NRC limits. Thus, the contention also must be dismissed on this ground.

V. CONCLUSION

For the reasons set forth above, Clearwater's New Contentions fails to meet the requirements of 10 C.F.R. § 2.309(c), (f)(1), and (f)(2). Therefore, the New Contention should be denied and the Motion for Leave should be rejected.

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Dated in Washington, D.C.
this 13th day of April 2009

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	Docket Nos.	50-247-LR and
)		50-286-LR
ENTERGY NUCLEAR OPERATIONS, INC.)		
)		
(Indian Point Nuclear Generating Units 2 and 3))		
)	April 13, 2009	

CERTIFICATE OF SERVICE

I hereby certify that copies of the "Applicant's Answer Opposing Clearwater's Motion for Leave and New Contention Concerning the Alleged Impacts of Indian Point License Renewal on the Hudson River as a Drinking Water Source," dated April 13, 2009, were served this 13th day of April, 2009 upon the persons listed below, by first class mail and by e-mail as shown below.

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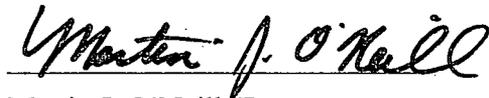
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