RIVERKEEPER.
NY's clean water advocate

October 30, 2013

VIA E-MAIL AND U.S. MAIL

New York State Department of State
Division of Coastal Resources
One Commerce Plaza
99 Washington Avenue
Albany, New York 12231
cr@dos.ny.gov

Re: Comments of Riverkeeper, Inc. on NYS DOS Public Notice F-2012-1028 – Application of Entergy for Coastal Consistency Certification for the Proposed Relicensing of Indian Point

Dear Division of Coastal Resources Staff:

Pursuant to the New York State Department of State's ("NYSDOS") Public Notice F-2012-1028[1] and subsequent comment deadline extension,[2] Riverkeeper, Inc. ("Riverkeeper") hereby submits the following comments on the certification of Entergy Nuclear Indian Point 2, LLC., Entergy Nuclear Indian Point 3, LLC., and Entergy Nuclear Operations, Inc. ("Entergy") that a proposed extension of the operating licenses of Indian Point nuclear generating Units 2 and 3 for an additional 20 years is allegedly consistent with New York State's Coastal Management Program and the enforceable coastal policies of NYS contained therein.[3]

For the reasons discussed in detail in the comments that follow, Entergy's purported consistency certification is unfounded and highly objectionable. Entergy attempts to weave mischaracterizations and distort the facts to obscure the reality that the proposed ongoing

[1] New York State Department of State Public Notice – F-2012-1028, Date of Issuance – August 28, 2013, *available at*, http://docs.dos.ny.gov/info/register/2013/aug28/pdf/misc.pdf (last accessed Oct. 23, 2013).

[2] *See* New York State Department of State Media Advisory, *The New York State Department of State Seeks Public Comments for License Renewal of Entergy's Indian point Nuclear Power Plant* (Sept. 13, 2013), *available at*, http://www.dos.ny.gov/press/2013/IndianPointNuclear.html (last accessed Oct. 23, 2013).

[3] *See* New York State Department of State Public Notice – F-2012-1028, Date of Issuance – August 28, 2013, *available at*, http://docs.dos.ny.gov/info/register/2013/aug28/pdf/misc.pdf (last accessed Oct. 23, 2013).

operation of Indian Point runs afoul of, is clearly ***not*** consistent with, and does not affirmatively advance, a number of NYS's coastal policies. As such, NYSDOS should unequivocally object to Entergy's requested consistency certification.

Thank you for your consideration. Should you any questions or wish to discuss any of Riverkeeper's comments further, please do not hesitate to contact us.

Sincerely,

Deborah Brancato, Esq.
Phillip Musegaas, Esq.
Riverkeeper, Inc.

Enclosures

COMMENTS OF RIVERKEEPER, INC. ON NYSDOS PUBLIC NOTICE F-2012-1028 – APPLICATION OF ENTERGY FOR COASTAL CONSISTENCY CERTIFICATION FOR THE PROPOSED RELICENSING OF INDIAN POINT

October 30, 2013

TABLE OF CONTENTS

COMMENTS OF RIVERKEEPER ON NYSDOS PUBLIC NOTICE F-2012-1028 – APPLICATION OF ENTERGY FOR COASTAL CONSISTENCY CERTIFICATION FOR THE PROPOSED RELICENSING OF INDIAN POINT (October 30, 2013)

I. BACKGROUND

A. Indian Point

The Indian Point nuclear power plant, currently owned and operated by Entergy Nuclear Operations, Inc. ("Entergy"), is located on the eastern banks of the Hudson River in the Village of Buchanan, Westchester County, New York. The plant sits just 24 miles away from New York City proper, and approximately 35 miles north of mid-town Manhattan. Indian Point is located at River Mile 42, directly in front of and adjacent to the "Hudson Highlands" designated Significant Coastal Fish and Wildlife Habitat, as well as slightly upstream of Haverstraw Bay, which is also a designated Significant Coastal Fish and Wildlife Habitat.[1]

Indian Point consists of two active nuclear generating reactors, Units 2 and 3, which have a combined electrical generating capacity of approximately 2,069 megawatts. These two reactors began operating in 1973 and 1975, respectively; the units were originally licensed to operate for 40 years, and while the current operating license of Unit 2 already expired on September 28, 2013,[2] the operating license of Unit 3 will expire on December 12, 2015. The Indian Point site is also home to one non-operating nuclear reactor, Unit 1, which operated from 1962-1974;[3] while Unit 1 no longer operates, it has not been fully decommissioned, and certain Unit 1 components and structures are still used in the normal course of plant operations.[4]

---

[1] *See* Coastal Fish and Wildlife Rating Form, Hudson Highlands (Revised Aug. 15, 2012), *available at*, http://www.dos.ny.gov/communitieswaterfronts/consistency/Habitats/HudsonRiver/Hudson_Highlands_FINAL.pdf (last visited Oct. 27, 2013) (hereinafter "Hudson Highlands SCFWH Rating Form"); Coastal Fish and Wildlife Rating Form, Haverstraw Bay (Revised Aug. 15, 2012), *available at*, http://www.dos.ny.gov/communitieswaterfronts/consistency/Habitats/HudsonRiver/Haverstraw_Bay_FINAL.pdf (last visited Oct. 27, 2013) (hereinafter "Haverstraw Bay SCFWH Rating Form"). The Hudson Highlands Significant Coastal Fish and Wildlife Habitat was revised via a State rulemaking process in 2012 to encompass the area of the Hudson River directly in front of the Indian Point plant. *See* Hudson Highlands SCFWH Rating Form. This updated designation took effect upon finalization of the State's rulemaking in August 2012. Despite the fact that NYSDOS' revised designation was legally sound and entirely appropriate, Entergy filed a legal challenge to the updated habitat designation, which is currently pending in State court. Notably Riverkeeper is an *amicus curiae* party in that lawsuit and has filed *amicus curiae* briefs in support of NYSDOS' designation.

[2] Under U.S. Nuclear Regulatory Commission regulations, Indian Point Unit 2 is allowed to continue operating with its expired license until ongoing administrative proceedings related to Entergy's allegedly "timely filed" license renewal application are resolved.

[3] Unit 1 stopped operating because the reactor could not come into compliance with critical NRC emergency core cooling regulations.

[4] Entergy tries to minimize the relevance of Unit 1 for purposes of NYSDOS' consistency review. *See, e.g.* Indian Point Unit 2 and ,3 Coastal Zone Management Act Consistency Certification in Support of USNRC's Renewal of Indian Point Unit 2 and 3 Operating Licenses, Prepared by AKRF, Inc. and Entergy Nuclear Indian Point 2, LLC; Entergy Nuclear Indian Point 3, LLC; and Entergy Nuclear Operations, Inc. (December 2012) (hereinafter cited as "IPEC CZMA Consistency Certification"), at footnote 51 ("IPEC's License Renewal does not request permission either to generate electricity from Unit 1 or to use the Unit 1 spent"). However, the existence of Unit 1 is relevant to NYSDOS' inquiry since various components are still used in connection with the operation of the rest of the plant

Since operations at the plant began, Indian Point has used, and continues to use, an environmentally destructive once-through cooling water intake system, which withdraws enormous amounts of water from the Hudson River for cooling water purposes. While Entergy's use of once-through cooling water technology indisputably does not comply with applicable law, Entergy continues to employ once-through cooling at Indian Point pursuant to a 1987 administratively-extended State Pollutant Discharge Elimination System ("SPDES") permit. In light of the fact that Entergy's use of a once-through cooling water system at Indian Point is not in compliance with applicable requirements, including the requirement that Entergy employ the "best technology available," ("BTA") for minimizing adverse environmental impacts, in 2003, the New York State Department of Environmental Conservation ("NYSDEC") initiated an administrative permit renewal proceeding. As part of that proceeding, NYSDEC issued a draft SPDES permit, which reflected NYSDEC's determination that a closed cycle cooling system is the site-specific BTA for Indian Point. That proceeding has been, and continues to be, subject to dispute by Entergy and adjudicatory hearings and remains pending, but will ultimately result in the modification of Entergy's "current" SPDES permit and the implementation of whatever is eventually determined to be BTA for minimizing the adverse environmental impacts caused by the current operation of Indian Point's once-through-cooling water intakes.

The operation of Indian Point has generated, and continues to generate, hazardous, toxic nuclear waste. Conservatively, approximately 1,500 metric tons[5] of highly radioactive spent nuclear fuel is stored at the site in leaking, degraded, and overly crowded spent fuel pools, or in dry casks. Due to the Federal government's failure to come up with a solution for the permanent disposal of the nation's nuclear waste, the spent nuclear fuel generated by Indian Point will be stored at the site for upwards of centuries, if not indefinitely.

Generally, the Indian Point nuclear power plant has a long history of environmental and safety issues. To briefly summarize: decades of once-through-cooling water system water withdrawals, as mentioned above, have devastated and continue to ravage the aquatic ecology of the Hudson River, and directly affect the two aforementioned State-designated Significant Coastal Fish and Wildlife Habitats: the Hudson Highlands and Haverstraw Bay; spent fuel pool leaks, also as mentioned above, have been occurring for decades and have resulted in extensive radioactive groundwater contamination plumes that leach to and contaminate the Hudson River; Entergy notoriously and frequently "discovers" that degraded, corroded, and inadequately inspected components (such as buried pipes, a steam generator tube, and electrical transformers) have burst, leaked, and/or exploded; negligent operations have lead to radioactive spillage events; and the plant experiences frequent unplanned shutdowns and other operational difficulties. With

---

and still cause impacts, Unit 1's previous operation has resulted in ongoing environmental impacts relevant to the coastal consistency inquiry (as discussed further where relevant), and because Unit 1 will not be decommissioned until the *entire* plant stops operating.

[5] This approximate figure is derived from conversations between a Riverkeeper Staff Attorney, Phillip Musegaas, and an Entergy spokesperson, James Steets, in 2005, in which Entergy roughly calculated the amount of spent nuclear fuel present at Indian Point and represented to Riverkeeper that approximately 1,500 tons of waste at that time was being stored on the site. Based on Entergy's representations about the fuel usage rates at Indian Point Units 2 and 3, it can be expected that at least 1,000 additional metric tons of waste would be produced during a 20-year license extension.

badly aging systems and components, ever-present piles of improperly stored dangerous nuclear waste, and increased risks of natural disasters, including earthquakes, in vicinity of Indian Point, the plant is highly vulnerable to severe accidents, (such as spent fuel pool fires), which could result in large-scale radiological releases to the coastal zones of New York State ("NYS"). The plant is also exceedingly susceptible to intentional acts of sabotage due to improperly protected and managed site facilities. These circumstances are compounded by the fact that there are admittedly no workable emergency evacuation or preparedness plans for the areas surrounding Indian Point, due in large part to the overwhelming population density of the surrounding region.

B. Entergy's Indian Point License Renewal Application

Despite the realities described above, Entergy wishes to continue operating Indian Point beyond the original licensed lives of the reactors: on or about April 23, 2007, Entergy filed a license renewal application with the U.S. Nuclear Regulatory Commission ("NRC") seeking extensions of the operating licenses of Units 2 and 3 for an additional 20 years (i.e., until 2033 and 2035 respectively). Entergy's application is currently pending with the NRC, and is awaiting the outcome of an NRC Staff safety review as well as an adjudicatory process, including hearings on critical safety and environmental issues before an Atomic Safety and Licensing Board ("ASLB") of the NRC.

In addition and importantly, in connection with Energy's efforts to procure renewed operating licenses for Indian Point Units 2 and 3, in 2009, Entergy filed an application with NYSDEC for a necessary water quality certification ("WQC") pursuant to section 401 of the Federal Clean Water Act ("CWA"). Entergy's application sought certification from NYSDEC that the proposed relicensing of Indian Point Units 2 and 3 for an additional 20 years beyond their current license terms would not violate New York State water quality standards. On April 2, 2010, based upon NYSDEC's findings that the continued operation of Indian Point as proposed by Entergy would result in numerous inconsistencies with and violations of relevant and applicable State standards, NYSDEC affirmatively denied Entergy's request for the required new CWA § 401 WQC (NYSDEC's denial letter is attached in support of these comments).[6] While NYSDEC's determination to deny Entergy this necessary certification was definitive, and made within the statutory one-year timeframe contemplated by the CWA, Entergy chose to avail itself of an optional hearing process on NYSDEC's decision, and that process is currently ongoing.

C. CZMA Coastal Consistency Certification

The Federal Coastal Zone Management Act ("CZMA") was enacted in 1972 to encourage coastal States "to be proactive in managing natural resources for their benefit and the benefit of the Nation."[7] The CZMA directs those States that choose to participate to establish and

---

[6] *See* Letter from William R. Adriance (Chief Permit Administrator) to Dara F. Gray (Entergy), Re: Joint Application for CWA § 401 Water Quality Certification NRC License Renewal – Entergy Nuclear Indian Point Units 2 and 3 DEC Nos.: 3-5522-00011/00030 (IP2) and 3-5522-00105/00031 (IP3) *Notice of Denial* (April 2, 2010), *available at*, http://www.dec.ny.gov/docs/permits_ej_operations_pdf/ipdenial4210.pdf (Attachment 1) (hereinafter cited as "Attachment 1 - NYSDEC IP 401 Notice of Denial").

[7] Coastal Zone Management Act of 1972 ["CZMA"], 16 U.S.C. §1451 et seq.; NOAA, CZMA Federal Consistency Overview (Feb. 20, 2009), *available at*,

implement a Coastal Management Program ("CMP") for managing the natural resources found in the coastal zones.[8] Federally approved State CMPs are comprehensive management plans that describe the uses subject to the management program, the authorities and enforceable policies of the management program, the geographical boundaries of the state's coastal zone, the organization of the management program, and state laws and regulations under which the program is administered.[9]

The cornerstone of the CZMA is the Federal consistency provision, which provides participating States with a powerful and important tool to manage future resource use in the coastal zone.[10] This provision requires that the Federal agency actions that result in effects on coastal resources must be consistent with the enforceable policies of a state's CMP.[11] Federal activities subject to the consistency provisions of the CZMA include Federal licensing activities, including certain Federal license *renewal* activities.[12] Moreover, State CMPs include a list of which federal activities are presumed to have effects on the coastal zone and thus automatically require a consistency review.[13] The State agency responsible for conducting the Federal consistency review process, i.e. the lead state agency that administers the CMP, must make a determination about whether the proposed Federal activity is consistent with State coastal policies; if the State agency finds that the proposed activity is inconsistent with any of the State's enforceable policies, the State can object to the proposed consistency certification submitted by an applicant, and, if so, the Federal agency involved cannot authorize the proposed action.[14]

---

http://coastalmanagement.noaa.gov/consistency/media/FC_overview_022009.pdf, at 3 (hereinafter cited as "NOAA CZMA Federal Consistency Overview").

[8] *See* CZMA § 306(d); 15 C.F.R. part 923.

[9] NOAA CZMA Federal Consistency Overview at 3.

[10] *See* CZMA § 307, 16 U.S.C. 1456; NOAA CZMA Federal Consistency Overview at 3.

[11] CZMA § 307, 16 U.S.C. §1456(c)(1)(A); *see also* NOAA CZMA Federal Consistency Overview at 3.

[12] 15 C.F.R. § 930.51; Guidance published by the National Oceanic and Atmospheric Administration ("NOAA") explains that there are "four elements for determining that an authorization from a Federal agency is a 'federal license or permit' subject to federal consistency review. First, federal law requires that an applicant obtain a federal authorization. Second, the purpose of the federal authorization is to allow a non-federal applicant to conduct a proposed activity. Third, the activity proposed has reasonably foreseeable effects on a state's coastal uses or resources, and fourth, the proposed activity was not previously reviewed for federal consistency ***by the state CMP agency*** (unless the authorization is a renewal . . . pursuant to §930.51(b) [which provides that certain license renewal activities that were previously reviewed are still subject to consistency review])." NOAA CZMA Federal Consistency Overview at 12 (emphasis added).

[13] 15 C.F.R. § 930.53; NOAA CZMA Federal Consistency Overview, at 11. NOAA guidance explains that "[a]ll federal license or permit activities occurring in the coastal zone are deemed to affect coastal uses or resources if the state CMP has *listed* the particular federal license, permit or authorization in its federally approved CMP." NOAA CZMA Federal Consistency Overview, at 13 (emphasis in original).

[14] *See* 16 U.S.C. §1456(c)(3)(A); 15 C.F.R. Part 930, Subpart D; NOAA CZMA Federal Consistency Overview 15 ("If state objects [to applicant's coastal consistency certification], Federal agency does not authorize the activity to commence. If a state issues a conditional concurrence and the applicant does not amend its federal application to include a state's conditions, a state's conditional concurrence automatically becomes an objection . . . Applicant may appeal a state's objection to the Secretary of Commerce within 30 days of the objection . . . . If the Secretary does not override a state's objection, the Federal agency does not authorize the project.").

In New York, in recognition of the unique and critical nature of State coastal resources and various threats thereto, NYSDOS prepared a CMP, originally approved by NOAA in 1982, which contains forty-four (44) coastal policies with which Federal agency actions must be consistent.[15] The NYS CMP designates NYSDOS "as the State's agency responsible for reviewing federal activities as to their consistency with the CMP."[16] NYSDOS "must ensure" that federal activities, including activities requiring federal licenses, are consistent with the NYS CMP.[17] In fact, the NYS CMP indicates that proposed activities subject to consistency reviews must not only be consistent with, but must also *advance* NYS's coastal policies.[18]

Under Federal law and the NYS CMP, NRC license renewals for nuclear power plants require a consistency review by NYSDOS.[19] First, the NYS CMP plainly establishes that NRC nuclear power plant license renewal activities are subject to the Federal consistency provisions of the CZMA. In particular, the NYS CMP lists nuclear power plant relicensing activities as a specific federal regulatory activity requiring a consistency review by NYSDOS.[20] Moreover, NRC has conceded that nuclear power plant license renewal actions require a coastal consistency certification.[21] Thus, NRC may not issue renewed operating licenses to Indian Point Units 2 and

---

[15] NOAA, Office of Coastal Zone Management, *New York State Coastal Management Program and Final Environmental Impact Statement, available at,* http://www.dos.ny.gov/communitieswaterfronts/pdfs/NY%20CMP%20.pdf (hereinafter referred to as "NYS CMP").

[16] NYS CMP at § II-9, 8.

[17] NYS CMP at § IX, 20.

[18] *See* NYS CMP at § IX, 36 ("The necessity to advance one or more of the coastal policies is on[e] part of the requirements for [coastal consistency] certification. Before undertaking an action, the State agency must certify that the proposed action will not substantially hinder the achievement of any . . . of the coastal policies and . . . advance one or more of such policies"); *see also id.* at § II-6, 1 ("agencies are required to advance these policies toward their logical conclusion").

[19] Entergy has made unconvincing arguments in various forums that a consistency review process by NYSDOS is not required in relation to the proposed license renewal of Indian Point. Such a position is not supported by the law or factual circumstances surrounding the plant, as is fully explained in a Riverkeeper legal pleading which is attached to these comments. *See* Riverkeeper Answer in Opposition to "Motion and Memorandum by Applicant Entergy Nuclear Operations, Inc. for Declaratory Order that it has Already Obtained the Required New York State Coastal Management Program Consistency Review of Indian Point Units 2 and 3 for Renewal of the Operating Licenses (April 5, 2013) (Attachment 2) (hereinafter cited as "Attachment 2 - Riverkeeper Answer to Entergy Motion for Declaratory Order").

[20] Per Federal regulations, the NYS CMP includes a list of "[t]he specific federal regulatory activities subject to consistency review by DOS." NYS CMP at § II-9, 12. The list of Federal licensing activities that are unequivocally "subject to the consistency provisions of the" CZMA and the NYS CMP includes the following actions undertaken by the NRC: "[*l*]*icensing* and certification of the siting, construction, and *operation* of nuclear power plants, pursuant to Atomic Energy Act of 1954, Title II of the Energy Reorganization Act of 1974 and the National Environmental Policy Act of 1969." NYS CMP at § II-9, 18, 20 (emphasis added). This specifically encompasses "renewals . . . to such regulatory approvals." NYS CMP at § II-9, 11. "[NYS]DOS *will* review these activities for their consistency with New York's CMP." NYS CMP at § § II-9, 12 (emphasis added).

[21] NRC's guidance recognizes that "[a]ctivities of Federal agencies that are reasonably likely to affect coastal zones are required to be consistent with the approved CMP of the State or territory to the maximum extent practical." U.S. NRC, Procedural Guidance for Preparing Environmental Assessments and Considering Environmental Issues. NRR Office Instruction No. LIC-203, Revision 2 (Feb. 2009) at 7. This guidance further recognizes that "[i]f a Federal agency receives an application for a permiting [sic]/licensing activity that has been pre-listed in a State's CMP, that agency has an obligation to withhold the permit/license approval until the State has concurred on the consistency determination." *Id.* at 8. NRC's guidance explains that nuclear power plant license renewals are "typically" "listed

3 unless NYSDOS conducts a consistency review and approves a consistency certification for the plant.[22] Notably, Indian Point has *never* undergone a federal coastal consistency review by NYSDOS.[23]

In light of the unambiguous Federal consistency certification scheme established under the CZMA, recognized by the NRC, and implemented in New York via the NYS CMP, on December 17, 2012, Entergy submitted a purported "Consistency Certification" to NYSDOS related to the proposed license renewal of Indian Point Units 2 and 3, in an attempt to obtain the necessary State agency approval.[24] After corresponding with and requesting additional information of Entergy for several months, on or about June 20, 2013, NYSDOS deemed Entergy's consistency certification application "complete" for purposes of beginning a six-month consistency review clock. Entergy and NYSDOS recently agreed to an approximate 90-day stay of this review clock, and which makes a consistency decision (i.e. a decision to either object to or concur with Entergy's Consistency Certification) by NYSDOS due on or before March 22, 2014.[25]

Entergy's Consistency Certification assumes that Indian Point will operate during the proposed license renewal periods in the same manner in which the plant currently operates.[26] This nonsensical approach completely ignores the ongoing SPDES permit renewal proceeding described above before NYSDEC, at the end of which Entergy will likely be required to implement a new cooling water intake structure technology, and in which Entergy has proposed

---

activities." *Id.* at 9; *see id.* ("*Upon receipt of an application for a listed activity (e.g. license renewal, [NRC Staff shall] ensure that the licensee has provided a Federal consistency certification.*") (emphasis in original). Furthermore, NRC's guidance acknowledges that NOAA "regulations specifically require Federal consistency certification for license renewal . . . that will affect any coastal use or resource" and explicitly states that nuclear power plant "license renewal applications" constitute "NRR [NRC Office of Nuclear Reactor Regulation] licensing actions requiring a Federal consistency certification." *Id.* at 8.

[22] The NYS CMP explains that the Federal agency may not issue a license "unless: (a) DOS concurs or concurs with conditions with the applicant's consistency certification; (b) DOS' concurrence is *conclusively* presumed; or (c) the U.S. Secretary of Commerce overrides DOS' objection to the applicant's consistency certification." NYS CMP at § II-9, 11 (emphasis added). In regards to the latter point, in the event NYSDOS objects to and does not concur with a consistency certification for the proposed relicensing of Indian Point, the Secretary of Commerce has limited authority to override the state's objection on his/her own initiative or upon appeal by the applicant. *See* 16 U.S.C. §1456(c)(3)(A); *see also* 15 C.F.R. § 930.131.

[23] Entergy has made spurious claims that the operation of Indian Point has been "previously reviewed." Such arguments are meritless. *See* Attachment 2 - Riverkeeper Answer to Entergy Motion for Declaratory Order.

[24] *See* Letter from Fred Dacimo (Entergy) to Secretary Cesar A. Perales, Re: Consistency Certification for Entergy Nuclear Indian Point 2 and Entergy Nuclear Indian Point 3 License Renewal Application (Dec. 17, 2012); IPEC CZMA Consistency Certification.

Despite the clear obligation of Entergy to submit to a coastal consistency review for the proposed relicensing of Indian Point, Entergy has also filed various motions and lawsuits seeking to evade the required review. These actions have absolutely no merit. *See, e.g.,* Attachment 2 - Riverkeeper Answer to Entergy Motion for Declaratory Order.

[25] *See* Stay Agreement (Oct. 9, 2013).

[26] *See* IPEC CZMA Consistency Certification at I-3 ("No change in IPEC operations is proposed as part of License Renewal").

and advocates for the implementation of one such technology, cylindrical wedgewire screens.[27] Notwithstanding this reality, Entergy's Consistency Certification is based upon current plant operations, i.e., Entergy's use of once-through cooling water technology.[28] Thus, NYSDOS has been specifically asked to conduct only a review related to whether or not continued operations of Indian Point *as it currently operates* for an additional 20 years, would be consistent with the coastal policies of NYS.

NYSDOS is now obligated to determine whether the proposed action of relicensing Indian Point is consistent with the 44 enforceable coastal policies contained in NYS's CMP. Entergy's Consistency Certification speciously and incorrectly claims that many of the State's coastal policies are inapplicable to this proceeding[29] and otherwise that license renewal of Indian Point would be consistent with all of NYS's policies.[30] Entergy's patently flawed "certification" ignores and/or grossly mischaracterizes numerous critical facts and circumstances relating to the proposed ongoing operation and continued existence of Indian Point. Contrary to Entergy's Consistency Certification, the proposed relicensing of the plant would result in *major* inconsistencies with *numerous* of NYS's coastal policies. These inconsistencies are described in detail below, and clearly warrant NYSDOS' objection to, and rejection of, Entergy's application for Consistency Certification.

II. RIVERKEEPER'S INTEREST

Riverkeeper is a non-profit, membership-supported, environmental advocacy organization dedicated to the protection of the environmental, recreational and commercial integrity of the Hudson River and its tributaries, as well as the drinking water of nine million New York City and Hudson Valley residents. Since its inception in 1966, Riverkeeper has used litigation, science, advocacy, and public education to raise and address concerns relating to environmental impacts to NYS coastal areas, including those caused by the operation of the Indian Point nuclear power plant. Riverkeeper is headquartered in Ossining, New York, approximately 10 miles from the Indian Point facility, and has approximately 8,000 members and/or subscribers that reside within at least 50 miles of the plant and who are concerned about the impact of Indian Point on the coastal resources of the area.

Since Indian Point began operating, Riverkeeper has been highly concerned about the plant's damaging impact on the aquatic ecology of the Hudson River caused by its use of antiquated

---

[27] Within the context of the NYSDEC SPDES permit renewal proceeding, Entergy did generate "consistency certification" for informational purposes only related to the installation and use of Entergy's proposed screen technology. *See* TRC Environmental Corporation & NERA Economic Consulting, *Certification of Consistency with New York's Coastal Policies in Connection with Installation and Operation of Cylindrical Wedgewire Screens* (March 29, 2013). However, this alleged (and factually deficient) certification has not been submitted to NYSDOS for consideration.

[28] *See* IPEC CZMA Consistency Certification at I-8; *id.* at III-1 ("IPEC License Renewal, as described in Entergy's LRA (Attachment 1), seeks only the continuation of existing activities."

[29] Entergy claims that policies 1-3, 6, 9, 11-15, 21-23, 27-28, 42, and 44 are inapplicable to the license renewal of Indian Point. *See generally* IPEC CZMA Consistency Certification.

[30] *See generally* IPEC CZMA Consistency Certification; *see id.* at I-3 ("Entergy is submitting this Consistency Certification that License Renewal is consistent with the NYCMP").

once-through cooling water intake structures. To this end, for decades, Riverkeeper has been a party to various agreements and legal proceedings seeking to force the owners of Indian Point to comply with the law and upgrade the facility so as to minimize its environmental impact. Riverkeeper retains renowned fisheries biologists at Pisces Conservation, Ltd ("Pisces") to support this effort. Currently, Riverkeeper is an intervenor in both the aforementioned Indian Point SPDES permit renewal and CWA § 401 certification denial appeal proceedings pending before NYSDEC, in which this, *inter alia*, is an issue.

In addition, since the terrorist attacks of September 11th, as well as the Fukushima Daiichi nuclear disaster, Riverkeeper has become increasingly concerned with, and proactive about, other environmental, safety, and security issues posed by the operation of Indian Point. One such matter concerns the environmental and safety risks posed by the large amount of ever-accumulating irradiated fuel being stored onsite at the plant. Riverkeeper has engaged in advocacy and litigation relating to the impacts and risks of long-term or indefinite onsite nuclear waste storage in vulnerable and/or degraded onsite storage structures at Indian Point, including probable radiological leaks and releases to the surrounding environment over time, and spent fuel pool fire and accident risk. For example, Riverkeeper has raised (and continues to raise) such concerns in the context of being a party to a 2010 Federal appeal which overturned NRC's "waste confidence rule" relating to long-term nuclear waste storage at individual reactor sites, and as an engaged stakeholder in NRC's newly required "waste confidence" environmental review proceedings. In addition, Riverkeeper raised expert-supported concerns related to onsite nuclear waste storage at various junctures in the Indian Point license renewal proceeding.

Riverkeeper has also been actively involved in raising and litigating site-specific concerns about the environmental and safety implications of radiological leakage issues and groundwater contamination at Indian Point. Riverkeeper has aggressively engaged in this issue since spent fuel pool leaks were "discovered" at Indian Point in 2005, and extensive groundwater contamination plumes were subsequently uncovered to be the result of such leaks, as well as other onsite component leaks and spill, in 2007. In particular: Riverkeeper raised an adjudicable issue in the Indian Point license renewal proceeding relating to the sufficiency of the environmental analysis afforded to the then-"newly discovered" spent fuel pool leaks and groundwater contamination occurring at Indian Point;[31] Riverkeeper raised a legal claim in the aforementioned CWA § 401 certification denial appeal proceeding before NYSDEC relating to whether radiological leaks and groundwater contamination at Indian Point result in violations of relevant state requirements and standards;[32] Riverkeeper was a national stakeholder in NRC task force activities related to radiological leakage and environmental contamination issues occurring

[31] While this contention ultimately was subject to a settlement, Riverkeeper spent five years preparing to adjudicate this issue, reviewing thousands of Entergy and NRC documents related to the SFP leaks and groundwater contamination at Indian Point, and obtaining expert analyses pertaining to the likelihood of ongoing and future SFP leaks and the environmental consequences of SFP leaks at Indian Point. The ultimate settlement has no bearing whatsoever on the valid claims raised by Riverkeeper on the matter.

[32] In this proceeding, Riverkeeper once again invested a significant amount of time and obtained expert analyses pertaining to the relevant issues. This issue resulted in adjudicatory hearings and a voluminous record relating to radiological leaks at Indian Point, the environmental impacts of the leaks to the groundwater and the Hudson River, the inadequacy of Entergy's programs for managing the aging of buried plant components and the likely future radiological leaks from such components, and the applicability of state water quality related standards to radiological leakage and contamination issues.

at nuclear plants across the country; and Riverkeeper was consulted and provided feedback to the U.S. Government Accountability Office ("GAO") in relation to GAO's study of leaking underground piping systems at nuclear power plants.

Furthermore, Riverkeeper has raised and is involved in addressing other, ever-growing concerns regarding safety and security issues at, and posed by, Indian Point. For years, Riverkeeper has been calling for improved safety, security, and emergency planning at the aging and dangerous Indian Point plant in order to ensure the protection of the surrounding population and environment in the event of an accident or intentional attack on the facility and an attendant large-scale radiological release. For example: Riverkeeper was a recognized stakeholder in NRC's lengthy attempt to update inadequate emergency preparedness regulations and requirements; Riverkeeper has participated and continues to participate in and comment on NRC post-Fukushima "lessons learned" regulatory activities in an effort to ensure that critical safety concerns related to the operation of Indian Point are addressed, including whether or not Indian Point is capable of withstanding certain earthquakes and other natural disasters; Riverkeeper has raised a number of adjudicable and expert-supported aging related safety issues in the Indian Point license renewal proceeding pending before the NRC, which focus on whether the plant can continue operating for an additional 20 years without succumbing to aging phenomenon, such as corrosion; and Riverkeeper has filed several expert-supported enforcement petitions with the NRC seeking redress for, and adequate consideration of, serious safety issues posed by the operation of Indian Point, which could result in devastating accident scenarios.

Thus, Riverkeeper is intimately familiar with, and has particularized knowledge and expertise in, the various ways in which Indian Point impacts and poses risks to the environment, and the coastal areas of NYS in particular.

Moreover, in recent years, Riverkeeper has *also* become involved in efforts to clarify and resolve the question of whether the power generated by Indian Point is "vital" or "necessary" for the region's energy needs. To this end, Riverkeeper has commissioned several reports from a prominent, independent energy consultant, Synapse Energy Economics, Inc. ("Synapse"). These reports, as discussed in more detail later herein in response to certain representations made by Entergy, make it clear that the energy generated by Indian Point can be cleanly replaced without any significant impact on the region's electricity grid. Moreover, the NYS Public Service Commission ("PSC") recently instituted a proceeding calling for the development of a replacement contingency plan to address the scenario in which Indian Point does not operate beyond the expiration of Unit 3's license in 2015, and Riverkeeper is a stakeholder in that proceeding.

With such long-standing and extensive involvement in and experience with Indian Point related matters, Riverkeeper is uniquely situated to provide credible, reliable, expert-supported comments to inform NYSDOS' assessment about whether the proposed relicensing of Indian Point is consistent with the coastal policies of NYS.

III. ENTERGY'S PROPOSAL TO CONTINUE OPERATING INDIAN POINT FOR AN ADDITIONAL 20 YEARS IS INCONSISTENT WITH NYS COASTAL POLICIES

The proposed relicensing of Indian Point in the manner contemplated by Entergy in its Consistency Certification would not be consistent with, and would not affirmatively advance, a number of NYS coastal policies, as described in greater detail below.

As an initial matter, it is necessary to address a fundamentally flawed argument that Entergy repeatedly asserts in its Consistency Certification. That is, Entergy argues again and again that "IPEC is an existing facility"[33] for which there will allegedly be "no change" in "operations as part of License Renewal."[34] Entergy relies on such arguments in a misguided attempt to claim that various of NYS's coastal policies are inapplicable, and/or to bolster Entergy's position that the relicensing of Indian Point would purportedly be consistent with NYS' coastal policies.

To be clear: for purposes of the relevancy of NYS' coastal policies to Entergy's proposed relicensing of Indian Point, it is of no moment that the plant is an "existing facility." Simply because Indian Point already exists does not mean that certain impacts are somehow forgone, "acceptable," or unavoidable. Indeed, NYSDOS has never conducted a consistency certification review in relation to Indian Point, is entitled and required to do so now, and, in that context, NYSDOS can and should fully consider all of the impacts posed by the current and proposed *future* existence and operation of the facility.

Moreover, Entergy's assertion that relicensing Indian Point involves "no change" in plant operations is a legal and factual fiction. Entergy improperly ignores the fact that the circumstances surrounding the plant's operation have already changed significantly over the years and that additional changes are likely to occur should the facility be relicensed. For example, and as will be discussed in more detail below where relevant: Indian Point continues to have a major impact on an aquatic ecosystem that was not previously, but is now properly characterized as in peril; previously unforeseen, the site has become a de facto nuclear waste dump and any additional waste generated during a proposed license renewal period will be stored onsite indefinitely; groundwater contamination caused by radiological leaks will contaminate the coastal areas of NYS ostensibly throughout the entire proposed license renewal periods; and the plant will continue to age and degrade as it operates during renewed operating terms, posing an ever-increasing risk of accident and radiological release to NYS coastal areas.

Thus, NYSDOS must disregard Entergy's overarching and pervasive attempts to short circuit and flout the consistency review process and to completely mischaracterize the nature of Indian Point's operations and environmental impacts. In reality, numerous of NYS' coastal policies are highly relevant to the proposed relicensing of Indian Point, and the continued operation of the plant would result in circumstances that are clearly not consistent with such policies. This includes, but is not necessarily limited to, the following inconsistencies with NYS coastal policies:

---

[33] *See* IPEC CZMA Consistency Certification at II-7, IV-3, VI-2, VI-4, VII-1, VIII-5, X-4.

[34] Entergy makes this argument in relation to numerous NYS coastal policies, including policies 8, 9, 11-14, 19, 20, 30, 36, 38, and 39. *See* IPEC CZMA Consistency Certification at III-1, III-10, III-13, IV-3, VI-2, XI-2, XI-9, XI-11, XI-12, XI-13, XI-14, XI-16.

A. ***The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 1 of the NYS CMP***

NYSDOS Coastal Policy 1

Policy 1 of the NYS CMP states the following: "Restore, revitalize, and redevelop deteriorated and underutilized waterfront areas for commercial, Industrial, cultural, recreational and other compatible uses."

The Proposed Continued Operation of Indian Point Fails to Restore, Revitalize, or Redevelop Deteriorated Waterfront Areas for Compatible Uses

The continued operation of Indian Point beyond its current licenses for an additional 20 years, results in various inconsistencies with Policy 1 of the NYS CMP, as follows.

First, as is discussed in more detail in relation to Policies 7 and 9, the continued operation of Indian Point in the manner contemplated by Entergy in its Consistency Certification will result in ongoing and severe degradation of aquatic resources of the Hudson River from the plant's once through cooling water intake structure; such degradation has resulted in the deterioration of the aquatic ecology, including declines in fish populations, and will continue to do so should the plant continue operating; thus, continued operation is not consistent with, and does not advance, the restoration, revitalization, or redevelopment of compatible uses of the river, including suitability for fish and wildlife habitat, and commercial and recreational fishing.[35]

Second, as is discussed in more detail in relation to Policies 8 and 21, the continued operation of Indian Point will result in ongoing radioactive leaks and resulting impacts to the Hudson River; such pollution may result in the deterioration of the water and aquatic ecology of the Hudson River over time; thus, continued operation of Indian Point is not consistent with, and does not advance, the restoration, revitalization, or redevelopment of compatible uses of the river, including suitability for fish and wildlife habitat, and recreational uses such as fishing and swimming.[36]

Third, as is discussed in more detail in relation to Policies 8 and 39, the continued operation of Indian Point will result in the generation and onsite storage of additional nuclear waste, which poses a significant risk for a large-scale radiological release to NYS coastal areas in the event of an accident or attack; such releases would devastate the water and aquatic ecology of the Hudson River; thus, continued operation is not consistent with, and does not advance, the restoration, revitalization, or redevelopment of compatible uses of the river, including suitability for fish and wildlife habitat, commercial and recreational fishing, and swimming.[37]

Fourth, and lastly, as is discussed in more detail in relation to Policy 8, the ongoing operation of the badly degrading Indian Point plant is likely to result in aging related accidents, which can

[35] *See infra* at §§ III.C, III.E. Riverkeeper incorporates these discussions by reference here.

[36] *See infra* at §§ III.D, III.I. Riverkeeper incorporates these discussions by reference here.

[37] *See infra* at §§ III.D, III. Riverkeeper incorporates these discussions by reference here.

result in severe environmental impacts from catastrophic radiological releases; thus, continued operation is not consistent with, and does not advance, the restoration, revitalization, or redevelopment of compatible uses of the river, including suitability for fish and wildlife habitat, commercial and recreational fishing, and swimming.[38]

Based on the foregoing, the referenced discussions elsewhere herein, and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 1 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

B. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 4 of the NYS CMP

NYSDOS Coastal Policy 4

Policy 4 of the NYS CMP states the following: "Strengthen the economic base of smaller harbor areas by encouraging the development and enhancement of those traditional uses and activities which have provided such areas with their unique maritime identity." This policy focuses on promoting "desirable activities" such as "recreational and commercial fishing."[39]

The Proposed Continued Operation of Indian Point Fails to Develop and Enhance Traditional Water Uses and Activities in Small Harbor Areas

As is discussed in more detail in relation to Policies 7 and 9, the continued operation of Indian Point in the manner contemplated by Entergy in its Consistency Certification will result in ongoing and severe degradation of aquatic resources of the Hudson River from the plant's once through cooling water intake structure; such degradation has resulted in the deterioration of the aquatic ecology, including declines in fish populations, and will continue to do so should the plant continue operating; such impacts interfere with recreational and commercial fishing uses of the Hudson River; thus, continued operation of the plant is not consistent with, and does not advance, the development and enhancement of fishing activities that are traditional to smaller harbor communities located along the Hudson River.[40]

Based on the foregoing, the referenced discussions elsewhere herein, and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 4 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

[38] *See infra* at § III.O. Riverkeeper incorporates this discussion by reference here.

[39] NYS CMP § II-6, 14.

[40] *See infra* at §§ III.C, III.E. Riverkeeper incorporates these discussions by reference here.

C. ***The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 7 of the NYS CMP***

NYSDOS Coastal Policy 7

Policy 7 of the NYS CMP states the following: "Significant coastal fish and wildlife habitats will be protected, preserved, and, where practical, restored so as to maintain their viability as habitats."[41]

The policy explains that "[h]abitat protection is recognized as *fundamental* to assuring the survival of fish and wildlife populations" and that "[i]n order to protect and preserve a significant habitat . . . water uses . . . *shall not* be undertaken if such actions destroy or significantly impair the viability of an area as habitat.[42] "Significant" impairment occurs where the water use "significantly reduces a vital resource (e.g., food, shelter, living space) or changes environmental conditions (e.g., temperature . . .) beyond the tolerance range of an organism."[43] Policy 7 states that "indicators" for a significantly impaired habitat may include "reduced carrying capacity, changes in community structure (food chain relationships, species diversity), reduced productivity and/or increased incidence of disease and mortality."[44]

The Proposed Continued Operation of Indian Point Fails to Protect, Preserve, or Restore Significant Coastal Fish and Wildlife Habitats

Despite Entergy's unfounded representations to the contrary, Indian Point is adjacent to and directly affects two designated significant coastal fish and wildlife habitats ("SCFWH"): the Hudson Highlands and Haverstraw Bay.[45] Generally speaking, the NYS CMP exults and emphasizes the significance and importance of the Hudson River estuary, which is home to "an extraordinarily rich variety of fish species," "one of the major spawning grounds for several commercially significant Atlantic species," and "many important wildlife habitats."[46] The Hudson Highlands SCFWH and the Haverstraw Bay SCFWH are two such critical areas of the Hudson River estuary. The Hudson Highlands SCFWH, *inter alia*, "provides highly favorable conditions for reproduction by coastal migratory fishes, especially striped bass," is used as a migrational route for endangered shortnose and Atlantic sturgeon species, and provides an

[41] *See* NYS CMP at II-6, 20-25.

[42] NYS CMP at II-6, 20 (emphasis added).

[43] NYS CMP at II-6, 20-21.

[44] NYS CMP at II-6, 21.

[45] *See supra* Note 1. Entergy claims that Indian Point is "not located in or adjacent to any SCFWHs" "as of 2007" and that NYSDOS' updated habitat designation of the Hudson Highlands to include the area directly in front of Indian Point is "not applicable" to the proposed license renewal of Indian Point. This is patently incorrect: as the discussion herein demonstrates, Indian Point is near and greatly impacts Haverstraw Bay, a SCFWH, and the 2012 revision to the Hudson Highlands designation to include the area right in front of Indian Point is currently in effect and should absolutely be considered in relation to the proposed license renewal of Indian Point. Notably, NYSDOS' updated habitat designation was finalized in August 2012, while Entergy did not submit its request for Consistency Certification until December 2012; the final revision is, thus, clearly applicable to the instant review process.

[46] NYS CMP at § II-2, 6-7.

important nursery and summering area for endangered Atlantic sturgeon.[47] The Haverstraw Bay SCFWH, *inter alia*, "regularly comprises a substantial part of the nursery area for striped bass . . . American shad . . . white perch . . . Atlantic tomcod . . . and Atlantic sturgeon," provides habitat for numerous fish species, is a major nursery and feeding area for bay anchovy, Atlantic menhaden, and Atlantic blue crab, and provides spawning and wintering grounds for endangered shortnose and Atlantic sturgeon.[48]

The continued operation of Indian Point is inconsistent with and will not advance Policy 7 of the NYS CMP since such ongoing operation will fail to protect, preserve, *or* restore these two SCFWHs.

First and foremost, as mentioned above, Entergy's Consistency Certification presumes the continued use of Entergy's existing once-through cooling water intake structures, and Entergy's assumed use of this system will clearly fail to protect, preserve, or restore the aquatic ecology of nearby SCFWHs in the Hudson River.

Entergy has used its antiquated once-through cooling water intake structures since Indian Point began operating. The once-through cooling water system employed at Indian Point has a profound impact upon fish in the Hudson River, including those that depend upon and use nearby SCFWHs. In particular, as explained in detail in a 2007 Pisces report as well as certain portions of NYSDEC's 2003 Final Environmental Impact Statement related to Hudson River Power Plants (which are attached in support of these comments), the system draws in and discharges approximately 2.5 billion gallons of Hudson River water per day, and in the process kills millions of fish, eggs, and larvae annually through entrainment, impingement, and thermal impacts.[49]

For example, estimated averages for years where data is available show that the once-through cooling system at Indian Point has been recorded to entrain about 13 million American shad, 327 million bay anchovy, 467 million river herring, 158 million striped bass, and 243 million white perch annually, and impinge over 1.2 million fish a year among just 8 species sampled, causing significant mortality.[50] The decimation of aquatic life caused by entrainment and impingement

---

[47] *See generally* Hudson Highlands SCFWH Rating Form.

[48] *See generally* Haverstraw Bay SCFWH Rating Form.

[49] *See generally* Entrainment, Impingement and Thermal Impacts at Indian Point Nuclear Power Station, Pisces Conservation Ltd., November 2007, *available at*, http://www.riverkeeper.org/wp-content/uploads/2010/03/1397-PH-Henderson-Attachment-3-Expert-Report-Cont-EC-1.pdf (Attachment 3) (hereinafter "Attachment 3 - Pisces IP Report"); *See* NYSDEC Hudson River Power Plants FEIS (June 25, 2003), at 2-3, *available at*, http://www.dec.ny.gov/permits/54649.html (Attachment 4) (hereinafter "Attachment 4 - NYSDEC Power Plants FEIS"), Attachment 4; *see also* NYSDEC Fact Sheet, NY SPDES Draft Permit Renewal with Modification, Indian Point Electric Generating Station (Buchanan, NY – November 2003), at 2, Attachment B, page 1, http://www.dec.ny.gov/docs/permits_ej_operations_pdf/IndianPointFS.pdf ("NYSDEC Fact Sheet") ("Each year Indian Point Units 2 and 3. . . cause the mortality of more than a billion fish from entrainment of various life stages of fishes through the plant and impingement of fishes on intake screens. . . . Thus, current losses of various life stages of fishes are substantial."); Attachment 1 - NYSDEC IP 401 Notice of Denial at 11, 13.

[50] *See* Attachment 4 - NYSDEC Power Plants FEIS at 2-3; Attachment 3 - Pisces IP Report at 12. This data captures only a limited number of fish species, offering a very conservative picture of the devastation that has been caused by the cooling system at Indian Point. *See id.* at 4 ("Notably, "[t]he species for which entrainment mortality has been

at Indian Point is truly staggering. Notably, Indian Point's once-through cooling water system has also impinged significant numbers of endangered shortnose and Atlantic sturgeon in the Hudson River. In addition, the massive amounts of heated water released back to the Hudson River from Indian Point indisputably reaches levels that produce deleterious impacts,[51] and "can affect survival, growth and metabolism, activity, swimming performance and behavior, reproductive timing and rates of gonad development, egg development, hatching success, and morphology" as well as fish migration, of Hudson River fish species.[52]

Importantly, NYSDEC has affirmatively and definitively found, and it has been previously established that "Indian Point's once-through cooling water intake structures *cause an adverse environmental impact.*"[53] Additionally, it has been NYSDEC's position for over a decade now that Entergy's use of once-through cooling water technology is insufficiently protective of aquatic resources and legally not in compliance with applicable State standards.[54] Further

---

quantified form only a very small proportion of the total species present in the estuary. As was noted in the FEIS (page 53): '*Finally, although impingement and entrainment mortality is measured, it is typically measured only for several of the 140 species of fishes found in the Hudson. Information about the impact on the full suite of aquatic organisms is limited.'* The impact on other species is un-quantified and may be significant.") (emphasis in original).

[51] *See, e.g.* Attachment 3 - Pisces IP Report at 25, 36 ("The cooling water discharge [from Indian Point] is large and affects the receiving waters of the Hudson River. In recent years (2000 to 2007), the discharge temperature regularly exceeded 90°F and in summer frequently exceeded 100°F. A temperature exceeding 100°F will produce lethal conditions for aquatic life of all kinds, including algae, crustaceans and fish. . . . [A]n upward trend in the background temperature of the river, and a corresponding trend down in dissolved oxygen . . . will result in increased harm from thermal pollution, if present levels of heat discharge continue into future. . . . The spatial and vertical extent of the Indian Point plume is sufficient to raise concerns about the passage of fish and impacts on the benthic life of the river.").

[52] Attachment 3 - Pisces IP Report at 29-36. Entergy claims that a thermal modeling study conducted in 2009 and 2010 resolves any concerns related to the thermal impacts caused by Indian Point's once through cooling water intakes. However, this is not the case. Notwithstanding this modeling, Riverkeeper comments and supporting technical memo from Pisces dated July 15, 2011 (attached hereto in support of these comments), demonstrates that Entergy's operations continue to pose detrimental thermal impacts that fail to meet State water quality standards, and a as-yet *proposed* thermal mixing zone is not legally or factually supportable. *See* Letter from Mark Lucas (Riverkeeper) to Chris Hogan (NYSDEC), Re: *Entergy Nuclear Indian Point 2, LLC & Entergy Nuclear Indian Point 3, LLC Proposed Modification of Special Condition 7.b of SPDES Permit, DEC No.* 3-5522- 00011/00004, SPDES No. NY-000472 (July 15, 2011) (Attachment 5) (hereinafter cited as "Attachment 5 - Lucas Letter").

[53] Entergy Nuclear Indian Point 2, LLC and Entergy Nuclear Indian Point 3, LLC (SPDES) - Interim Decision of the Assistant Commissioner, 2008 N.Y. ENV LEXIS 52, *33 (August 13, 2008) (emphasis added).

[54] *See generally* NYSDEC Fact Sheet (explaining NYSDEC's determination that Indian Point's once-though cooling water intake structure does not comply with BTA requirements and articulating NYSDEC's determination that closed-cycle cooling is the site-specific BTA at Indian Point); *see also* Attachment 1 - NYSDEC IP 401 Notice of Denial at 13 (citing as a basis for denial of Entergy's Application for CWA § 401 WQC the failure of Indian Point's once through cooling water intake structure to meet BTA requirements); NYSDEC, *Detailed Progress Report on Activities in 2010, 2011 & 2012 to Achieve the Targets of the 2010-2014 Hudson River Estuary Action Agenda* (March 2013), at 12-13, *available at*, http://www.dec.ny.gov/docs/remediation_hudson_pdf/hrepaa2012.pdf (describing NYSDEC's Hudson River Estuary Action Agenda goal number 1 of "reduced fish kills from all types of existing water withdrawals that use once-through cooling systems" and NYSDEC's ongoing efforts to impose closed-cycle cooling in lieu of once-through cooling at Indian Point).

Interestingly, Entergy tries to support its position that once-through cooling is adequate at Indian Point by stating that "IPEC has a strong record of compliance with its SPDES permit." IPEC CZMA Consistency Certification at III-9. However, this representation is disingenuous at best given Entergy's long-standing and persistent efforts to avoid submitting to an updated SPDES permit in order to fulfill its obligation to comply with BTA requirements.

detailed descriptions of the adverse impact and inadequacy of Indian Point's once-through cooling water intake system on the aquatic ecology of the Hudson River are contained in 2012 post-adjudicatory hearing briefs of Riverkeeper and NYSDEC, which are attached in support of these comments.[55]

NYSDEC has characterized the destructive impacts associated with the operation of once-through cooling water intake structures as "comparable to *habitat degradation*; the entire natural community is impacted. . . . *[I]mpingement and entrainment and warming of the water impact the entire community of organisms that inhabit the water column*."[56] Similarly, the National Marine Fisheries Service, in the context of an Indian Point Essential Fish Habitat consultation letter (which is attached hereto in support of these comments), has expressed concern over habitat degradation caused by Indian Point, stating that "the potential for Indian Point operations leading to reduced production or availability of prey . . . constitutes an indirect or cumulative adverse effect that diminishes the quality of designated [essential fish habitat]."[57] The degradation caused by entrainment, impingement, and thermal impacts of Indian Point's once-through cooling water intake system occurs directly in SCFWH, i.e. the Hudson Highlands SCFWH which encompasses the part of the Hudson River right in front of Indian Point, and also has a clear and obvious effect upon Haverstraw Bay, a SCFWH which constitutes habitat for the various aquatic species impacted by Indian Point.[58]

Over 40 years of "habitat degradation" resulting from the use of once-through cooling at Indian Point has resulted in serious long-term impacts. Evidence indicates an increasingly unstable ecosystem and long-term declines for several signature Hudson River fish species. A Riverkeeper report released in May 2008 (which is attached in support of these comments) revealed that many Hudson River fish are in serious long-term decline.[59] NYSDEC has also

---

[55] Initial Post Hearing Brief and Proposed Findings of Fact on Behalf of Intervenors Riverkeeper, Inc., Natural Resources Defense Council, Inc., and Scenic Hudson, Inc., in Support of Denial of the Application for a Water Quality Certification for Indian Point Units 2 and 3; CWA § 401 Appeal Issue Number 2: Consistency with the Best Usages of the Hudson River (December 21, 2012) (Attachment 6) (hereinafter "Attachment 6 - Riverkeeper Post-Hearing Brief on Best Usages"); Initial Post-Hearing Brief of Department Staff Following the January and July 2012 Adjudicatory Hearings on Best Usages of Water (December 12, 2012) (Attachment7) (hereinafter cited as "Attachment 7 - NYSDEC Post-Hearing Brief on Best Usages of Water").

[56] NYSDEC Hudson River Power Plants FEIS, at 53-54 (emphasis added); *see also generally* Attachment 7 - NYSDEC Post-Hearing Brief on Best Usages of Water.

[57] Letter from Peter D. Colosi (Assistant Regional Administrator for Habitat Conservation, NFMS) to Brian E. Holian, David J. Wrona, Division of License Renewal, NRC), Re: Indian Point Generating Unit Nos. 2 & 3 License Renewal; Docket Nos. 50-247 and 50-268; Essential Fish Habitat Consultation (Oct. 12, 2010), at 9 (Attachment 8).

[58] *See, e.g.*, Haverstraw Bay SCFWH Rating Form ("Haverstraw Bay regularly comprises a substantial part of the nursery area for striped bass (*Morone saxatilis*), American shad (*Alosa sapidissima*), white perch (*Morone americana*), Atlantic tomcod (*Microgadus tomcod*), and Atlantic sturgeon (*Acipenser oxyrhynchus*) (E). Other anadromous species, such as blueback herring (*Alosa aestivalis*) and alewife (*Alosa pseudoharengus*), spawn in upstream freshwater areas, but move south and concentrate in this area before leaving the river in the fall. . . . Haverstraw Bay is a major nursery and feeding area for certain marine species, most notably bay anchovy (*Anchoa mitchilli*), Atlantic menhaden (*Brevoortia tyrannus*) and Atlantic blue crab (*Callinectes sapidus*)").

[59] *See* The Status of Fish Populations and the Ecology of the Hudson, Pisces Conservation Ltd., April 2008, *available at*, http://www.riverkeeper.org/wp-content/uploads/2009/06/Status-of-Fish-in-the-Hudson-Pisces.pdf (analyzing 13 "key" species of the Hudson River, and finding that 10 such species are in decline) (Attachment 9) (hereinafter "Attachment 9 - Pisces 2008 Status of Hudson River Fish Report"); *see also* Attachment 4 - NYSDEC

recognized this reality, stating that "[d]eclines in the abundances of several species and changes in species composition raises concerns and questions regarding the health of the River's fish community."[60] With, by far, the largest water intake on the Hudson estuary, slaughtering hundreds of millions, and possibly over a billion aquatic organisms every year, the once-through cooling water intake structure at Indian Point has undoubtedly contributed to such decline, destabilization, and loss of aquatic resources.[61] To reiterate: the long-term habitat degradation occurring in the Hudson River caused by Indian Point directly affects SCFWH: the losses and degradation occur directly at the plant site in the Hudson Highlands SCFWH, and also impacts the viability and health of numerous key species that use and depend upon the SCFWH of nearby Haverstraw Bay.

The proposed relicensing of Indian Point as contemplated by Entergy in its Consistency Certification assumes the use of once-through cooling water technology for two additional decades, which would result in ongoing enormous entrainment, impingement, and heat-related impacts on already stressed ecosystems in the Hudson River, including in the Hudson Highlands SCFWH and the Haverstraw Bay SCFWH. Importantly, NYSDEC has explicitly found that "[t]he continued operation of Units 2 and 3 in once-through cooling mode for an additional 20 years . . . would continue to exacerbate the adverse environmental impact upon aquatic organisms caused by the facilities' [cooling water intake structures]" and that such continued operation is "*inconsistent with* the best usage of the Hudson River . . . for *fish, shellfish, and wildlife propagation and survival*."[62] Thus, it is clear that the impacts of Entergy's once through cooling water intake structures will lead to ongoing habitat degradation in SCFWHs, further exacerbate the current decline and destabilization of Hudson River fish populations that use and depend upon SCFWHs, and interfere with fish propagation and survival in SCFWHs.

Power Plants FEIS at 57 ("Several species of fish in the Hudson River estuary, such as American shad, white perch, Atlantic tomcod and rainbow smelt, have shown trends of declining abundance.").

[60] Attachment 4 - NYSDEC Power Plants FEIS at 57-58; *see also* NYSDEC Fact Sheet at Attachment B page 1 ("Atlantic tomcod, American shad, and white perch numbers are known to be declining in the Hudson River")

[61] *See, e.g.,* Attachment 9 - Pisces 2008 Status of Hudson River Fish Report at 37-38 ("The impact of Indian Point is the largest of several impacts from once-through cooling on the Hudson. When all the power plants are considered, the impact is large. . . 'Tens- to hundreds-of-millions of eggs, larvae, and juvenile fishes of several species are killed per year for once-through users. The cumulative impact of multiple facilities substantially reduces the young-of-year (YOY) population for the entire river.' . . . in some years these effects have been very large . . . between 33 – 79% reductions in Young of Year population. . . . Even if the power companies are not the sole cause of degradation of the Hudson River fish community, the loss of such high proportions of the fish populations must be important." (quoting NYSDEC Water Quality 2006 Report)); *see also* Attachment 4 - NYSDEC Power Plants FEIS at 58 (expressly recognizing that "[t]he millions of fish that are killed by power plants each year represent a significant mortality and are yet another stress on the River's fish community" that "must be taken into account when assessing these population declines."); NYS Governor's Office, Press Release, *With American Shad Stocks at Historically Low Levels, Governor Paterson Announces New Initiatives to Rebuild and Protect Hudson River Fisheries* (May 28, 2008) (In the context of announcing that Hudson River fisheries are in trouble, recognizing that "[t]he number of fish entering water intake pipes each year at the two Indian Point nuclear power plants alone is significant – over 1.2 billion fish eggs and larvae, including bay anchovy, striped bass, and Atlantic tomcod – with the vast majority dying during the process. Another 1.18 million fish per year become trapped against intake screens and likely die.")

[62] *See* Attachment 1 - NYSDEC IP 401 Notice of Denial at 11, 13; *see id.* at 13 ("current measures and operations at Indian Point do not minimize the adverse environmental impact of entrainment from the [cooling water intake structures]"); *see also generally* Riverkeeper Post-Hearing Brief on Best Usages; Attachment 7 - NYSDEC Post-Hearing Brief on Best Usages of Water.

There is simply no supportable basis for Entergy's position that the license renewal of Indian Point will not *continue to* significantly impair designated SCFWHs.[63] Entergy's straight-faced representation that

> IPEC's operations to date have not altered, and continued operations cannot reasonably be expected to alter, the community structure, food chain relationships, species diversity, predator/prey relationships, population size, mortality rates, reproductive rates, behavioral patterns, and migratory patterns of the fish species utilizing either SCFWH, or anywhere else in the Hudson River, beyond the tolerance range of those organisms[64]

strains credulity, and is belied by incredible amounts of evidence to the contrary as well as the expert State agency, NYSDEC's, consistent and long-standing findings that Indian Point's once-through cooling water intake system has devastating and unacceptable impacts on fish and other aquatic organisms in the Hudson River. Once through cooling at Indian Point clearly causes "significant impairment" as that term is understood under policy 7 of the NYS CMP, since entrainment, impingement, and thermal discharges result in significant mortality of numerous and key fish species and appreciably alters the community structure (such as food chain relationships and species diversity), of fish populations in SCFWHs, as described above.

Thus, the proposed continued operation of Indian Point is wholly inconsistent with, and certainly does not advance, policy 7 of the NYS CMP, since the use of once-through cooling water intake structures unequivocally does not protect, preserve, and in no way restores, the Hudson Highlands SCFWH *or* the Haverstraw Bay SCFWH.[65]

Furthermore, the continued operation of Indian Point is also inconsistent with Policy 7 due to radiological leaks to the Hudson River from the plant. In particular, Policy 7 explains that one activity "likely to affect [SCFWHs] include[s] . . . the [i]ntroduction , storage or disposal of pollutants such as . . . nuclear wastes."[66] Radiological leaks have occurred at Indian Point and will continue should the plant continue operating, and, for the reasons discussed in more detail below in relation to Policy 8,[67] may interfere with the protection, preservation, and restoration of

---

[63] IPEC CZMA Consistency Certification at III-9.

[64] *Id.*

[65] As mentioned earlier, Entergy has proposed to install cylindrical wedgewire screens at Indian Point in an attempt to comply with applicable legal requirements aimed at minimizing Indian Point's current devastating impact on the Hudson River. This concession that Entergy is not currently in compliance with the law and is causing unacceptable environmental impacts completely undermines Entergy's position that its use of once-through cooling water intake structures is consistent with NYS coastal policy 7. In any event, despite Entergy's faux "consistency certification" related to its cylindrical wedgewire screen proposal mentioned above, it is clear that such screens would also result in unacceptable impacts to Hudson River ecosystems and habitats, including adjacent and nearby SCFWHs. *See generally* Attachment 6 - Riverkeeper Post-Hearing Brief on Best Usages; Attachment 7 - NYSDEC Post-Hearing Brief on Best Usages of Water at 3-35. Thus, the continued operation of Indian Point under Entergy's screen proposal would likewise be inconsistent with Policy 7 of the NYS CMP.

[66] NYS CMP § II-6, 21.

[67] *See infra* at § III.D. Riverkeeper incorporates this discussion by reference here.

the aquatic ecology of the Hudson River, including the Hudson Highlands SCFWH and the Haverstraw Bay SCFWH, in violation of Policy 7 of the NYS CMP.

Based on the foregoing and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 7 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

D. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 8 of the NYS CMP

NYSDOS Coastal Policy 8

Policy 8 of the NYS CMP states as follows: "Protect fish and wildlife resources in the coastal area from the introduction of hazardous wastes and other pollutants which bioaccumulate in the food chain or which cause significant sublethal or lethal effect on those resources."[68]

This policy explains that "[h]azardous wastes are unwanted by-products of manufacturing processes and are generally characterized as being flammable, corrosive, reactive, or toxic," while "waste" is defined under NYS law as "waste . . . which because of its . . . characteristics *may* . . . (1) cause, or significantly contribute to an increase in mortality or an increase in serious . . . illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or otherwise managed."[69]

Radiological Leaks and Groundwater Contamination at Indian Point Result in Inconsistency with NYS CMP Policy 8

The continued operation of Indian Point is inconsistent with and will not advance Policy 8 of the NYS CMP since such ongoing operation will fail to protect fish and wildlife resources in the coastal area from toxic, clearly hazardous, bioaccumulative radiological pollutants that indisputably leak from Indian Point and leach into the Hudson River.[70]

By way of background: accidental radiological leaks and spills have been a rampant and pervasive problem at Indian Point for decades. A thorough factual record relating to the long and persistent history of inadvertent radiological releases at Indian Point is discussed in a post-hearing brief submitted by Riverkeeper in the Indian Point CWA § 401 WQC denial appeal

[68] NYS CMP § II-6, 25.

[69] *Id.* (emphasis added).

[70] Entergy falsely claims that the "regulation of radiological discharges from IPEC is within the exclusive jurisdiction and control of USNRC." IPEC CZMA Consistency Certification at footnote 51. Entergy has mischaracterized the law. Like NYSDEC, NYSDOS clearly has the authority to assess radioactive leaks that have, and continue to occur at Indian Point in the context of NYSDOS' State consistency certification process. Riverkeeper's discussion of State authority to inquire about and consider radiological leaks in a post-hearing brief related to radiological issues at Indian Point, which is attached in support of these comments, is instructive, and indeed dispositive, on this matter. *See* Post-Hearing Closing Brief of Intervenors Riverkeeper, Natural Resources Defense Council, and Scenic Hudson Regarding Issue for Adjudication No. 3 – Radiological Materials (April 27, 2012), at 13-17 (Attachment 10) (hereinafter cited as "Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials").

proceeding, in which an issue related to whether radiological releases from Indian Point are consistent with State water quality standards was raised; this brief is attached hereto in support of these comments.[71]

To briefly summarize this history:

- Unit 2 Spent Fuel Pool Leaks.[72] Leaks from Indian Point's Unit 2 spent fuel pool started occurring in the 1990s. In 2005, Entergy "discovered" that the Unit 2 pool was cracked and actively leaking. A follow-up hydrogeologic investigation, during which additional leakage sources from the Unit 2 pool were found, uncovered an extensive groundwater plume of tritium, from which it could be gleaned that the Unit 2 pool had been leaking radioactivity to the groundwater for years. Despite Entergy's representations that it "fixed" the Unit 2 spent fuel pool leaks, in 2010 a new active leak source from the pool was discovered. Moreover, Entergy has never been able to inspect about 40% of the liner of the Unit 2 pool due to the density of the fuel, and Entergy concedes that other active leaks are likely ongoing. It is highly likely that the Unit 2 spent fuel pool will continue to leak radioactivity into the environment as Indian Point continues to operate: Entergy has no intention of ever conducting any full inspections of the Unit 2 spent fuel pool liner, or even any additional partial inspections that could detect potential leak sources; the pool has no "tell-tale" drain collection system which allows any leaks to be collected and monitored; the Unit 2 pool will continue to age and degrade since it is subject to the bathtub curve effect; and Entergy employs a purely reactive approach that will discover leaks from the pool only *after* they occur.

- Unit 1 Spent Fuel Pool Leaks.[73] Leaks from the Unit 1 spent fuel pools were also first discovered in the 1990s. The previous owner of Unit 1 attempted to manage the leakage with a collection system. However, in 2006, Entergy discovered that this system had failed and was allowing highly toxic radioactive contaminants, including Strontium-90, Cesium-137, Nickel-63, and Cobalt-60, to be released to the environment at a rate of about 70 gallons/day. This rampant leakage only ceased at the end of 2008 when Entergy completed moving the fuel out of, and draining, the leaking Unit 1 pool. Entergy's hydrogeologic investigation, spurred by the discover of Unit 2 spent fuel pool leakage, uncovered that the leaks from the Unit 1 pools that began in the 1990s and continued until the end of 2008 had resulted in an extensive additional plume of contamination in the groundwater at Indian Point containing the aforementioned radionuclides. This plume commingles with the tritium plume generated by the Unit 2 spent fuel pool leaks. Entergy's claim that "the IPEC Unit 1 spent fuel pool is

[71] Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 24-38.

[72] *See id.* at 24-29.

[73] *Id.* at 30-33. Entergy erroneously claims that because the license renewal of Unit 1 is not at issue, the leaks from the Indian Point Unit 1 spent fuel pools have "no bearing on [Entergy's] Consistency Certification." IPEC CZMA Consistency Certification at footnote 51. However, as discussed above, impacts from Indian Point Unit 1 are clearly relevant to NYSDOS' inquiry. *See supra* Note 4. This is especially the case in relation to the Unit 1 spent fuel leaks, since, as discussed herein, such "previous" leaks continue to have an environmental impact and will continue to do so throughout Entergy's proposed license renewal periods. *See, e.g.*, Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 32-33.

no longer a potential source of strontium,"[74] is misleading, since, despite the fact that no *new* radionuclides are being introduced from the Unit 1 pool, the previous contamination is retained in the subsurface, and will continue to be released into the groundwater, and subsequently into the Hudson River, for decades.

- Other component leaks.[75] Over the course of Indian Point's over 40 years of operation, numerous radiological leaks and spills have occurred and resulted in releases of radioactivity. This includes, but is not limited to the following:
  - In 1988, 8,400 gallons of radioactively contaminated water was released to the Hudson River as the result of a crack in the condenser blowdown line Unit 2;
  - In 2009, a Unit 1 distillation tank valve leaked enough radioactivity to cause noticeable increases in a groundwater monitoring well;
  - In 2009, a refueling water storage tank spilled radioactive water, causing greatly elevated levels of radioactivity in the groundwater wells for several months;
  - In 2009, a plant worker "discovered" that a pipe buried eight feet underground had sprung a leak when he found himself standing in a puddle of water; the leak resulted in an estimated 100,000 gallons of radioactive water to be released to the environment;
  - In 2009, Entergy discovered radioactive "washout" occurring at Indian Point, i.e., airborne tritium releases caused by radioactive leaks that evaporate, release via vents, and then condense and deposit in the environment; and
  - In 2011, Entergy identified elevated levels or radioactivity in the groundwater; it took Entergy months to discern that the cause was a leak in a recirculation pump.

Inadvertent radiological leaks at Indian Point have resulted in two large commingled groundwater contamination plumes containing a number of different dangerously toxic radionuclides. Notably, Strontium-90 is a radionuclide that is absorbed by and concentrates in bone, while Cesium-137 is absorbed by muscle; tritium behaves like, and cannot be filtered out of, water, and can be ingested, inhaled, or absorbed through skin.[76]

The levels of contamination in the groundwater at Indian Point persist at high levels.[77] For example, since groundwater monitoring started at Indian Point, Entergy has regularly detected levels of radionuclides in the groundwater beneath Indian Point in excess of maximum contaminant levels ("MCLs") established by the U.S. Environmental Protection Agency ("EPA") for radionuclides in drinking water.[78] This is a trend that is likely to continue.[79] Indeed, the levels of contamination in the groundwater will periodically increase even in the absence of new radioactive leakage due to episodic releases of radionuclides that are stored in the subsurface.[80] Moreover, any new radioactive leaks that may occur in the future will indisputably add to the

[74] IPEC CZMA Consistency Certification at footnote 51.

[75] Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 33-38.

[76] *See, e.g. id.* at 63.

[77] *See generally id.* at 38-41.

[78] *See id.* EPA MCLs for radionuclides in drinking water are a recognized benchmark for determining the severity and level or radioactive contamination. *See id.*

[79] *See id.*

[80] *See id.* at 41-43.

existing groundwater contamination, prevent the groundwater plumes from decreasing over time, and/or increase the overall levels of the plumes.[81] To be sure, future radiological leaks from varying plant components are highly likely at Indian Point due to combination of factors, including the following: (1) Entergy has a completely inadequate program for managing and preventing leaks from buried components, which the U.S. government has explained are increasingly aging and likely to corrode and leak in the future;[82] (2) Entergy employs a completely reactive approach to the management of radiological leaks at Indian Point, relying on groundwater monitoring to detect leaks *after* they occur, which essentially ensure that leaks enter the environment, and/or waiting until critical circumstances arise to address operational leakage related events;[83] and (3) Entergy has deficient, inadequately funded maintenance programs which result in insufficient leak management.[84] Thus, the operation of Indian Point for an additional 20 years will foreseeably lead to additional radioactive leaks from plant systems, structures and components, and, as a result thereof, persistent and ever-accumulating contamination in the groundwater beneath the site.

It is undisputed that the groundwater contamination at Indian Point migrates and releases to the Hudson River, regularly contributing to the levels of radioactivity present in the river.[85] In fact, Entergy relies on monitored natural attenuation ("MNA") to "manage" the radiological contamination at Indian Point, and will continue to do so throughout Entergy's proposed license renewal periods for Indian Point.[86] This means that the existing, as well as any future, new groundwater contamination will remain in the groundwater until it flushes out into to the Hudson River or decays.[87] Entergy's approach ensures that radioactive groundwater contamination will release to the Hudson River *throughout* Entergy's proposed relicensing terms for Indian Point.[88] Notably, Entergy has refused to extract the contamination so as to better minimize the impact of the groundwater contamination on the environment, despite the fact that such a remediation approach is technically feasible and advisable.[89] Moreover, complete site remediation and cleanup of the contamination cannot occur until the site ceases operation and is decommissioned. Thus, the proposed continued operation of the plant results in ongoing inadvertent radioactive releases to the Hudson River from the groundwater underneath Indian Point.

Moreover, in addition to large plumes of groundwater contamination that are, and will continue to, slowly migrate into the Hudson River, Entergy also discharges radioactive liquid effluent into the river on a regular basis as part of routine operations. For example, Entergy's 2008 Radioactive Effluent Release Report indicates that throughout 2008, 667 curies of tritium were

[81] *See id.*

[82] *See id.* at 48-52.

[83] *See id.* at 52-56

[84] *See id.* at 55-56.

[85] *See id.* at 56-60.

[86] *See id.* at 43-45.

[87] *See id.*

[88] *See id.* at 43-45, 58-59.

[89] *See id.* at 45-47

released to the Hudson River through liquid effluent.[90] These discharges also increase the level of radioactivity present in the Hudson River.

The reality of ongoing radiological leaks, spills, and discharges to the environment posed by the continued operation of Indian Point results in inconsistency with Policy 8 of the NYS CMP. To begin with, the radiological substances accidentally and intentionally released from Indian Point into the groundwater and Hudson River are clearly the types of waste discussed and contemplated by Policy 8 of the NYS CMP: they are toxic and dangerous waste by-products resulting from the generation of electricity at Indian Point which can bioaccumulate and result in or significantly contribute to illness and which pose a potential hazard to human health or the environment if managed improperly.[91] Given the nature of the radioactive pollution being generated by Indian Point, Policy 8 is highly relevant to NYSDOS' coastal consistency inquiry.

Fish and wildlife resources in the NYS coastal area, including SCFWHs, are not currently, and will not be in the future, protected from the introduction of leaked radionuclides from Indian Point which bioaccumulate in the environment and which can potentially cause detrimental effects on coastal resources, in violation of Policy 8.[92] It is undisputed that the radiological leaks at the plant and groundwater contamination discharging to the Hudson River contain radionuclides that bioaccumulate, including Strontium-90 and Cesium-137.[93] Such harmful radionuclides are absorbed by sediments and the leafy vegetation at the bottom of the river, and as those materials are consumed the concentration of radionuclides builds up over time.[94] Due to Entergy's reliance on MNA, the ongoing operation of Indian Point will not protect the coastal area from the introduction of these bioaccumulative radionuclides. Notably, the releases of groundwater contamination from Indian go directly into the Hudson Highlands SCFWH and occur near the Haverstraw Bay SCFWH.

Importantly, there is evidence that radionuclides from Indian Point may have already impacted fish in the Hudson River.[95] Moreover, given the undisputed fact that radionuclides will be discharging to the Hudson River from Indian Point during the *entire* proposed periods of extended operation, impacts to aquatic organisms may occur in the future.[96] Significantly,

---

[90] *See, e.g.*, 2008 Radioactive Effluent Release Report, Entergy Nuclear Operations, Inc., Indian Point Nuclear Generating Units Nos. 1, 2 & 3, at 17.

[91] *See* NYS CMP at § II-6, 25.

[92] *See generally* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 91-93 (discussing how deleterious radiological leaks may impact the aquatic ecology of the Hudson River during Entergy's proposed period of extended operations for Indian Point).

[93] *See id.* 65; IPEC CZMA Consistency Certification at III-12 ("Strontium is a radionuclide that is known to bioaccumulate")

[94] *See* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 65.

[95] *See id.* at 64 (explaining that Strontium-89 has previously been detected if fish samples, which is indicative of a "fresh" source of strontium); *see also* E-mail From Dara Gray (Entergy) to J. Noggle (NRC) (Jan. 24, 2007), Re: Historical Sr Data, *available at*, http://pbadupws.nrc.gov/docs/ML1233/ML12335A589.pdf (discussing 2006 fish samples that showed elevated levels of Strontium-90 in their flesh).

[96] *See* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 63-65, 91-93; *see also* Prefiled Written Testimony of Gillian Stewart Regarding Contention RK-EC-3/CW-EC-1 (Spent Fuel Pool Leaks) (Dec. 22, 2011), *available at*, http://pbadupws.nrc.gov/docs/ML1233/ML12335A586.pdf, at 3 (Stating that past, current, or future leakage of radioactivity from Indian Point, even at low activities, will form a potential threat to the local

Entergy will only continue to conduct very limited and opportunistic monitoring of aquatic organisms during the proposed extended operating periods for Indian Point; this monitoring scheme does not sample the bones of aquatic organisms, which is a key indicator regarding whether radionuclides are bioaccumulating and adversely impacting the aquatic ecology of the Hudson River. Entergy's limited monitoring is clearly not adequate to assure that impacts to fish, biota, and other organisms in the Hudson River will be timely and adequately determined. Thus, long-term, cumulative, effects may occur as a result of radiological releases from Indian Point.

Based on the foregoing, it is clear that ongoing and highly likely future radiological leaks and ever-growing groundwater contamination at Indian Point will result in inconsistency with, and clearly does not advance, Policy 8 of the NYS CMP, since these circumstances, incident to the ongoing operation of Indian Point will demonstrably fail to "protect fish and wildlife resources in the coastal area from" bioaccumulative radioactive waste pollutants.

Additional Nuclear Waste Storage at Indian Point Results in Inconsistency with NYS CMP Policy 8

The continued operation of Indian Point is inconsistent with and will not advance Policy 8 of the NYS CMP since the risks posed by the additional generation and attendant indefinite onsite storage of nuclear waste fail to protect fish and wildlife resources in the coastal area from toxic, hazardous, bioaccumulative radiological pollutants. For the reasons discussed more fully below in relation to Policy 39, the nuclear waste that will continue to be stored onsite at Indian Point during Entergy's proposed period of extended operation poses an incredible risk of large-scale radiological release to the coastal areas of NYS.[97] Such circumstances do not comport with or advance Policy 8.

---

ecosystem; explaining that there is evidence that multi-celled organisms exposed to low doses of radiation can develop mutations which can transmit to offspring, indicating that radiological leaks from Indian Point can still affect organism that rely on the Hudson River); *see also* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 63-65 (explaining how Entergy improperly relies on a past one-time enhanced fish study to conclude that radiological leaks will never impact fish in NYS coastal areas; explaining that Entergy has only ever conducted a limited assessment that has not taken into account how radiological exposures to individual members of a species could contribute to mortality, the failure to mature, or reproductive failures; and explaining that aquatic organisms may be sensitive to tritium contamination).

Entergy claims that strontium has not been detected in Hudson River fish above "background levels" which are "not attributable to IPEC." *See* IPEC CZMA Consistency Certification at footnote 51. This ignores and minimizes the fact that elevated levels of radionuclides have been found in fish samples in the past, and, in any event, is not dispositive for determining whether radionuclides from Indian Point may impact fish and wildlife in the NYS coastal area *in the future*. That is, simply because radionuclide levels detected in fish are no higher than background levels does not mean that the radioactive isotopes that are *indisputably* reaching the Hudson River from Indian Point are not contaminating the fish and aquatic ecology, and will not cause noticeable and/or cumulative impacts in the future. *See* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 63-65.

[97] *See infra* § III.O. Riverkeeper incorporates this discussion by reference.

Indian Point's Aging Systems, Structures, and Components Result in Inconsistency with NYS CMP Policy 8

The continued operation of Indian Point is inconsistent with and will not advance Policy 8 of the NYS CMP since Indian Point's aging systems, structures, and components will not assure the protection of coastal resources from hazardous wastes or harmful pollution. In particular, if Indian Point operates for an additional 20 years, it is highly likely that critical plant systems, structures or components will succumb to aging phenomenon, including flow accelerated corrosion and metal fatigue, and such circumstances can result in accidents that have catastrophic radiological effects.[98] Entergy's failure to assure that Indian Point can safety operate without aging-related accidents fails to protect fish and wildlife resources in the coastal area from hazardous, bioaccumulative radiological pollutants that would be released in the event of such breakdowns.

~~~~

Based on the foregoing and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 8 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

E. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 9 of the NYS CMP

NYSDOS Coastal Policy 9

Policy 9 of the NYS CMP states as follows: "Expand recreational use of fish and wildlife resources in coastal areas by increasing access to existing resources, supplementing existing stocks, and developing new resources." The NYS CMP explains that "[r]ecreational uses of coastal fish and wildlife resources include consumptive uses such as fishing."[99]

The Continued Operation of Indian Point Fails to Advance the Intent of Policy 9 to Expand Recreational Uses of Coastal Resources in NYS

The ongoing operation of Indian Point for a 20-year extended operating period as proposed by Entergy is inconsistent with, and does not advance the spirit and intent of Policy 9 of the CMP, since it will impede the expansion of recreational fishing uses in the Hudson River.

In particular, the continued operation of the plant in the manner contemplated by Entergy in its Consistency Certification, i.e., assuming the usage of a once-through cooling water intake system, has resulted, and will continue to result, in the degradation and decline of fish species in the Hudson River, as discussed above in relation to Policy 7.[100]

---

[98] *See, e.g.*, Riverkeeper, Inc.'s Request for Hearing and Petition to Intervene in the License Renewal Proceedings for the Indian Point Nuclear Power Plant (November 30, 2007), *available at*, http://pbadupws.nrc.gov/docs/ML0734/ML073410093.pdf, at 7-23; *see, e.g. id.* at 8 ("if one of the feed water distribution nozzles (J-tubes) were to fail from fatigue, pieces from the broken nozzle could be lodged between steam generator tubes, causing the tubes to rupture and leading to a potential core melt.").

[99] NYS CMP § II-6, 28.

[100] *See supra* § III.C. Riverkeeper incorporates this discussion by reference.
~~~~

All portions of the Hudson River, including the portion in front of Indian Point, is designated as suitable for fishing.[101] However, with Indian Point's destructive cooling water system contributing to overall declines in numerous fish populations in the Hudson River, diminished fish stocks exist in the river, and accordingly, less fish are available for the enjoyment of sport fisherman. With operation of the plant for an additional 20 years as proposed, such trends will persist. Ongoing entrainment, impingement, and excessive heat will continue to cause fish mortality and further contribute to general deterioration of fish communities, thereby impacting the ability to recreationally fish the river.

Notably, diminishing numbers of fish in the Hudson River, due in part to once-through cooling water system impacts, have led to efforts to affirmatively ban certain kinds of recreational fishing. For example, in relation to American shad, a popular sport fishing target of Hudson River anglers,[102] NYSDEC has explained that "[w]ith the American shad population in the Hudson River at historic lows, [NYSDEC] closed the recreational and commercial fisheries for American shad in the Hudson River . . . in March 2010."[103] Similarly, the Atlantic States Marine Fisheries Commission established a coast-wide moratorium on commercial and recreational fishing of river herring which became effective on January 1, 2013, with exceptions only for sustainable systems.[104] With herring in peril in the Hudson River,[105] New York has imposed restrictions on the fishing of such species as well.[106] Such bans and restrictions on fishing would demonstrably impede the ability of fisherman to freely recreate in the Hudson River. Notably, data indicates that the once-through cooling water intake structure at Indian Point has impacted such species, thereby contributing to the population declines that have necessitated such measures.[107] For example, Indian Point has killed as many as 10 million American shad and 371 million river herring per year due to entrainment alone.[108] Operation of Indian Point with massive water withdrawals for 20 additional years will only lead to ongoing impacts that will continue to contribute to the need for prohibitions against certain fishing in the river.

Moreover NYSDEC has affirmatively found that Entergy's use of once-through cooling impairs waters of the Hudson River for their designated best usage for "secondary contact recreation,"

---

[101] The varying classifications of the Hudson River, all designate fishing as a "best usage." *See* 6 N.Y.C.R.R. §§ 701.5, 701.6, 701.7, 701.8, 701.11, 701.13; *See* 6 N.Y.C.R.R. § 864.6 (classifying the portion of the Hudson River from the New York State Bronx County line to Bear Mountain Bridge as "Class SB saline surface waters"); 6 N.Y.C.R.R. § 701.11 (Designating the "best usages" of "SB saline surface waters" as "primary and secondary contact recreation and fishing.").

[102] *See* NYSDEC, Hudson River Recreational Fishing Survey, http://www.dec.ny.gov/animals/37214.html (last visited Oct. 28, 2013).

[103] *See* NYSDEC, Hudson River Marine Fisheries, http://www.dec.ny.gov/animals/6945.html (last visited Oct. 28, 2013).

[104] *See* Atlantic States Marine Fisheries Commission, News Release, *ASMFC Approves American Shad Amendment*, February 5, 2010 *available at*, http://www.asmfc.org/uploads/file/pr05ShadAmendment3.pdf.

[105] *See* Attachment 9 - Pisces 2008 Status of Hudson River Fish Report.

[106] *See* NYSDEC, DEC Finalizes New York State River Herring Regulations, http://www.dec.ny.gov/press/84530.html (last visited Oct. 28, 2013).

[107] *See generally* Attachment 3 - Pisces IP Report.

[108] *See* Attachment 4 - NYSDEC Power Plants FEIS at 3.

which include fishing.[109] Indeed, NYSDEC has aptly explained that "[t]he unnatural morality of approximately one billion aquatic organisms caused by a single source at one discrete location on the Hudson River each year . . . is plainly inconsistent with the best usages of the water for fishing."[110]

In addition, radiological leaks and releases into the Hudson River may lead to impacts to the aquatic ecology of the Hudson River, as fully discussed above in relation to policy 8,[111] and such impacts may also interfere with recreational fishing uses of the Hudson River. Moreover, the unpleasant likelihood of a large scale radiological release from Indian Point as a result of Entergy's mismanagement of the thousands of tons of spent nuclear fuel stored onsite or due to improper aging management, would have disastrous environmental impacts upon the Hudson River, which would likewise inhibit recreation fishing uses, as discussed in more detail above and below in relation to policies 39 and 8, respectively.[112]

It is, therefore, clear that continued operation of Indian Point as proposed by Entergy would conflict with the usage of the Hudson River for recreational fishing purposes. Thus, Entergy's proposal to continue operating Indian Point inhibits the advancement of NYS CMP Policy 9, which champions the expansion of recreational fishing by increasing access to existing resources and supplementing existing stocks.

Based on the foregoing and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 9 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

F. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 10 of the NYS CMP

NYSDOS Coastal Policy 10

Policy 10 of the NYS CMP states as follows: "Further develop commercial finfish, shellfish and crustacean resources in the coastal area by encouraging the construction of new, or improvement of existing on-shore commercial fishing facilities, increasing marketing of the State's seafood products, maintaining adequate stocks, and expanding aquaculture facilities."

The Proposed Continued Operation of Indian Point Inhibits the Development of Commercial Aquatic Resources

As is discussed in more detail in relation to Policies 7 and 9, the continued operation of Indian Point in the manner contemplated by Entergy in its Consistency Certification will result in ongoing and severe degradation of aquatic resources of the Hudson River from the plant's once through cooling water intake structure; such degradation has resulted in the deterioration of the

[109] *See* Attachment 1 - NYSDEC IP 401 Notice of Denial at 11.

[110] Attachment 7 - NYSDEC Post-Hearing Brief on Best Usages of Water at 9; *see generally id.*

[111] *See infra* § III.D. Riverkeeper incorporates this discussion by reference.

[112] *See id.*

aquatic ecology, including declines in fish populations, and will continue to do so should the plant continue operating; such impacts interfere with commercial fishing uses of the Hudson River since they decrease fish stocks present in the river and contribute to the ongoing status of fisheries closures and fishing restrictions; thus, continued operation of the plant is not consistent with, does not advance, and, in fact, inhibits, the development of commercial fishing activities in Hudson River.[113]

Based on the foregoing, the referenced discussions elsewhere herein, and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 10 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

G. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 18 of the NYS CMP

NYSDOS Coastal Policy 18

Policy 18 of the NYS CMP states as follows: "To safeguard the vital economic, social and environmental interests of the State and of its citizens, proposed major actions in the coastal area must give full consideration to those interests, and to the safeguards which the State has established to protect valuable coastal resource areas."

This policy explains that

> Proposed major actions may be undertaken in the coastal area if they will not *significantly impair* valuable coastal waters and resources, thus frustrating the achievement of the purposes of the safeguards which the State has established to protect those waters and resources. Proposed actions must take into account the social, economic *and environmental* interests of the State and its citizens in such matters that would affect natural resources, water levels and flows, shoreline damage, hydro-electric power generation, and recreation.[114]

The Continued Operation of Indian Point Fails to Safeguard the Economic Social, or Environmental Interests of NYS

Entergy's proposal to continue operating Indian Point for an additional 20 years demonstrably fails to safeguard the vital economic, social and environmental interests of the State, in violation of the spirit, intent, and letter of NYSDOS Policy 18.

To begin with, it is necessary to clarify and correct numerous misrepresentations made by Entergy in its Consistency Certification in relation to Policy 18.[115] In particular, Entergy boldly

[113] *See supra* at §§ III.C, III.E. Riverkeeper incorporates these discussions by reference here.

[114] NYS CMP § II-6, 44 (emphasis added).

[115] Entergy makes similar representations and arguments elsewhere in its Consistency Certification, which all fail for the same reasons discussed here. *See, e.g.*, IPEC CZMA Consistency Certification at II-6 (in the context of discussing policy 5, baselessly claiming that "IPEC will continue to be an essential component of New York State's electric supply, and it will continue to provide lower-cost, virtually emission-free power to New York State

and misleadingly states that the proposed relicensing of Indian Point safeguards the State's economic, environmental, and social interests due to Indian Point's location, capacity, baseload operation and generation, reactive power service, and low emissions; Entergy claims that "[t]hese characteristics make IPEC License Renewal essential for the proper balance of the economic, social, and environmental priorities" required under Policy 18.[116] However, none of these characteristics makes the license renewal Indian Point "essential," or even appropriate. In turn:

Indian Point's location: As maybe best stated by a director of the NRC over 30 years ago: "it is insane to have a three-unit reactor on the Hudson River in Westchester County, 40 miles from Times Square, 20 miles from the Bronx... [Indian Point is] one of the most inappropriate sites in existence."[117] Since Indian Point's initial licensing, the population around the facility has nearly doubled, resulting in significant traffic congestion that would prevent authorities from evacuating the residents living within the ten-mile Emergency Planning Zone ("EPZ") in the event of an accident or terrorist attack.[118] Roads and bridges would not be able to handle the amount of traffic leaving the 10-mile radius and beyond in an emergency situation.[119] According to an independent analysis of Indian Point's emergency plans commissioned by former New York Governor George Pataki in 2003 and authored by former FEMA director James Lee Witt found, the radiological emergency plan for Indian Point is badly flawed, unworkable and key components are unfixable. Witt found that ". . . the current radiological response system and capabilities are not adequate to . . . protect the people from an unacceptable dose of radiation in the event of a release from Indian Point . . . ."[120] Just three weeks ago, a panel of nuclear experts, including the former chairman of the NRC, Gregory Jaczko, confirmed that alleged emergency plans for a catastrophic event at Indian Point are not designed to protect the public from unhealthy doses of radiation and that it would be best if the plant closes down.[121] Thus, Indian Point is located in an incredibly ill-suited place for a nuclear power plant and the facility's location does not safeguard the varied interests of NYS.

Indian Point's capacity, baseload operation and generation, reactive power service. These three "characteristics" relate to Entergy's claim that Indian Point is allegedly critical "to the reliability

---

residents."); *id.* at XI-23 (in the context of Policy 43, baselessly stating that "IPEC plays a key role in meeting the power generation and energy needs of the State").

[116] *See* IPEC CZMA Consistency Certification at V-3.

[117] *Report of the Office of the Chief Counsel on Emergency Preparedness to the President's Commission on the Accident at Three Mile Island,* October 31, 1979, p. 5.

[118] Notably, were Entergy applying for a license to build a new nuclear power plant where Indian Point is now located, it is unlikely they would be allowed to do so, based on its proximity to such a highly populated area. *See* 10 C.F.R. Pts. 100.3, 100.10(b), 100.11, & 100.21(h).

[119] *See, e.g.*, Randi Weiner & Steve Lieberman, *Multiple Accidents Close Tappan Zee, Snarl Traffic for Hours,* THE JOURNAL NEWS, July 28, 2007 (reporting two accidents–one on each side of the Tappan Zee Bridge, and a raft of fender-benders that blocked breakdown lanes and hindered commuters for hours).

[120] Review of Emergency Preparedness of Areas Adjacent to Indian Point and Millstone, p. viii, James Lee Witt Associates, 2003.

[121] *See* Jim Polson & Peter Ward, *Indian Point Nuclear Plant Should be Shut, Jaczko Says*, Bloombert (Oct. 8, 2013), *available at*, http://www.bloomberg.com/news/2013-10-08/indian-point-nuclear-plant-should-be-shut-jaczko-says.html (last visited Oct. 28, 2013).

of New York State's electricity system."[122] However, this is simply not the case. As an initial matter, Entergy consistently overstates the amount of energy that Indian Point provides to NYC. Indeed, despite a well-financed public relations campaign that repeatedly asserts that Indian Point provides 25% of the electricity needed to supply New York City, Entergy has never supplied documentary evidence to support such a claim, and there is evidence indicating Indian Point supplies much less to the region.[123] Moreover, Entergy also overstates the "reliability" of Indian Point given that the plant has an incredibly high unplanned shutdown and failure rate. In any event, a 2012 analysis conducted by energy consultants at Synapse Energy Economics, Inc. ("Synapse") commissioned by Riverkeeper (and attached hereto in support of these comments) provides a clear roadmap to, and demonstrates the clear feasibility of, replacing Indian Point's power using entirely clean renewable energy and energy efficiency measures.[124] Synapse's analysis concluded that Indian Point's approximate 2,060 MW could be replaced by implementing a clean energy portfolio that includes 1030 MW of energy efficiency, and 1030 MW of renewable energy capacity, and that such a portfolio could be installed *in time to address reliability concerns*.[125] Moreover, in November of 2012, the NYS Public Service Commission ("PSC") issued an order and instituted a proceeding, calling for the development of a contingency plan to address the potential closure of Indian Point upon the expiration of its existing licenses by the end of 2015. The draft GEIS related to that proceeding is attached hereto in support of these comments.[126] The contingency plan must considers the impacts of energy efficiency, distributed generation, demand response and combined heat and power projects in addition to traditional replacement generation and transmission solutions.[127] The result of the PSC contingency proceeding will ultimately be IPEC Reliability Contingency Plan that will "ensure an adequate and reliable power supply in the event that the Indian Point Energy Center (IPEC) is not available in the summer of 2016, upon the expiration of its license to operate."[128] Thus, Indian Point is clearly not necessary for the energy landscape in NYS, and is not critical for safeguarding the varied interests of NYS.

Low emitting. Lastly, Entergy touts the fact that the operation of Indian Point is "virtually emissions free" and claims that Indian Point's "operations contribute substantially to the ability of New York State to meet key climate change and air quality goals."[129] To begin with, Entergy's blanket claim that the operation of Indian Point is emissionless is misleading: the life-

---

[122] *See* IPEC CZMA Consistency Certification at V-4.

[123] *See* National Academy of Sciences, Alternatives to the Indian Point Entergy Center for Meeting New York Electric Power Needs (2006), *available at*, http://www.nap.edu/, at 12, ("Indian Point Units 2 and 3 . . . represent 12.5 percent of the total summer capability in Zones H, I, J, and K").

[124] *See generally* Synapse Energy Economics, Inc., Indian Point Replacement Analysis: A Clean Energy Roadmap: A Proposal for Replacing the Nuclear Plant with Clean, Sustainable Energy Resources (Oct. 11, 2012), *available at*, http://www.riverkeeper.org/wp-content/uploads/2012/10/Synapse-Indian-Point-Replacement-Study-10-11.pdf (Attachment 11) (hereinafter "Attachment 11 – Synapse Entergy Replacement Report").

[125] *Id.*

[126] *See* NYS Dep't of Public Service & Ecology and Environment, Inc., Indian Point Contingency Plan Final Generic Environmental Impact Statement (July 2013), *accessible at*, http://www.dps.ny.gov/ (Attachment 12) (hereinafter cited as "Attachment 12 – NYSPSC Indian Point Contingency Plan FGEIS").

[127] *See generally id.*

[128] *Id.* at 1-1.

[129] IPEC CZMA Consistency Certification at V-3.

cycle of generating nuclear power, from uranium mining and refining to transportation and storage requires an enormous amount of energy and indisputably produces greenhouse gases such as carbon dioxide.[130] Moreover, Entergy's claim that Indian Point is necessary for NYS to meet air quality goals, and the implication that the absence of Indian Point's energy would require dirtier, carbon emitting power plants to run is simply wrong. As the above discussion and the Synapse study demonstrate, replacing Indian Point can be done using methods that would not involve additional carbon emissions, including clean energy sources and conservation and efficiency.[131] Thus, Indian Point is clearly not necessary in order for NYS to meet air quality and climate change goals, and is not critical for safeguarding the varied interests of NYS.[132]

Contrary to Entergy's assertions, the continued operation of Indian Point does *not* comport with the balancing of economic, social, and environmental interests described in Policy 18.

First, relicensing Indian Point would not safeguard the economic interest of NYS. Due the aging nature of the plant, increasing severe weather events, likely earthquakes, human error, vulnerable and improperly managed nuclear waste, the plant is highly susceptible to accidents and intentional acts of sabotage; such incidents could result in far-ranging radiological releases that would render large swaths of property in the NYC region uninhabitable. This is described in further detail below in relation to policy 39 as well as above in relation to policy 8.[133] Such circumstances would devastate the world's economy, let alone the economy of NYS.[134]

---

[130] *See* U.S. EPA, Air Emissions, http://www.epa.gov/cleanenergy/energy-and-you/affect/air-emissions.html (last visited Oct. 29, 2013) ("Nuclear power plants do not emit carbon dioxide, sulfur dioxide, or nitrogen oxides. However, fossil fuel emissions are associated with the uranium mining and uranium enrichment process as well as the transport of the uranium fuel to the nuclear plant").

[131] *See* Attachment 11 – Synapse Entergy Replacement Report; *See* Attachment 12 – NYSPSC Indian Point Contingency Plan FGEIS.

[132] Entergy makes similar claims regarding air quality impacts elsewhere in its Consistency Certification that are misleading and incorrect for the same reasons discussed here in relation to Policy 18. First, Entergy misleadingly claims that "[w]ithout IPEC, it will be more difficult for New York to fulfill its commitment under Policy 43 to limit the causes of acid rain." IPEC CZMA Consistency Certification at XI-21. In fact, Entergy boldly claims that without Indian Point's electricity, "electricity would have to be produced from alternative sources, predominantly fossil fuel burning plants that emit the precursors to acid rain." *Id.* at XI-23. This is patently unfounded and, in fact, contradicted by a clear evidence that a plan to replace Indian Point can be carried out using methods that would not involve additional fossil fuel emissions, including clean energy sources and conservation and efficiency. *See* Attachment 11 – Synapse Entergy Replacement Report; *see* Attachment 12 – NYSPSC Indian Point Contingency Plan FGEIS. Thus, the continued operation of Indian Point is clearly *not* necessary in order for NYS to meet air quality requirements of, and achieve consistency with Policy 43. Similarly, Entergy claims that "[c]ontinued operation of IPEC is a critical component of New York's commitment to maintain compliance with federal and State air quality standards" and advances Policy 41 of the NYS CMP. *See* IPEC CZMA Consistency Certification at XI-17 to XI-20. However, again, a clean energy replacement plan is possible, likely to occur, and in fact being contemplated by the NYS PSC in the contingency plan proceeding. Thus, Indian Point is not necessary in order to advance Policy 41 or ensure air quality attainment.

[133] *See infra* § III.O. Riverkeeper incorporates this discussion by reference. *See supra* § III.D. Riverkeeper incorporates this discussion by reference.

[134] *See, e.g.*, Attachment 15 – Lyman, Chernobyl on the Hudson; NRDC, Nuclear Accident at Indian Point: Consequences and Costs, *available at*, http://www.nrdc.org/nuclear/indianpoint/files/NRDC-1336_Indian_Point_FSr8medium.pdf.

Second, relicensing Indian Point would not safeguard the social interests of NYS. As discussed elsewhere herein in more detail: Radiological leaks interfere with the public's recreational uses of the Hudson River;[135] large scale radiological releases that may result from a number of different circumstances would displace massive amounts of the public, and interfere with recreational uses of the region's coastal areas;[136] and, as discussed above, the absence of a workable emergency evacuation plan puts the public at immense risk in the event of an accident or attack at the plant.

Third, relicensing Indian Point would not safeguard the environmental interests of NYS. As discussed elsewhere herein in more detail: ongoing operations of Indian Point would continue to result in the decimation of the aquatic ecology of the Hudson River;[137] radiological leaks leach into and impact the Hudson River;[138] and nuclear waste that will continue to be generated by and stored at Indian Point poses an incredible risk of large-scale radiological release that would devastate the surrounding environment.[139]

Thus, Entergy has demonstrably failed to give the required "full consideration" to the economic, social, and environmental interests of NYS or "to the safeguards which the State has established to protect valuable coastal resources."[140] Indeed, Entergy has consistently endeavored to challenge every environmental requirement the State has attempted to impose in order to achieve such protection.[141] The prospect of Indian Point's continued operation as contemplated in Entergy's Consistency Certification exemplifies a facility that not only conflicts with and fails to advance Policy 18, but also one that completely disregards the requirements of the policy.

Based on the foregoing and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 18 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

H. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 19 of the NYS CMP

NYSDOS Coastal Policy 19

Policy 19 of the NYS CMP states as follows: "Protect, maintain, and increase the level and types of access to public water related recreation resources and facilities."

---

[135] *See infra* §§ III.D, III.I. Riverkeeper incorporates these discussions by reference.

[136] *See infra* § III.O. Riverkeeper incorporates this discussion by reference.

[137] *See infra* § III.C. Riverkeeper incorporates this discussion by reference.

[138] *See infra* § III.D. Riverkeeper incorporates this discussion by reference.

[139] *See infra* § III.O. Riverkeeper incorporates this discussion by reference.

[140] NYS CMP § II-6, 44.

[141] *See, e.g., supra* § III.C. (explaining Entergy's consistent refusal to comply with BTA requirements at Indian Point despite NYSDEC's long-standing efforts).

The Proposed Continued Operation of Indian Point Fails to Protect, Maintain, or Increase Access to Public Water Related Recreation Resources

As is discussed in great detail above in relation to Policy 9 and below in relation to Policy 21, the proposed continued operation of Indian Point interferes with and clearly does not advance the public's ability to recreate in the Hudson River, in a variety of ways.[142] Such interference effectively inhibits the public's "access" to the recreational uses for which the Hudson River has been designated, including for primary contact activities such as swimming, and secondary contact, such as fishing and boating. As such, and based on the referenced discussions elsewhere herein, and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 19 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

I. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 21 of the NYS CMP

NYSDOS Coastal Policy 21

Policy 21 of the NYS CMP states as follows: "Water dependent and water enhanced recreation will be encouraged and facilitated, and will be given priority over non-water-related uses along the coast." The policy explains that "[w]ater-related recreation includes such obviously water-dependent activities as boating, swimming, and fishing."[143] This policy focuses on championing such water dependent uses of NYS coastal resources and indicates that activities that "would result in a barrier to recreational use of a major portion of a community's shore should be avoided."[144]

The Continued Operation of Indian Point Fails to Encourage and Facilitate Water-Dependent Recreation in the NYS Coastal Areas

The continued operation of Indian Point for an additional 20 years will negatively impact and inhibit water-dependent recreational activities in the Hudson River in several particular ways, in violation of the spirit and intent of NYS coastal policy 21, as follows:

Once-Through Cooling Water Intake System. As discussed more fully above in relation to Policy 9, Indian Point's ongoing and anticipated detrimental impacts to the aquatic ecology of the Hudson River as a result of Entergy's use of once through cooling, do not encourage or facilitate recreational fishing in the Hudson River.[145]

Radiological Leaks and Releases. As discussed more fully above in relation to Policies 8 and 9, Indian Point's ongoing and anticipated detrimental impacts to the aquatic ecology of the Hudson

[142] *See infra* § III.I. Riverkeeper incorporates this discussion by reference. *See supra* § III.E. Riverkeeper incorporates this discussion by reference.

[143] NYS CMP § II-6, 62.

[144] *Id.* § II-6, 63.

[145] *See infra* § III.E. Riverkeeper incorporates this discussion by reference.

River as a result of radiological leaks, do not encourage or facilitate recreational fishing in the Hudson River.[146]

In addition, ongoing radiological leaks and releases for an additional 20 years of Indian Point operations will interfere with primary contact recreational activities in the Hudson River, i.e. "recreational activities where the human body may come in direct contact with raw water to the point of complete body submergence," such as "swimming, diving, water skiing, skin diving and surfing."[147] As discussed in detail in relation to Policy 8 above, radiological leaks and discharges from Indian Point have and will continue to release to and contaminate the Hudson River.[148] These releases to the coastal areas of NYS conflict with the ability of the public to engage in primary contact recreational activities.[149] To begin with, Entergy's "[l]iquid offsite dose calculations involve fish and invertebrate consumption pathways only."[150] Entergy does not consider the possibility that the public may swim in waters where radionuclides from Indian Point are present.[151] In other words, Entergy does nothing to measure or determine how primary contact with contaminated Hudson River water may impact the public. This can be a deterrent effect on the public from swimming or recreating in the River, and thereby interfere with water-dependent recreation. Moreover, members of the public may face health risks if they decide to go swimming on a day when Entergy happens to perform a sizeable liquid effluent release, or if they participate in primary contact activities in the river over longer periods of time, and thereby face long-term exposure to the radioactivity that is discharged from Indian Point, both intentionally, and inadvertently. Notably, the National Academies Biological Effects of Ionizing Radiation report ("BEIR VII") indicates that there is no safe level of radiation.[152] This report revealed a "linear-no-threshold" association between exposure to radiation and a person's risk of cancer, i.e., "that the risk of cancer proceeds in a linear fashion at lower doses without a threshold and that the smallest dose has the potential to cause a small increase in risk to humans."[153] According to the BEIR VII report, the deleterious radioactive substances from accidental leaks at Indian Point have the potential to affect individuals swimming and recreating in the Hudson River.[154]

---

[146] *See infra* §§ III.D, III.E. Riverkeeper incorporates these discussions by reference.

[147] 6 N.Y.C.R.R. § 700.1(a)(49).

[148] *See supra* § III.D. Riverkeeper incorporates this discussion by reference.

[149] *See generally* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 60-63, 88-91.

[150] 2008 Radioactive Effluent Release Report, Entergy Nuclear Operations, Inc., Indian Point Nuclear Generating Units Nos. 1, 2 & 3, at 34, *available at*, http://pbadupws.nrc.gov/docs/ML0912/ML091260208.pdf; *see also* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 60-61.

[151] Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 60-61.

[152] The National Academies, Health Risks From Exposure to Low Levels of Ionizing Radiation, BEIR VII (National Academies Press 2006), *accessible at*, http://www.nap.edu/ ("BEIR VII Report"); *see* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 61-63.

[153] *See* BEIR VII Report; *see also* The National Academies, BEIR VII: Health Risks From Exposure to Low Levels of Ionizing Radiation, Report in Brief, http://dels.nas.edu/dels/rpt_briefs/beir_vii_final.pdf ("The BEIR VII report concludes that the current scientific evidence is consistent with the hypothesis that, at the low doses of interest in this report, there is a linear dose-response relationship between exposure to ionizing radiation and the development of solid cancers in humans. It is unlikely that there is a threshold below which cancers are not induced"); *see also* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 61-63.

[154] *See generally* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 61-63, 88-91.

Toxic Nuclear Waste Storage. As discussed more fully below in relation to Policy 39 and above in relation to Policy 9, Indian Point's anticipated detrimental impacts to the aquatic ecology of the Hudson River as a result of onsite nuclear waste storage, do not encourage or facilitate recreational fishing in the Hudson River.[155] In addition, the unpleasant likelihood of a large scale radiological release from Indian Point as a result of Entergy's mismanagement of the thousands of tons of spent nuclear fuel stored onsite, would have disastrous environmental impacts upon the Hudson River, which would also inhibit primary contact recreation activities such as swimming, as discussed in more detail below.[156]

Aging Systems, Structures, and Components. The increasing likelihood of catastrophic plant failures due to Entergy's inability to adequately manage aging reactor components would likewise have far-ranging environmental impacts, as discussed in more detail above in relation to policy 8.[157] Such circumstances would also interfere with primary and secondary contact recreational activities.

Indian Point Security Zone. In the wake of the terrorist attacks of September 11th, 2001, the U.S. Coast Guard established a "safety and security zone" around Indian Point encompassing "[a]ll waters of the Hudson River within a 300-yard radius of the IPNPS [Indian Point Nuclear Power Station] pier."[158] Pursuant to the Coast Guard's regulations, "[e]ntry into or remaining in a safety or security zone is prohibited unless authorized by the Coast Guard Captain of the Port, New York."[159] Should Entergy obtain the extended operating licenses it seeks for Indian Point, this exclusion zone would be in effect for an extra 20 years.[160] This would interfere with several recreational uses for which the area is designated.

In particular, an exclusion zone protruding out into the Hudson River around Indian Point conflicts with both primary and secondary contact recreational activities that the river is designated to accommodate in that region. This restriction against use of the river makes a substantial, critical segment of the Hudson River off-limits for recreational use. The use of the Hudson River by small boats, particularly kayaks, has exploded in recent years. Most kayakers follow the shoreline of the river in order to avoid conflicts with commercial shipping in the main channel and to avoid getting caught far from shore in adverse weather. The Indian Point exclusion zone makes it impossible for kayakers to travel from Montrose Point to Peekskill along the East shore of the Hudson River – kayakers must detour into the shipping channel at a particularly dangerous place, where visibility is limited because of the bends in the river at Jones

[155] *See infra* §§ III.O., *See supra* § III.E. Riverkeeper incorporates these discussions by reference.

[156] *See infra* § III.O. Riverkeeper incorporates this discussion by reference.

[157] *See supra* § III.O. Riverkeeper incorporates this discussion by reference.

[158] Safety and Security Zones: New York Marine Inspection Zone and Captain of the Port Zone, 33 C.F.R. § 165.169(a)(1).

[159] *Id.* at §165.169(b)(1).

[160] When operations of Indian Point cease and the site is remediated to a greenfield status for unrestricted use in accordance with federal regulations, the Coast Guard regulation requiring an exclusion zone will no longer be applicable. An extended operating period would, thus, at a minimum, lead to an overall 20-year delay in rendering the exclusion zone inapplicable.

Point and at Montrose Point. Small boats such as kayaks are difficult to see and enter the shipping channel in an area of limited visibility at great personal risk. Continued operation of the Indian Point Units 2 and 3 would, thus, require kayakers and other small boaters to choose either to avoid this stretch of the Hudson River or to take the substantial personal risk of entering the shipping channel in an area of poor visibility. Either situation results in a violation of New York State's designated use of the river for boating.

The exclusion zone further impedes the public's ability to engage in any kind of primary contact recreation in that area for the same reasons. As discussed above, primary contact activities include swimming, diving, water skiing, skin diving and surfing. It is truly doubtful that people could partake in any such activities (including windsurfing) when having to compete with shipping vessel traffic and recreational boaters in a narrowed section of usable river.

~~~~

Based on the foregoing and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 21 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

J. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 22 of the NYS CMP

NYSDOS Coastal Policy 22

Policy 22 of the NYS CMP states as follows: "Development when located adjacent to the shore will provide for water-related recreation whenever such use is compatible with reasonably anticipated demand for such activities, and is compatible with the primary purpose of the development." This policy lists "power plants" as a type of development which can provide for "water-related recreation as a multiple use."[161]

The Proposed Continued Operation of Indian Point Interferes with Water-Related Recreation

As discussed fully in relation to Policy 21, the continued operation of Indian Point for an additional 20 years negatively impacts and inhibits water-related recreational activities in the Hudson River in a variety of ways; as discussed in relation to Policy 21, the proposed ongoing operation of Indian Point will negatively impact the ability of the public to recreationally fish, swim, and/or boat in the Hudson River.[162] Such uses are feasibly compatible as a multiple use concurrent with the operation of Indian Point, however are impeded by the detrimental impacts and risks posed by the plant. As a result, based on the referenced discussions and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with and does not advance Policy 22 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

[161] NYS CMP § II-6, 66.

[162] *See supra* § III.I. Riverkeeper incorporates this discussion by reference.
~~~~

K. ***The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 27 of the NYS CMP***

NYSDOS Coastal Policy 27

Policy 27 of the NYS CMP states as follows: "Decisions on the siting and construction of major energy facilities in the coastal area will be based on public energy needs, compatibility of such facilities with the environment, and the facility's need for a shorefront location."

Indian Point is Not Necessary and Incompatible with the Environment

Despite Entergy's unfounded claims to the contrary, the decision to continue operating Indian Point is completely unjustified based upon public energy needs and compatibility with the environment.

First, Entergy claims that "IPEC is essential to meeting New York State's energy needs."[163] This is belied by the facts and documentation fully discussed in relation to Policy 18, which demonstrates that Indian Point can reliably be replaced.[164]

Second, Entergy claims that the operation of Indian Point is compatible with the environment since *allegedly*, "IPEC is a critical component of New York's commitment to reduce" air emissions and "IPEC operations do not alter the community structure, food chain relationships, species diversity, predator/prey relationships, population size, mortality rates, reproductive rates, behavioral patterns, and migratory patterns of the fish species utilizing the Hudson River."[165] Numerous recent analyses and assessments belie Entergy's former claim: a clean energy replacement plan is possible, likely to occur, and in fact being contemplated by the NYS PSC in a contingency plan proceeding, and, accordingly, Indian Point is not critical in order to assure compliance with air quality requirements. Entergy's latter claim constitutes a blatant and inappropriate mischaracterization of the impacts of Entergy's once through cooling water intake structures on aquatic ecology in the river; such impacts are rampant, pervasive, and extensive, and have *clearly* altered, and will continue to alter, "the community structure, food chain relationships, species diversity, predator/prey relationships, population size, mortality rates, reproductive rates, behavioral patterns, and migratory patterns of the fish species utilizing the Hudson River," as discussed fully in relation to Policy 7 above.[166] Moreover, the continued operation of Indian Point is otherwise highly incompatible with the surrounding environment: radiological leaks, nuclear waste, aging systems and components, all pose numerous critical risks to the environment, as discussed fully elsewhere herein in relation to Policies 8, 21, and 39.[167]

Thus, the ongoing operation of Indian Point is not justified as required by Policy 27 of the NYS CMP. Moreover the ongoing operation of Indian Point potentially inhibits, and does not

[163] IPEC CZMA Consistency Certification at X-2.

[164] *See supra* § III.G. Riverkeeper incorporates this discussion by reference.

[165] IPEC CZMA Consistency Certification at X-2.

[166] *See supra* § III.C. Riverkeeper incorporates this discussion by reference.

[167] *See supra* §§ III.D., III.I; *see infra* § III.O. Riverkeeper incorporates these discussions by reference.

advance, the siting and construction of energy facilities that would be more environmentally compatible and that would more safely and reliably meet public demand. Only the termination of operations at Indian Point would result in consistency with Policy 27.

Based on the foregoing, the referenced discussions elsewhere herein, and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with and does not advance Policy 27 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

L. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 30 of the NYS CMP

NYSDOS Coastal Policy 30

Policy 30 states as follows: "Municipal, industrial, and commercial discharge of pollutants, including but not limited to, toxic and hazardous substances, into coastal waters will conform to State and National water quality standards." The policy explains that municipal, industrial, and commercial discharge includes not just "end-of-pipe discharges," but also "plant site run-off, leaching, spillages, sludge and other waste disposal."[168]

The Proposed Continued Operation of Indian Point Results in Radiological Discharges that Fail to Conform to State Water Quality Standards.

As discussed in detail in relation to Policy 8, radiological leaks at Indian Point have contaminated the groundwater beneath the site, and this contamination leaches into the Hudson River.[169] Because future radiological leaks from plant systems are likely to occur if Indian Point is relicensed, its continued operation is likely to result in additional discharges of toxic substances into the Hudson River. Radiological releases from Indian Point have, and will continue to have, a marked impact on the groundwater at the plant, and the discharges to the Hudson River have had, and may continue to have, an impact on the aquatic ecology of the river.[170] Such releases are clearly encompassed by the types of "discharges" described and contemplated by Policy 30.

Entergy's releases of these toxic/hazardous radiological materials to groundwater and the Hudson River from Indian Point are inconsistent with a variety of State water quality standards. Such inconsistencies are fully discussed and explained in Riverkeeper's attached reference, "Riverkeeper Post-Hearing Brief on Radiological Materials."[171] In summary, the radiological discharges from Indian Point to the groundwater and the Hudson River do not conform to State standards in the following ways: radioactive leaks fail to protect the State-designated best use of the groundwater as suitable for potable purposes (notably, this is notwithstanding the fact that this groundwater is not used for drinking water purposes; radioactive leaks fail to protect the

[168] NYS CMP § II-6, 92.

[169] *See supra* §§ III.D; Riverkeeper incorporates this discussion by reference here.

[170] *Id.*

[171] *See* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 66-97.

State-designated best uses of the Hudson River as suitable for fish habitat, and primary and secondary contact recreation (i.e. swimming, fishing/boating, respectively);[172] radiological leaks run afoul of a state prohibition on the discharge of unpermitted radiological materials; and the radiological discharges improperly alter the radiological integrity of waters of the United States in violation of State law.[173]

Thus, the continued operation of the plant and ongoing radiological leaks and discharges as a result thereof will result in ongoing inconsistencies with a variety of relevant and applicable water quality standards, in violation of Policy 30 of the CMP.

Notably, as is discussed in more detail in relation to Policy 39, nuclear waste storage at Indian Point poses risks for large scale radiological releases.[174] Such releases would likewise fail to comport with State water quality standards, including the best usage standards for groundwater and the Hudson River.

Based on the foregoing, the referenced discussions elsewhere herein, and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 30 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

M. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 36 of the NYS CMP

NYSDOS Coastal Policy 36

Policy 36 states as follows: "Activities related to the shipment and storage of petroleum and other hazardous materials will be conducted in a manner that will prevent or at least minimize spills into coastal waters; all practicable efforts will be undertaken to expedite the cleanup of such discharges; and restitution for damages will be required when these spills occur."

The Proposed Continued Operation of Indian Point Results in Operations and Additional Nuclear Waste Storage that Will not be Conducted in a Manner that Will Minimize Radiological Spills and Discharges

As discussed in great detail in relation to Policy 39, Entergy stores hazardous nuclear waste onsite at Indian Point and will generate additional waste if the plant continues operating for an additional 20 years.[175] Such waste is clearly the hazardous material contemplated by Policy 36.

---

[172] *See also* Attachment 1 - NYSDEC IP 401 Notice of Denial at 11 (NYSDEC finding that "the discharge of radiological substances (including, but not limited to, radioactive liquids, radioactive solids, radioactive gases, and stormwater) from the Indian Point site into a water of the State, here the Hudson River, are 'deleterious substances' and could impair the water for their best usage. *See* 6 NYCRR § 703.2."; and that "radiological leaks [at Indian Point] have the potential to impair the best use of the water designated in 6 NYCRR § 701.11").

[173] Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 66-97.

[174] *See infra* § III.O. Riverkeeper incorporates this discussion by reference here.

[175] *See infra* § III.O. Riverkeeper incorporates this discussion by reference here.

As discussed in detail in relation to Policy 8, Entergy's current storage of hazardous waste in spent fuel pools already results, in and will continue to result in, leakage, i.e. spills, to the environment, including the Hudson River.[176] Entergy's poor management practices results in rampant radiological releases to the groundwater and/or the Hudson River. Thus, Entergy waste storage clearly does not minimize spills into coastal waters, and, is thus, not consistent with Policy 36 of the CMP. Notably, given Entergy's choice to let the accumulated groundwater contamination persist in the environment indefinitely,[177] Entergy has demonstrably failed to take "all practicable efforts . . . to expedite the cleanup of such discharges," in violation of Policy 36.

In addition, as discussed in relation to Policy 39, the manner in which Entergy stores its hazardous waste poses a high risk for unintentional large-scale releases of radioactivity, and leaks of radioactively contamination water to the environment, including the Hudson River.[178] This too will clearly not "minimize spills into coastal waters" and, thus, results in inconsistency with Policy 36.

Based on the foregoing, the referenced discussions elsewhere herein, and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 36 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

N. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 38 of the NYS CMP

NYSDOS Coastal Policy 38

Policy 38 states as follows: "The quality and quantity of surface water and groundwater supplies will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply." While this policy is relevant to drinking water supplies, the use of the word "particularly" implies that the policy may also be aimed at protecting surface and groundwaters even if such waters are not sources for drinking water.

The Proposed Continued Operation of Indian Point Fails to Conserve and Protect Surface Waters and Groundwaters of NYS

Continuing to operate Indian Point for an additional 20 years would be inconsistent with Policy 38 in several ways.

First, the continued operation of the plant does not conserve and protect the quality of the Hudson River. Notably, the Hudson River is an ecologically significant waterway, especially in the vicinity of Indian Point, which merits conservation and protection whether or not it is the source for a drinking water supply. As discussed in great detail in relation to policies 7 and 8, the continued operation of Indian Point deteriorates the quality of the aquatic ecology of the Hudson River, including SCFWHs, due to the operation of a destructive once-through cooling

[176] *See supra* §§ III.D. Riverkeeper incorporates this discussion by reference here.

[177] *See supra* § III.D. Riverkeeper incorporates this discussion by reference here.

[178] *See supra* §§ III.O. Riverkeeper incorporates this discussion by reference here.

water intake structure, as well as radiological leaks and groundwater contamination.[179] Notably, there is currently a proposal for a desalination plant to be sited in Haverstraw Bay which would provide drinking water to Rockland County residents from the Hudson River; thus, the continued operation of Indian Point would not protect the quality of the Hudson River from radionuclides that which would likely reach the proposed desalination plant and result in potential health impacts on the public.[180]

Second, the continued operation of Indian Point does not conserve and protect the quality of NYS groundwater. As discussed in more detail in relation to Policy 8, the operation of Indian Point has resulted in, and will continue to result in, radiological groundwater contamination.[181] Even though the groundwater at Indian Point is not used for drinking water purposes, it is designated as NYS "GA fresh groundwaters"[182] which NYSDEC requires to be suitable "as a source of potable water supply."[183] Moreover, a NYSDEC narrative standard applicable to groundwater dictates that deleterious substances not "impair the waters for their best usages."[184] So, the groundwater beneath Indian Point must not be impaired for use as drinking, culinary, or food processing water, notwithstanding whether the groundwater is *actually* used for such purposes.[185] However, as demonstrated in the discussion above related to Policy 8, the groundwater contamination caused by radioactive leaks at Indian Point exceeds EPA MCLs for radionuclides in drinking water and will continue to do so, and so the groundwater beneath Indian Point is not suitable for potable purposes.[186] Moreover, Entergy's failure to conserve or protect the groundwater beneath Indian Point results directly in the ongoing radiological discharges and impacts to the Hudson River. Clearly, the continued operation of Indian Point does not adequately conserve or protect the groundwaters of NYS that are beneath the plant.

Based on the foregoing, the referenced discussions elsewhere herein, and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 38 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

---

[179] *See supra* §§ III.C, III.D. Riverkeeper incorporates these discussions by reference here.

[180] Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 61, 90-91

[181] *See supra* § III.D. Riverkeeper incorporates this discussion by reference here.

[182] 6 N.Y.C.R.R. §§ 701.18, 701.15; *See* Entergy's Detailed Responses to the New York State Department of Environmental Conservation's Request for Information, dated May 13, 2009) at 8, *available at*, http://www.dec.ny.gov/docs/permits_ej_operations_pdf/elecbdrdetresp.pdf.

[183] 6 N.Y.C.R.R. § 701.15; Potable water" is defined as "those fresh waters usable for drinking, culinary or food processing purposes." 6 N.Y.C.R.R. § 700.1(a)(48).

[184] 6 N.Y.C.R.R. § 703.2

[185] Thus, Entergy's reliance upon the fact that the groundwater underlying Indian Point is not used for drinking water is completely immaterial.

[186] *See supra* § III.D. Riverkeeper incorporates this discussion by reference here. *See also* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 66-84.

O. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 39 of the NYS CMP

NYSDOS Coastal Policy 39

Policy 39 of the NYS CMP states as follows: "The transport, storage, treatment and disposal of solid wastes, particularly hazardous wastes, within coastal areas will be conducted in such a manner so as to protect groundwater and surface water supplies, significant fish and wildlife habitats, recreation areas, important agricultural lands and scenic resources."

This policy explains that solid waste includes "industrial" wastes, and that "[h]azardous wastes are unwanted by-products of manufacturing processes and are generally characterized as being flammable, corrosive, reactive, or toxic," while "waste" is defined under NYS law as "waste . . . which because of its . . . characteristics *may* . . . (1) cause, or significantly contribute to an increase in mortality or an increase in serious . . . illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or otherwise managed."[187]

Nuclear Waste Storage, Treatment, and Disposal at Indian Point

Due to the failure of the Federal government to come up with a permanent disposal solution for America's civilian nuclear waste, every nuclear reactor in the U.S., including Indian Point, has become a de facto nuclear waste storage and disposal site.[188] That is, while the U.S. government should have already removed the spent nuclear fuel sitting at Indian Point, generated from the operation of the plant, such waste continues to be stored there. This is likely to continue indefinitely, and at a minimum throughout the proposed extended operating periods for Indian Point. Notably, these are circumstances that were unforeseen at the time that Indian Point was initially licensed to operate.

Spent nuclear fuel is highly radioactive and toxic, especially the "newer" it is. The toxic and dangerous nature of spent nuclear fuel is described in a 2006 study by the National Academy of Sciences, which is attached in support of these comments.[189] It is patent that the hazardous nuclear waste generated by and stored at Indian Point is clearly the type of waste discussed and contemplated by Policy 39 of the NYS CMP: it is a toxic, dangerous industrial waste by-product resulting from the generation of electricity at Indian Point which can result in or significantly contribute to illness and which pose a potential hazard to human health or the environment if managed improperly.[190] Thus, Entergy's storage and handling of spent nuclear fuel at Indian Point must be consistent with Policy 39.

---

[187] NYS CMP § II-6, 25 (emphasis added).

[188] *See New York v. NRC*, 681 F.3d 471, 474 (D.C. Cir. 2012) (Due to the government's failure to establish a final resting place for spent fuel, SNF is currently stored on site at nuclear plants.")

[189] National Academy of Sciences Committee on the Safety and Security of Commercial Spent Nuclear Fuel Storage, Safety and Security of Commercial Spent Nuclear Fuel Storage (The National Academies Press, 2006), at §§ 1.4, 3.1 (Attachment 13) (hereinafter cited as Attachment 13 – NAS, Safety and Security of Commercial Spent Nuclear Fuel Storage").

[190] *See* NYS CMP at § II-6, 99.

Entergy uses two forms of storage for its spent nuclear fuel: pools and dry casks. After the useful life of nuclear fuel expires the "[f]uel rods are thermally hot . . . and emit great amounts of radiation—enough to be fatal in minutes."[191] Thus, this hazardous material must be stored in water pools for a number of years in order keep the fuel adequately cooled. The spent fuel pools at Indian Point are not under the containment domes, but instead are housed in basic industrial buildings behind the domes. After a certain amount of time has passed, approximately 5 years, the fuel is "cool" enough to be moved to dry casks. At Indian Point, Entergy has installed a limited number of dry casks that are lined up next to one another outside on a concrete pad.

At Indian Point, over 40 years of operations has already generated at least 1,500 metric tons of spent nuclear fuel.[192] Although Entergy can feasibly construct additional dry casks and store more spent fuel in such casks, Entergy instead chooses to pack the pools in a highly dense fashion to get as much spent fuel into them as possible. Indeed, the pools house much more fuel than they were originally intended to store, and Entergy only transfers the absolute minimum amount of spent fuel into dry casks when it is necessary to make room in the pools to offload and store "fresh" spent fuel that must be submerged in water. In the presence of party-representatives and administrative law judges in the Indian Point license renewal proceeding, an Indian Point official has represented Entergy's explicit intention to continue storing spent fuel in this manner, currently as well as throughout any extended operating period.

If Indian Point continues operating for 20 years, it is anticipated that the plant will generate approximately 1,000 additional metric tons of nuclear waste[193] that must also be stored indefinitely, and at a minimum, throughout any extended operating period, at Indian Point.

Hazards Posed by Nuclear Waste Storage at Indian Point

The nuclear waste stored at Indian Point in pools and casks poses various risks to the surrounding environment and NYS's coastal areas.

First, historic and ongoing radiological leaks from Indian Point's nuclear waste storage pools already release to and impact the Hudson River, and will continue to do so throughout Entergy's proposed license renewal period for the plant, as discussed in detail above in relation to Policy 8.[194]

Second, it is well-documented that the spent nuclear fuel stored at Indian Point is highly susceptible to accidents, natural phenomena, catastrophic fuel pool fires, and intentional attacks, all of which could result in extensive radiological implications for the environment. Notably, the densely packed waste in the fuel pools increases the risk of accidental fires, which could be triggered by a wide variety of scenarios. Moreover, the nuclear waste storage structures are vulnerable to intention acts of sabotage: The spent fuel pools at Indian Point are not housed

[191] *New York v. NRC*, 681 F.3d 471, 474 (D.C. Cir. 2012).

[192] *See supra* Note 5.

[193] *See id.*

[194] *See supra* § III.D. Riverkeeper incorporates this discussion by reference here.

under containment, but rather in non-reinforced cinderblock industrial buildings which are admittedly penetrable by aircraft, while the dry casks are stored on an outdoor concrete pad, lined up in rows that are easily visible from the air and the Hudson River.[195]

Various expert reports and studies document and demonstrate these circumstances. For example:

- A 2006 National Academy report related to the safety and security of spent nuclear fuel (which his included as an attachment in support of these comments) found that spent fuel pools are susceptible to fire and radiological release from a wide range of conditions, including natural phenomena and intentional attacks;[196]

- A 2007 Report by Gordon Thompson, Ph.D. related to the risks of continuing to operate Indian Point (which is included as an attachment in support of these comments) explains that due to the "closed-form configuration of the high-density racks" in the spent fuel pools, water loss from the pools would result in a disastrous pool fire, and that such a water loss scenario could arise from a number of events, including intentional attacks on the plant, accidental impacts with the pools, earthquakes, and severe accidents; Dr. Thompson further discusses the vulnerability of the spent fuel pools at Indian Point to intentional attacks, the credible threat environment, and the likelihood of acts of malice occurring at Indian Point;[197]

- The "Chernobyl on the Hudson" Report authored by Edwin Lyman (which is included as an attachment in support of these comments), discusses the justified concern for regarding the potential for a terrorist attack at Indian Point;[198]

It is also well-established that the environmental impacts of accidents, intentional attacks, and/or catastrophic fuel pool fires resulting from any of a variety of unforeseen circumstances, can be quite severe and encompass enormous geographic areas, and last for decades.[199]

---

[195] Notably, numerous reports indicate that nuclear power plants remain likely targets of terrorist attacks. *See, e.g.*, Nat'l Comm'n on Terrorist Attacks Upon the U.S., *The 9/11 Commission Report* (2004); *Wide-Ranging New Terror Alerts*, CBS News.com (May 26, 2002), *available at*, http://cbsnews.com/stories/2002/05/24/attack/main510054.shtml (discussing heightened alert of the U.S.'s nuclear power plants as a result of information gained by the intelligence community); *see also* Attachment 13 – NAS, Safety and Security of Commercial Spent Nuclear Fuel Storage (explaining that attacks on spent fuel pools are viewed as attractive targets since they are less protected structurally than reactor cores and typically contain much greater inventories of medium and long-lived radionuclides than reactor cores).

[196] Attachment 13 – NAS, Safety and Security of Commercial Spent Nuclear Fuel Storage, at §§ 1.4, 3.1.

[197] Gordon Thompson, Risk-Related Impacts from Continued Operation of the Indian Point Nuclear Power Plants (Institute for Resource and Security Studies, 2007), *available at*, http://pbadupws.nrc.gov/docs/ML1209/ML120970089.pdf (Attachment 14) (hereinafter "Attachment 14 – Thompson, Risk-Related Impacts").

[198] Edwin S. Lyman, Chernobyl on the Hudson? The Health and Economic Impacts of a Terrorist Attack at the Indian Point Nuclear Plant (September 2004), *available at*, http://www.ucsusa.org/assets/documents/nuclear_power/indianpointhealthstudy.pdf (Attachment 15) (hereinafter "Attachment 15 – Lyman, Chernobyl on the Hudson").

[199] *See* Dr. Jan Beyea, *Report to the Massachusetts Attorney General on the Potential Consequences of a Spent-Fuel Pool Fire at the Pilgrim or Vermont Yankee Nuclear Plant* (May 25, 2006), *available at*, http://pbadupws.nrc.gov/docs/ML1209/ML12094A181.pdf; NRDC, Nuclear Accident at Indian Point: Consequences and Costs, *available at*, http://www.nrdc.org/nuclear/indianpoint/files/NRDC-

Importantly, Entergy's proposal to continue operating Indian Point for 20-year extended operating terms results in the generation of a significant amount of additional nuclear waste that will have to be stored onsite, and the presence of larger, and ever-growing, amounts of new waste serves to increase the risk of spent fuel-related incidents as well as the environmental consequences associated with such incidents.[200]

Thus, the nuclear waste being stored at Indian Point in pools and dry casks poses a realistic and significant risk for a large scale radiological release to the environment.

Nuclear Waste Storage at Indian Point Results in Inconsistency with NYS CMP Policy 39

The risks and impacts discussed above resulting from the proposed continued and additional generation and storage of nuclear waste at Indian Point during Entergy's proposed extended operating period are inconsistent with NYS CMP Policy 39 in at least four distinct and specific ways, as follows:

1. Entergy's storage and disposal of toxic, hazardous radioactive waste at Indian Point is not, and will not be in the future, conducted in a manner that is protective of groundwater. In particular, improper management of the spent fuel pools at Indian Point has resulted in accidental radioactive leaks that have already caused extensive and persistent contamination of the groundwater beneath Indian Point, in violation of state water quality standards, as is fully discussed above in relation to Policies 8 and 30.[201] This contamination is expected to keep growing if Indian Point continues to operate, and will continue to be "managed" in a manner that does not protect groundwater resources, again as fully discussed above in relation to Policy 8.[202] Moreover, as discussed above, the nuclear waste stored onsite poses a significant risk of large scale radiological releases, which would undoubtedly impact NYS groundwaters.

2. Entergy's storage and disposal of toxic, hazardous radioactive waste at Indian Point is not, and will not be in the future, conducted in a manner that is protective of surface waters. In particular, Entergy's improper management of the spent fuel pools at Indian Point has

---

1336_Indian_Point_FSr8medium.pdf ("An accident at one of Indian Point's reactors on the scale of the recent catastrophe in Japan [which involved spent fuel pool failures] could cause a swath of land down to the George Washington Bridge to be uninhabitable for generations due to radiation contamination"); Attachment 14 – Thompson, Risk-Related Impacts; *see also* German Reactor Safety Org., *Protection of German Nuclear Power Plants Against the Background of the Terrorist Attacks in the U.S. on Sept. 11, 2001* (Nov. 27, 2002) (finding that large jetliners crashing into nuclear facilities under different scenarios could cause uncontrollable situations and the release of radiation); Attachment 15 – Lyman, Chernobyl on the Hudson.

[200] For example, generating more waste involves more fuel transfers, which poses an increased risk of accidents from such transfers, such as from the dropping of fuel canisters; moreover, "newer" fuel is more radioactive and dangerous than older fuel, and the ongoing generation of such "new" fuel will result in nuclear waste that is persistently at a higher level or toxicity and radioactivity, and, thus, more dangerous.

[201] *See supra* §§ III.D, III.L. Riverkeeper incorporates these discussions by reference here.

[202] *See supra* § III.D. Riverkeeper incorporates this discussions by reference here (explaining how Entergy refuses to clean up the contamination and how Entergy fails to implement measures to prevent leaks and additional groundwater contamination from occurring).

resulted in accidental radioactive leaks that have already caused extensive and persistent contamination of the groundwater beneath Indian Point which indisputably leaches into and causes impacts to the surface waters of the Hudson River, as is fully discussed above in relation to policy 8.[203] The release of groundwater contamination from Indian Point to the Hudson River expected to continue during Entergy's entire proposed extended operating period for the plant, and Entergy will continue to "manage" this contamination in a manner that does not protect surface water resources, again as fully discussed above in relation to Policy 8.[204] Moreover, as discussed above, the nuclear waste stored onsite poses a significant risk of large scale, extensive, radiological releases which would undoubtedly impact the surface waters of the Hudson River. That is, Entergy's manner of storing dangerous nuclear waste in packed pools susceptible to fires and vulnerable to accidents and intentional attacks poses a risk of extensive radiological contamination, and is, thus, *not* conducted in a manner that is protective of surface waters.

3. Entergy's storage and disposal of toxic, hazardous radioactive waste at Indian Point is not, and will not be in the future, conducted in a manner that is protective of the Hudson Highlands SCFWH or the Haverstraw Bay SCFWH. Once again, Entergy's improper management of the spent fuel pools at Indian Point has resulted in accidental radioactive leaks that have already caused extensive and persistent contamination of the groundwater beneath Indian Point which indisputably leaches into and causes impacts to the Hudson River, including SCFWHs, as is fully discussed above in relation to policies 7 and 8.[205] The release of groundwater contamination from Indian Point to the Hudson River is expected to continue during Entergy's entire proposed extended operating period for the plant, and Entergy will continue to "manage" this contamination in a manner that does not protect SCFWHs resources, again as fully discussed above in relation to Policy 8.[206] Moreover, as discussed above, the nuclear waste stored onsite poses a significant risk of large scale, extensive, radiological releases which would undoubtedly impact the surface waters of the Hudson River. That is, Entergy's manner of storing dangerous nuclear waste in packed structures susceptible to fires and vulnerable to accidents and intentional attacks poses a risk of extensive radiological contamination, and is, thus, *not* conducted in a manner that is protective of SCFWHs directly adjacent to and nearby Indian Point.

4. Entergy's storage and disposal of toxic, hazardous radioactive waste at Indian Point is not, and will not be in the future, conducted in a manner that is protective of recreational uses of the Hudson River. Accidental radiological leaks that release into the Hudson River and will continue to do so throughout Entergy's proposed extended operating period for the plant interfere with designated recreational activities of the Hudson River, including fishing and swimming, as discussed above in relation to Policy 21.[207] Entergy will continue to "manage" the radiological contamination in a manner that is not protective of such designated

[203] *Id.*

[204] *Id.*

[205] *See supra* §§ III.C, III.D. Riverkeeper incorporates these discussions by reference here.

[206] *See supra* § III.D. Riverkeeper incorporates this discussion by reference here.

[207] *See supra* § III.I. Riverkeeper incorporates this discussion by reference here.

recreational uses, again as fully discussed above in relation to Policies 8, 9, 21, and 30.[208] Moreover, as discussed above, the nuclear waste stored onsite poses a significant risk of large scale, extensive, radiological releases which would undoubtedly impact recreational fishing and swimming uses of the Hudson River. That is, Entergy's manner of storing dangerous nuclear waste in packed structures susceptible to fires and vulnerable to accidents and intentional attacks poses a risk of extensive radiological contamination (as discussed above), which could render a significant area around Indian Point uninhabitable and/or no longer available or useful for recreational purposes. This manner of waste storage is clearly not protective of recreational activities.

~~~~

Based on the foregoing and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 39 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

P. The Proposed Continued Operation of Indian Point Is Inconsistent with Policy 40 of the NYS CMP

NYSDOS Coastal Policy 40

Policy 40 states as follows: "Effluent discharged from major steam electric generating and industrial facilities into coastal waters will not be unduly injurious to fish and wildlife and shall conform to State water quality standards." The policy seeks to limit effluent discharges, including thermal discharges, "that will be unduly injurious to the propagation and protection of fish and wildlife . . . the public health, and public enjoyment of the receiving waters."[209]

The Proposed Continued Operation of Indian Point Will Result in Discharges that Are Unduly Injurious to Fish and Wildlife and that Will Not Conform to State Water Quality Standards

The continued operation of Indian Point for another 20 years in the manner contemplated in Entergy's Consistency Certification is inconsistent with Policy 40 for several reasons.

First, the thermal effluent discharges caused by the once-through-cooling water intake structure at Indian Point, and attendant/inseparable impingement and entrainment impacts, are unduly injurious to fish and fail to meet State water quality standards, as is fully discussed above in the context of Policy 7.[210] Indeed, "thermal discharges" logically encompass the impacts of the water intake structures at Indian Point. As NYSDEC has aptly explained, "[t]here is no question, and Entergy cannot seriously dispute, that Indian Point's thermal discharge stems from, and is connected with, the operation of the plant and [cooling water intake structures] for the facilities. . . . [T]he Facilities' [cooling water intake structures] are regulated in the context of thermal discharges because they are inextricably linked and connected with one another.[211] Thus, the

[208] *See supra* §§ III.D., III.E, III.I, III.L. Riverkeeper incorporates these discussions by reference here.

[209] NYS CMP § II-6, 100.

[210] *See supra* § III.C. Riverkeeper incorporates this discussion by reference here.

[211] In the Matter of the Application of Entergy Indian Point Unit 2, LLC and Entergy Indian Point Unit 3, LLC for a Water Quality Certificate Pursuant to Section 401 of the Federal Clean Water Act and Section 608.9 of Title 6 of the
~~~~

entrainment and impingement impacts caused by Indian Point are relevant to the Policy 40 inquiry regarding "effluent discharges." And, as the discussion above relating to Policy 7 clearly demonstrates, the impact of the effluent discharges at Indian Point are unduly injurious to the propagation and protection of fish and wildlife and fail to comply with State standards.[212] Notably, Indian Point's thermal impacts alone also result in such unduly injurious impacts, and violations of State water quality standards, also as discussed in relation to Policy 7.[213]

Second, radiological discharges from Indian Point may result in injurious impacts to fish, as is fully discussed above in the context of Policy 8.[214] Such discharges are also clearly inconsistent with a variety of State water quality standards, as is fully discussed and explained in Riverkeeper's attached reference, Riverkeeper Post-Hearing Brief on Radiological Materials.[215]

Based on the foregoing, the referenced discussions elsewhere herein, and Riverkeeper's supporting attachments, the continued operation of Indian Point is inconsistent with Policy 40 of the NYS CMP, and, as a result, NYSDOS must object to Entergy's Consistency Certification.

IV. CONCLUSION

Based on the foregoing, as well as Riverkeeper's supporting attachments, as referenced below and attached forthwith hereto, NYSDOS must clearly and unequivocally object to Entergy's Consistency Certification. NYSDOS is authorized to object to a coastal consistency certification if the proposed activity is inconsistent with *any* of the State's enforceable policies.[216] In this case, the proposed operation of Indian Point Units 2 and 3 for an additional 20 years results in *serious* inconsistencies with *numerous* of NYS's coastal policies. Thus, NYSDOS' objection to, and outright rejection of, Entergy's Consistency Certification is necessary and warranted.

Official Compilation of Codes, Rules and Regulations of the State of New York, Ruling on Proposed Issues for Adjudication and Petitions for Party Status, December 13, 2010, at 31-32.

[212] *See supra* § III.C (discussing, *inter alia*, NYSDEC's longstanding position that Indian Point's cooling water intake structure and effluent releases fails to comply with applicable requirement). Riverkeeper incorporates this discussion by reference here. *See also generally* Attachment 6 - Riverkeeper Post-Hearing Brief on Best Usages; Attachment 7 - NYSDEC Post-Hearing Brief on Best Usages of Water.

[213] *Id.* (citing Attachment 3 - IP Pisces Report, which discusses the injurious effects of Indian Point's thermal impacts, and Attachment 5 – Lucas Letter, which discusses how Entergy's operations continue to pose detrimental thermal impacts that fail to meet State water quality standards); *see also generally* Riverkeeper Post-Hearing Brief on Best Usages; Attachment 7 - NYSDEC Post-Hearing Brief on Best Usages of Water.

[214] *See supra* § III.D. Riverkeeper incorporates this discussion by reference here.

[215] *See* Attachment 10 - Riverkeeper Post-Hearing Brief on Radiological Materials at 66-97.

[216] *See* 15 CFR § 930.63(b) ("State agency objections that are based on sufficient information to evaluate the applicant's consistency certification shall describe how the proposed activity is inconsistent with specific enforceable policies of the management program.").

LIST OF ATTACHMENTS

Attachment 1 Letter from William R. Adriance (Chief Permit Administrator) to Dara F. Gray (Entergy), Re: Joint Application for CWA § 401 Water Quality Certification NRC License Renewal – Entergy Nuclear Indian Point Units 2 and 3 DEC Nos.: 3-5522-00011/00030 (IP2) and 3-5522-00105/00031 (IP3) *Notice of Denial* (April 2, 2010)

Attachment 2 Riverkeeper Answer in Opposition to "Motion and Memorandum by Applicant Entergy Nuclear Operations, Inc. for Declaratory Order that it has Already Obtained the Required New York State Coastal Management Program Consistency Review of Indian Point Units 2 and 3 for Renewal of the Operating Licenses (April 5, 2013)

Attachment 3 Entrainment, Impingement and Thermal Impacts at Indian Point Nuclear Power Station, Pisces Conservation Ltd., November 2007

Attachment 4 Excerpts of NYSDEC Hudson River Power Plants FEIS (June 25, 2003) (pages 2-3, 53-58)

Attachment 5 Letter from Mark Lucas (Riverkeeper) to Chris Hogan (NYSDEC), Re: *Entergy Nuclear Indian Point 2, LLC* & *Entergy Nuclear Indian Point 3, LLC Proposed Modification of Special Condition 7.b of SPDES Permit, DEC No.* 3-5522-00011/00004, SPDES No. NY-000472 (July 15, 2011)

Attachment 6 Initial Post Hearing Brief and Proposed Findings of Fact on Behalf of Intervenors Riverkeeper, Inc., Natural Resources Defense Council, Inc., and Scenic Hudson, Inc., in Support of Denial of the Application for a Water Quality Certification for Indian Point Units 2 and 3; CWA § 401 Appeal Issue Number 2: Consistency with the Best Usages of the Hudson River (December 21, 2012)

Attachment 7 Initial Post-Hearing Brief of Department Staff Following the January and July 2012 Adjudicatory Hearings on Best Usages of Water (December 12, 2012)

Attachment 8 Letter from Peter D. Colosi (Assistant Regional Administrator for Habitat Conservation, NFMS) to Brian E. Holian, David J. Wrona, Division of License Renewal, NRC), Re: Indian Point Generating Unit Nos. 2 & 3 License Renewal; Docket Nos. 50-247 and 50-268; Essential Fish Habitat Consultation (Oct. 12, 2010)

Attachment 9 The Status of Fish Populations and the Ecology of the Hudson, Pisces Conservation Ltd., April 2008

Attachment 10 Post-Hearing Closing Brief of Intervenors Riverkeeper, Natural Resources Defense Council, and Scenic Hudson Regarding Issue for Adjudication No. 3 – Radiological Materials (April 27, 2012)

Attachment 11 Synapse Energy Economics, Inc., Indian Point Replacement Analysis: A Clean Energy Roadmap: A Proposal for Replacing the Nuclear Plant with Clean, Sustainable Energy Resources (Oct. 11, 2012)

Attachment 12 NYS Dep't of Public Service & Ecology and Environment, Inc., Indian Point Contingency Plan Final Generic Environmental Impact Statement (September 2013)

Attachment 13 National Academy of Sciences Committee on the Safety and Security of Commercial Spent Nuclear Fuel Storage, Safety and Security of Commercial Spent Nuclear Fuel Storage (The National Academies Press, 2006)

Attachment 14 Gordon Thompson, Risk-Related Impacts from Continued Operation of the Indian Point Nuclear Power Plants (2007)

Attachment 15 Edwin S. Lyman, Chernobyl on the Hudson? The Health and Economic Impacts of a Terrorist Attack at the Indian Point Nuclear Plant (September 2004)