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VIA EMAIL AND U.S. MAIL

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Subject: NUREG-1437: Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 28, Regarding Oyster Creek Nuclear Generating Station Draft Report for Comment

Please accept these written comments of Nuclear Information and Resource Service, Jersey Shore Nuclear Watch, Inc., Grandmothers, Mothers and More for Energy Safety, New Jersey Public Interest Research Group, Environment New Jersey, New Jersey Sierra Club, New Jersey Environmental Federation, and Save Barnegat Bay (the "Coalition") on the above-referenced Draft Environmental Impact Statement ("DEIS") for Oyster Creek Nuclear Generating Station in Forked River, NJ ("Facility"). Many of the afore-mentioned groups have submitted a separate comment letter specifically with respect to safety and security issues. NRC should consider and respond to both sets of comments, as they are complementary and not duplicative.

The operation of Oyster Creek Nuclear Generating Station near the shores of Barnegat Bay is a matter of great public concern. The Bay is a public resource that is valued by the community for its wildlife, aesthetic values, and for fishing, boating and other recreational activities. Millions of dollars in public resources have been devoted to restoring the ecological health of the Bay. In 1987, Congress recognized the vital importance of estuaries and amended the Clean Water Act to create the National Estuary Program ("Program"). Clean Water Act § 320, 33 U.S.C. § 1330. In 1995, the Administrator of the Environmental Protection Agency accepted Barnegat Bay into the Program. Today, Barnegat Bay is one of 28 estuaries of "national significance."

In addition to its location near the Bay, the Facility is situated within the Pinelands Preservation Area. It is classified as a United States Biosphere Reserve and in 1978 it was established by Congress as the country's first National Reserve. This internationally important ecological region is 1.1 million acres in size and occupies 22% of New Jersey's land area. It is the largest body of open space on the Mid-Atlantic seaboard between Richmond, Virginia and Boston, Massachusetts and is underlain by aquifers containing 17 trillion gallons of some of the

purest water in the land. These aquifers provide virtually all of the drinking water for the residents of southern New Jersey.

From the time construction began in the mid-1960s, when the local ecosystem was destroyed to make way for the Facility and its intake and discharge canals, to the present day, the Facility has had a significant, adverse affect on the environment. Because the DEIS fails to properly assess baseline conditions prior to construction of the Facility, the No Action Alternative is inadequately portrayed and analyzed. If the adverse impacts caused by the Facility were properly analyzed, and then compared to a proper assessment of the No Action Alternative, there would be no way to avoid the conclusion that operating the Facility harms, and will continue to harm, the environment. The statement of the purpose and need for the proposed action reveals much about the NRC's attitude toward the Facility. The purpose of the action is to maintain the status quo, regardless of the costs or the consequences. This flies in the face of the purposes and goals of the National Environmental Policy Act ("NEPA"). The DEIS disregards the many known adverse affects and essentially parrots the information provided to the NRC by the applicant. As a result, the NRC has failed to take the requisite hard look at the proposed action. In addition, the DEIS perpetuates inaccuracies presented by the applicant with respect to the impact on the aquatic environment, going so far as to misrepresent the conclusions of studies cited. Not only does NRC misrepresent the studies cited, it fails to acknowledge the fact that the studies cited do not support the conclusion reached by the agency that the proposed action would have only a small impact on the environment. NRC also incorrectly analyzes the applicability of the EPA's Phase II rules regarding cooling water intake structures. Finally, NRC unreasonably relies on the incorrect analysis forwarded by the New Jersey DEP in the draft NJPDES permit and incorporates those preliminary conclusions, conclusions that have been heavily criticized and not finalized, into the DEIS. For all of these reasons, as well as a host of specific comments and questions raised in this letter, NRC should not and cannot make any conclusions about either the environmental impact associated with the proposed relicensing of the Facility or the license renewal application. Therefore, NRC cannot finalize the EIS and must prepare a new draft that addresses the inadequacies raised in this letter and submit it for public comment. Until a proper EIS is prepared and reviewed, NRC should not make any decisions with respect to the relicensing of Oyster Creek. To do otherwise would constitute an impermissible, irrevocable commitment of resources in violation of NEPA.

The Purpose and Need Section Defines the Purpose and Need of the Proposed Action Exclusively From Oyster Creek's Perspective, Foreclosing an Analysis of a Reasonable Range of Alternatives

NRC defines the purpose and need of the proposed action as merely providing an option of keeping a nuclear power plant online. DEIS at 1-8. NRC's decision to define the purpose and need for the project exclusively from Oyster Creek's perspective, making renewal of the license a foregone conclusion, is contrary to NEPA regulations and thirty-five years of NEPA jurisprudence.

Because the stated purpose and need of a federal action determines the range and analysis of alternatives, NRC's failure to properly define the purpose and need makes proper consideration of alternatives impossible. See City of New York v. Dep't of Transportation, 715 F.2d 732, 743 (2nd Cir. 1983) (it is arbitrary for an agency "to narrow the objective of its action artificially and thereby circumvent the requirement that relevant alternatives be considered."); see also, Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 196 (D.C. Cir. 1991) ("an agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action, and the EIS would become a foreordained formality.").

NRC defined the purpose and need exclusively from Oyster Creek's perspective, as simply issuing a renewal of an operating license. NRC appears to be equating Oyster Creek's corporate goals with its own objectives. While the goals of a private party applicant are, to a limited extent, relevant in determining a project's purpose and need, "[m]ore importantly, an agency should always consider the views of Congress, expressed, to the extent that the agency can determine them, in the agency's statutory authorization to act, as well as in other Congressional directives." Citizens Against Burlington, 938 F.2d at 196.

Coupled with NEPA's mandate to act as stewards for present and future generation, see 42 U.S.C. § 4331(a) (2005), it is impossible for NRC to equate its statutory objectives with Oyster Creek's goal of maximizing profits on behalf of its shareholders. NRC cannot fulfill its NEPA obligations by simply looking to what is most convenient and profitable for Oyster Creek. See Van Abbema v. Fornell, 807 F.2d 633, 638 (7th Cir. 1986) ("the evaluation of 'alternatives' mandated by NEPA is to be an evaluation of alternative means to accomplish the general goal of an action; it is not an evaluation of the alternative means by which a particular applicant can reach his goals."). NRC's narrowly defined purpose and need is arbitrary, capricious, an abuse of discretion and otherwise not in accordance with law, as it precludes any analysis of a reasonable range of alternatives impermissibly rendering the result in this case a "foreordained formality."

One of the purposes of NEPA was to "promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man." 42 U.S.C. § 4321. The DEIS does nothing to forward those goals, as it suggests in the statement of purpose and need that the goal is to keep the Facility as an option for the State of New Jersey. There is no effort to prevent or eliminate damage to the environment. Further, the DEIS, which is riddled with flawed data, misrepresentations and bereft of any comprehensive information about the ecosystem directly impacted by the Facility, also fails to promote another of the goals of NEPA, namely to enrich the understanding of the ecological systems and natural resources important to the Nation." Id.

The DEIS Is Riddled with Inaccuracies and Misrepresentations

Another fundamental flaw of the DEIS is that the NRC appears to have simply regurgitated information supplied to it by the applicant and never confirms the veracity of the information. As a result, misrepresentations and inaccuracies have been interwoven and form the backbone of NRC's conclusions in the DEIS.

First, the impingement and entrainment losses documented over the years by AmerGen are virtually meaningless in the absence of Bay population surveys and associated population databases collected over the past 30 years against which the Facility-based losses can be compared. Without that basis for comparison, both NRC and AmerGen are unable to arrive at any conclusions about the affect the Facility is having on the environment. Nowhere is this made more apparent than is section 2.2.5.3 of the DEIS. For virtually all of the species selected by NRC to discussion, the DEIS states that there are no population abundance data or trends. Professor Michael Kennish also points out this flaw in the DEIS in his testimony on July 12, 2006. Without this information, NRC and the Facility cannot determine the true impact of the Facility on aquatic communities in the bay. The only defensible assessment of the Facility's affect on Bay populations took place in the late 1970s, when the last population samples were collected in the Bay concurrently with impingement and entrainment samples. This assessment was made as part of the Facility's required Clean Water Act Section 316 Demonstration, and itself has flaws that are documented in the attached comment letter, which letter is incorporated herein and is to be made part of the record. In the case of the DEIS, not only has NRC relied on old and incomplete data, it completely fails to take into account the tremendous natural variation in the abundance of aquatic organisms in the Bay, as well as the natural variation in those organisms impinged and entrained by the Facility. Professor Kennish has noted that this natural variation can exceed 200-300% annually. See Kennish July 12, 2006 Testimony at 72:1-5. To rectify the information deficit, and thereby allowing any regulator to arrive at defensible conclusions as to the impact the Facility is having on the environment, population surveys in the Bay should be conducted annually, or at least every five years, together with impingement and entrainment sampling. Id. In the absence of this information, the assessment of the cooling water intake system affects on the environment, as described in Section 4.1 of the DEIS are simply inaccurate. Therefore, NRC's conclusions in the DEIS regarding the Facility's impacts on aquatic communities in Barnegat Bay are invalid.

In addition to this fundamental flaw, there are several, particular statements and conclusions by NRC that are questionable, at best. In each case, NRC is attempting to minimize the affects of entrainment and impingement of aquatic organisms. For example, in Section 4.1.1 (page 4-15), NRC states: "There is no evidence to suggest that past, current, or future entrainment of eggs, larvae, or juvenile forms of these species would destabilize or noticeably alter any important attribute of the resource." However, for the reasons articulated in the preceding paragraph regarding the absence of Bay population surveys, this statement is unfounded and incorrect. This statement is particularly problematic in the NRC is purported to extrapolate from the current situation and make conclusions about what is likely to happen in the future. NRC cannot point to any data or studies cited in the DEIS that support this statement.

Not only can NRC not point to any data that supports those conclusions, the data we do have for at least two of the Representative Important Species identified in the Section 316 Demonstration, the hard clam (*Mercenaria mercenaria*) and winter flounder (*Pseudopleuronectes americanus*), evidences a dramatic decline in those populations in the Bay. In another example, NRC comes to the same faulty conclusion on page 4-21 of the DEIS: “There is no evidence to suggest that past, current, or future impingement of these species would destabilize or noticeably alter any important attribute of the resource.” Thus, NRC’s cannot support its conclusions in the DEIS with respect to the impingement and entrainment effects of the Facility without data from Bay surveys conducted during the past three decades.

In what could possibly be described as NRC’s failure to rigorously review the information provided to it by the applicant, NRC misrepresents a statement made by Professor Kennish in one of his published articles on the Barnegat Bay-Little Egg Harbor Estuary. Professor Kennish’s work is misrepresented three times in the DEIS—and it is done in such a way so as to support NRC’s conclusion that the Facility is not having a significant impact on aquatic populations in Barnegat Bay. The error occurs on pages 4-15, 4-21, and 4-51 and includes statements taken directly from Kennish, M. J. 2001. State of the Estuary and Watershed: An Overview. *Journal of Coastal Research*, Special Issue 32, pp. 243-273. As Professor Kennish pointed out in his July 16, 2006 testimony, the cited work is a review of earlier studies conducted on Bay populations. Professor Kennish’s conclusions as to the affect the Facility is having on the Bay are valid only with respect to the two-year period from 1975-1977. These conclusions are not valid as to the entire operating period of the Facility and cannot be cited for that proposition.

In what appears to be yet another example of an incomplete review by NRC staff of the information provided by the applicant, NRC suggests in the DEIS that there are a number of studies reviewed by NRC that do not contradict NRC’s findings with respect to the affect of the Facility on the aquatic populations in the Bay. First, it is irrelevant whether recent studies do not contradict NRC’s findings—as the lack of a contradiction should not be construed in any way as support. Second, and more troubling, is that few studies have been published recently (the past 20-30 years) in peer-reviewed journals that deal with the Facility’s impact on aquatic. NRC fails to cite to these studies, and thus the public is unable to discern whether NRC even reviewed those studies, let alone comment meaningfully on the NRC’s conclusions.

A troubling trend with respect to the Facility has been to ignore the negative impacts the Facility has on the Bay and the area immediately surrounding the Facility, and focus on restoring other areas. This concept was *proposed* by the NJDEP in the draft NJPDES permit, and NRC (as well as AmerGen) has gravitated to this option because it essentially allows AmerGen to continue to operate with impunity and externalize what should arguably be internalized by the Facility. Not only is this option problematic from the standpoint that it allows AmerGen to maintain the status quo, it suggests that regulators are reading out of the Clean Water Act the requirement that facility’s using cooling water intake structures reduce impingement and entrainment impacts by implementing performance standards. In fact, EPA’s efforts to downplay this requirement in the Phase I rules (with respect to new facilities) and allow for

restoration in lieu of operational changes was challenged in court and that provision was ruled to be in violation of the Clean Water Act. A similar challenge was brought against an identical provision in the Phase II rules, and the Second Circuit is likely to find that the provision of the Phase II rules also violates the CWA.

In the case of the DEIS, NRC has considered as one of the alternatives that the Facility would continue to operate using its antiquated once through cooling water intake system, “modified” by restoration efforts. DEIS Section 8.1.2. This approach is not only misguided for the reasons stated in the preceding paragraph (and more fully explained in the attached NJPDES comment letter and letter to the NJDEP), but also because it is based on a flawed or incomplete understanding of the Bay. First, for the reasons set out earlier in this comment letter, the status of Bay populations is unknown. Until that information is obtained, there can be no way to know what type of remedial or restorative measures should be undertaken to offset impingement and entrainment losses, assuming for purposes of argument that such an effect can be achieved in the first instance.

Second, the DEIS essentially assumes that coastal wetlands should be restored in an effort to offset the impingement and entrainment losses, but that assumption appears to be based on generalized information about the loss of coastal wetlands, and not connected in any way to actually restoring habitat that fosters the types of species adversely affected by the Facility. On page 2-31 of the DEIS, NRC cites to a study by Hartig and Gornitz in support of its conclusions about the loss of coastal wetlands. This study relates to Jamaica Bay, which is a completely different system. It is inappropriate to use this study to extrapolate both positive and negative benefits associated with restoration.

The general loss of salt marsh along the eastern seaboard is due to sea level rise exceeding the rate of sediment and organic matter accumulation or accretion on the salt marsh surface. The sea level rise is most likely related to global warming trends. This is a problem that poses a long-term threat to most salt marsh systems. Some systems are maintaining their position, however, because of rapid accretion. The loss of salt marsh in the Barnegat Bay-Little Egg Harbor system appears to be relatively minimal over the past 30 years since the federal government, and later the State government, began protecting wetlands.

Contrary to the suggestion in Section 2 of the DEIS, every bay and its associated wetlands areas are different. It is inappropriate to compare Jamaica Bay to the Barnegat Bay-Little Egg Harbor system. Development and other human activities around Jamaica Bay have been dramatic, even relatively recently, which is an important point of differentiation between the two systems. Some bays are surrounded by submerging shorelines related to excess removal of groundwater or oil and gas (for example Galveston Bay in Texas), while others are emerging due to isostatic rebound over the past 10,000 years in response to melting of continental glaciers from the last major glacial period (bays and shorelines in the northeastern part of the country).

The other study cited in Section 2.2.5.1., by the Global Land Cover Facility, does not demonstrate that the wetlands in Barnegat Bay are being impacted in the manner suggested by

the DEIS. Instead, a better source of information is Lathrop, R. G. and J. A. Bognar. 2001, Habitat loss and alteration in the Barnegat Bay region, in M. J. Kennish (editor), Barnegat Bay-Little Egg Harbor, New Jersey: Estuary and watershed assessment. Special Issue 32, Journal of Coastal Research, pp. 212-228. The Barnegat Bay system lost about 4,190 hectares (~27%) of its salt marsh habitat over the century period from 1870 to 1970 primarily due to development, but also due in part to mosquito ditching. Since 1970, however, the loss has been minimal with estimates of about a 1-1.5% additional loss over the past three decades. The Wetlands Act has been critical to this stabilization. The current loss of salt marsh is very small in the system, and in fact there are some areas, most notably in the vicinity of Barnegat Inlet, where the salt marsh area has actually increased according to the authors. In conclusion, they state the following (p. 224): "The Wetlands Act of 1970 appears to have been largely successful in halting the high rate of loss of tidal salt marsh habitats due to human development." Lathrop, R. G. and J. A. Bognar. 2001, Habitat loss and alteration in the Barnegat Bay region, in M. J. Kennish (editor), Barnegat Bay-Little Egg Harbor, New Jersey: Estuary and watershed assessment. Special Issue 32, Journal of Coastal Research, pp. 212-228 at 224. By way of comparison, other nearby states in the Mid-Atlantic region (e.g., Delaware) show the same steep decline in salt marsh habitat prior to the Wetlands Act and then more recent stabilization since 1970. The fact that the tidal marshes along the Barnegat Bay-Little Egg Harbor Estuary appear to be stable, however, in no way suggests that there hasn't been any loss, or that restoring these areas would not benefit the Bay. Kennish, M. J. 2001. Coastal salt marsh systems: a review of anthropogenic impacts. Journal of Coastal Research 17: 731-748. While the members of the Coalition firmly believe that we must vigilantly protect our salt marshes, allowing the Facility to "mitigate" its harmful affects on the environment by essentially writing a check and restoring other land does not address all of the problems caused by the Facility and does not satisfy the requirements of the CWA.

In the case of the Facility, the emphasis should be on aquatic habitats and communities right in the Bay itself for remediation. This has not been done in the DEIS, and cannot be done, because there is a dearth of information to even allow an effective restoration program to be developed. Until the necessary information exists to design the restoration rationally and then assess the impacts of this "alternative," it cannot be properly analyzed and considered as such.

In addition to the lack of information about the Bay populations, a review of the DEIS makes it clear that there is no thorough, pre-construction baseline from which to determine the impacts of the Facility. The 1974 Final Environmental Statement was completed after the Facility had been operating for 5 years, and as such cannot be used as a baseline. Data collected in the late 1960s would have been affected by the construction of the Facility which had already begun, and would also be skewed. Finally, this document is not readily available to the public and appears to be only available by making a Freedom of Information Act request.

Specific Comments and Questions on the DEIS

In addition to the broader concerns discussed above, our review of the DEIS also gives rise to the following specific comments and questions:

2.1.3 Cooling-and Auxiliary-Water Systems

- This section of the DEIS appears to be based in large measure on the draft NJPDES permit issued for comment by the NJDEP. As such, NRC should consider the attached comments to the draft permit. It appears NRC used the draft permit as the basis for determining the scope of alternatives to be considered the DEIS.

2.1.4.1. Liquid Waste Processing Systems and Effluent Controls

- The DEIS states that the Facility has not *routinely* released liquid wastes since 1980s. (2-10). However, the release of these wastes is still potentially part of operations and should be considered in the course of ascertaining impacts to the environment.
- Because tritium was released in 2000 (2-11), NRC cannot assume that plant operates without releases of this nature as a possibility. Did NRC factor future releases into its analysis?
- Does NRC take the position that simply because gaseous releases are covered by a permit, that there is no impact? (2-12)
- Does NRC take the position that simply because the use of herbicides to maintain the transmission lines is permitted, that there is no impact? (2-16) Did NRC consider the ongoing impact of the use of these poisons on the water, plant and wildlife on or near the Facility?

2.2.1. Land Use

- The DEIS references (2-18) the CZMA inconsistency determination reached by NJDEP on August 19, 2005 and states that the determination was made based on a lack of information. The CZMA determination did point out the places in which no determination could be made because of a lack of information, but the NJDEP also made separate findings of inconsistency and highlighted several major issues. Specifically, the NJDEP found that the applicant was not in compliance with Basic Coastal Policy 5 and the Public Access to Waterfront Rule. August 19, 2005 CZMA Determination at 10.

2.2.2 Water Use

- Why is the creation of the 1963 dam created for fire water storage not factored into the 1974 FES? Based on references in the DEIS, it is only discussed in a NJDEP 2005a report. (2-19)
- Why did NRC stop its review of water quantity issues at 2000? (2-20) Paper records are available from the NJDEP prior to 2000 and should be reviewed for purposes of determining impacts.

2.2.3. Water Quality

- The existence of a permit does not mean there is no impact to the environment. The benefit of NEPA is that it allows a decision maker to review cumulative impacts, whereas individual, departmental regulators often do not have the ability to make those cumulative impact determinations. In addition, the Facility does not have a perfect compliance record, which should affect the discussion of impacts. Indeed, the NJDEP fined the Facility \$35,000 for violating its permit and causing a fish kill in January 2006. Moreover, the January 2006 incident was not the first instance of fish kills caused by the Facility.
- With respect to water quality, NRC did not appear (2-21) to review data prior to 2000. What is the justification for this?
- There are more than 100 areas of concern (2-22) at the Facility. Where does NRC consider the past impacts that led to contamination at over 100 places at the Facility with respect to whether an additional 20 years of operation will have an impact on the environment?
- The DEIS reveals that the confined aquifer containment was breached when the reactor was constructed. A 1986 tank spill led to contamination of the aquifer. Groundwater is primary source of drinking water in this area of NJ. Where does NRC consider future impacts to groundwater, in the face of growing water shortages and increased water demand, based on past harm?

2.2.5.3. Important Fish and Shellfish near OCNGS

- The studies referenced in this section are limited to 3 year period, and were conducted post-operation of the Facility and nearly 10 years after construction began. In addition, there were collected from western Barnegat Bay and do not represent a full Barnegat Bay study.
- There are no recent population trends for bay anchovy. (2-36). How can NRC make conclusions about the impact of the Facility in the absence of this information?
- With respect to the American eel (2-36), it is a catadromous species. The current abundance of American eel is unknown. The dam may be restricting upstream migration. This species was not evaluated in the 316(b) study. The fishery appears to be in decline, and FWS is engaged in a status review. FWS has already determined that a listing may be warranted, and the 12 month finding required under the ESA is due. What consideration does NRC give to the impacts another 20 years of operation will have on this species?
- There are no recent population trends for four-spined stickleback (2-37). How can NRC make conclusions about the impact of the Facility in the absence of this information?
- There are no recent population trends for menhaden – only catch information. Indeed, the catch is down. (2-38). How can NRC make conclusions about the impact of the Facility in the absence of this information?

- There are no recent population trends for weakfish, and the population appears to be overfished. (2-39). How can NRC make conclusions about the impact of the Facility in the absence of this information?
- There are no recent population trends for spot; the condition of the stock is unknown. (2-39) How can NRC make conclusions about the impact of the Facility in the absence of this information?
- There are no recent population trends for Atlantic silverside. (2-40). How can NRC make conclusions about the impact of the Facility in the absence of this information?
- The size of the striped bass population in the Bay is unknown. (2-41). Because of the stock's decline, resource management actions were necessary. How can NRC make conclusions about the impact of the Facility in the absence of this information?
- There are no recent population trends for bluefish – only landing data. The stock had to be rebuilt. (2-42). How can NRC make conclusions about the impact of the Facility in the absence of this information?
- There are no recent population trends for winter flounder, but there is a FMP for the species. It is considered overfished and EFH has been determined. (2-43). How can NRC make conclusions about the impact of the Facility in the absence of this information?
- There are no recent population trends for northern pipefish. (2-44). How can NRC make conclusions about the impact of the Facility in the absence of this information?
- Commercial landing data is available for blue crab (2-44), but this not the same as overall population levels or abundance. Just because there are recreational crabbers, that does not mean that the population can sustain both fisheries. NRC's conclusion with regard to what the population can withstand is unfounded. How can NRC make conclusions about the impact of the Facility in the absence of this information?
- There are no population estimates available for shrimp. (2-45). How can NRC make conclusions about the impact of the Facility in the absence of this information?
- It is unclear if there are recent population trends for hard clams. The harvest has dramatically declined. (2-45). How can NRC make conclusions about the impact of the Facility in the absence of this information?

2.2.5.4 Other Important Aquatic Resources Near OCNGS

- The DEIS reports that benthic infauna declined from 1969-1973 (2-48). The DEIS says that it is not possible to determine whether the Facility is a contributor to the decline, but does not cite any authority for this conclusion. What is NRC's authority for this conclusion? Localized impacts have been documented. Mobile epifauna inhabit the Bay, but the current abundance has not been estimated with any precision. (2-49)
- No recent investigations of zooplankton abundance have been conducted. They were only done in 1975-77. (2-49) How can NRC make any conclusions about impact to the environment without this data?

2.2.5.5 Threatened or Endangered Aquatic Species

- Loggerheads (2-51) population estimated at 44,780. The DEIS cites CCC 2005. CCC 2005 states that the population estimate is 44,560 nesting females, and includes the following caveat: “Please understand that world wide population numbers for sea turtle species do not exist and that these are estimates of the number of nesting females based on nesting beach monitoring reports and publications.” <http://www.cccturtle.org/loggerhead.htm> accessed August 31, 2006. Does NRC factor the uncertainty into its conclusions about the populations?
- Kemp’s Ridley sea turtle are the world’s most endangered sea turtle (2-51). No population numbers exist. However, even while NMFS was concluding its consultation with NRC in 2005, two additional Kemp’s Ridleys were at the Facility in July 2005. Why is this information not presented? NRC reinitiated consultation with NMFS in June 2006, but that is not reflected here. Has NRC failed to consider that the Facility continues to take endangered sea turtles?
- With respect to Leatherbacks (2-52), the DEIS cites Pritchard data from 1983 and estimates females at 100,000. This data is over 20 years old. The CCC number is not supported with any data, and contains caveat that “world wide population numbers for sea turtle species do not exist and that these are estimates of the number of nesting females based on nesting beach monitoring reports and publications.” <http://www.cccturtle.org/leatherback.htm> accessed August 31, 2006. How can NRC make any conclusions about Leatherbacks without this information?
- With respect to Green sea turtles (2-53), the CCC numbers cited also have the same caveat: “ Please understand that world wide population numbers for sea turtle species do not exist and that these are estimates of the number of nesting females based on nesting beach monitoring reports and publications.” <http://www.cccturtle.org/green.htm> accessed August 31, 2006. Again, how can NRC arrive at conclusions about the impacts under these circumstances?

2.2.6.2 Threatened or Endangered Terrestrial Species

- The list of threatened and endangered species appears only to relate to federal species, with mention made of corresponding state listing status. Why are state listed species not considered (2-59)?
- The DEIS notes that (2-57) waterfowl congregate around open water created by thermal discharge plume. Is this a good thing? How does this change or affect migratory patterns? Is this not an impact?
- With respect to bog asphodel (2-69), the DEIS says it is not likely to occur on the site. But it occurs within 1.3 miles of the site. NRC fails to articulate how the habitat 1.3 miles away from a 800 acre site can be so different that the species is not present on the site. The same comment applies to swamp pink (2-68), Knieskern’s Beaked-Rush (2-60), and chaffseed (2-70).

- The site is suitable for bog turtle (2-71). Were impacts to this species considered? If so, what was NRC's conclusion?

2.2.7. Radiological Impacts

- Why does NRC only consider the monitoring results from 2000-2004 (2-74)? In light of the fact that there have been past releases by the Facility, how can NRC justify reviewing only 4 years of data from a facility that has been in operation for 40 years for purposes of determining whether another 20 years is warranted? In addition to pre-2000 data, post-2004 data should also have been considered.
- With respect to Cesium-137, its presence is attributed to historical releases, and it has been consistently detected. In addition, it has been observed in the teeth of children who live close to the plant. Isn't it likely that it will continue to be detected? Isn't it possible that during the license renewal period, other releases could occur? Why is that possibility not considered?

2.2.8 Socioeconomic

- How can NRC draw any conclusions with respect to archaeological resources when no study was completed prior to construction? The DEIS suggests that there is some dispute as to the presence of historic resources on the site.

4.1 Cooling System

- Why is there no discussion of the conflicts associated with the Facility's use of Forked River and Oyster Creek and other uses by the public or by wildlife?
- With respect to entrainment information, the DEIS fails to note or acknowledge that the status of populations in Barnegat Bay is unknown, and thus, it is impossible to make conclusions about the impact the once through cooling system is having on the Bay. Professor Michael Kennish's testimony at the July 12, 2006 public hearing highlights this problem, and it is discussed thoroughly elsewhere in this comment letter.

4.1.1 Entrainment

- On page 4-10 (lines 35-39) what articles support this conclusion? The DEIS fails to cite any support for this conclusion.
- On line 31 at page 4-11, there is a discussion about mitigation, but the assumptions about the Phase II rules is incorrect. NRC should review the attached comments on the draft NDPES permit and the attached letter to Commissioner Jackson on this point, both of which are incorporated herein and are to be considered part of the record.
- On page 4-12 at line 27, the DEIS cites estimates based on 1975-76 numbers, but populations fluctuate (see testimony of Michael Kennish, Ph.D.). The entrainment was measured at the discharge canal, but there were no corresponding studies in the Bay.

This problem, coupled with the possible underestimation in the original study (4-12, line 27), calls into question this conclusion.

- On page 4-14, NRC only evaluated the conclusions drawn by others, but did not do any independent assessment; therefore, all of the flaws in the original data or those studies have become part of the DEIS.
- The DEIS states that there are no obvious changes in communities in the Bay, but the data collection stopped in 1981. How can NRC justify or support this conclusion?
- The DEIS references the fact that the applicant has recently resumed intake sampling again in 2005. However, this is not adequate for concluding that the impact is small and is meaningless without comprehensive data about the populations in the Bay.
- On page 4-15 (lines 34-38), the NRC misrepresents Michael Kennish's conclusions.

4.1.2 Fish/shellfish entrainment

- Which articles support these conclusions? The DEIS fails to cite any authority.
- NRC fails to discuss how the problems with impingement number estimates affect its conclusions as to impacts.
- Professor Kennish is misrepresented on page 4-21 (lines 36-38)

4.1.3 Heat Shock

- See comments to NJPDES draft permit for a thorough critique of the thermal discharge from the Facility.

4.4 Socioeconomic Impacts

- NRC concludes that there are no impacts since the 1996 GEIS was prepared (4-32). How can this be, when the GEIS referred to is 10 years old? Ocean County has had significant population growth and increased traffic. Have there been any changes to the evacuation plan? Did NRC consider expected population growth during the relicensing period and how that growth impacts already stale findings from 1996 regarding evacuation and other impacts?

4.6 Threatened or Endangered Species

- On page 4-44, NRC essentially concludes that the impacts to species are small, because FWS concluded that the project would not adversely affect federally listed species. Is NRC confusing the jeopardy standard under Section 7 of the ESA with the requirements of NEPA? We know the Facility is adversely affecting species, because it is killing and injuring some of the world's most endangered sea turtles.

- In section 4.6.2, NRC makes a conclusion that terrestrial species impact is small. However, FWS recommended a survey. Why was this survey not completed before the DEIS was prepared and NRC reached its conclusions about impacts?

4.7 Evaluation of New and Potentially Significant Information

- On page 4-48, there is a discussion about the fire dam and its impact on shad. NRC does not discuss the possibility that shad are not using the creek because the creek was essentially destroyed in 1965 when the Facility began construction. There were no studies done prior to this to establish the baseline, so NRC and the applicant cannot conclude that there is no impact. The pond for firefighting will continue to exist because of the dam. If the license is not renewed, the dam could be removed and the pond water returned to the creek; therefore, the pond is affected by the decision to renew the license and should be considered. Indeed, the no-action alternative should review the positive environmental impacts of dam removal.
- How can NRC conclude that there are only minor effects in Barnegat Bay (4-48) when the DEIS, and all of the data submitted by the applicant to NRC is riddled with errors, flaws, and the significant omissions highlighted earlier in this comment letter? There are no baseline studies and no population numbers; therefore, NRC cannot reach this conclusion.

4.8. Cumulative Impacts

- There have been no continuous studies to monitor the Bay populations. These studies could and should have been done. Updates performed now cannot be the basis for a determination that there are no cumulative impacts. The ecosystem was destroyed. NRC is unable to substantiate the conclusion that the impacts are localized (4-50). There is no question that the amount of freshwater that reaches the Bay has changed and will continue to be affected as long as the license is in place. The volume of freshwater that enters this system is critical, in light of the fact that this is a system that does not flush frequently.
- While there may be insufficient evidence to definitively prove that the operation of the Facility's cooling system is altering the ecosystem, there is no evidence whatsoever to suggest that the Facility's archaic once through cooling system is not having a large impact on the ecosystem. Taken at face value – the volume of water used, the impingement and entrainment data, the increasing takes of sea turtles, and the crash of fish stocks, the Facility is having an impact. NRC cannot arrive at any conclusions without data about the Bay populations.
- With respect to comments on the RIS (4-52), please see the attached NJPDES comment letter
- There is no evidence to suggest that anyone knows what the population abundances are for turtles, so one cannot assume that the ITS mitigates any and

all impacts. (4-53) The fact of the matter is that this Facility kills turtles, and those turtles are either threatened or endangered species.

- There is no discussion of the affects on state listed species. (4-53). The NRC should explain how it comes to the conclusion that with respect to threatened or endangered plants, there can be species found within one mile of the site, but yet the site is not suitable for those species. NRC or the applicant must explain how the 800 site differs from the habitat one mile from the site upon which threatened or endangered species are found. The absence of critical habitat does not mean that there is no adverse affect on a species.
- During the relicensing period, the total amount of spent fuel at the Facility will continue to increase. Why is the long-term impact of this stockpiling not discussed in the DEIS and considered?

8.1 Alternatives

- The Phase II rule has been challenged and is in any event inapplicable to the NJDEP permit decision. See the attached NJPDES comment letter for the ramifications on NRC's conclusions.
- It is incorrect to say that a modified one-through cooling water system with mitigation/restoration would lessen the impact. This can only be determined once the restoration plan is in place. Mindless restoration of tidal marshes will not do anything to mitigation the adverse impacts the Facility is having on certain populations of fish.
- NJDEP has not finalized the NJPDES permit. Restoration is not technology and it is not a viable alternative. In addition, the analysis of the impacts of the modified once-through cooling system is subject to all the same criticisms. NRC cannot conclude that restoring wetlands will have long term benefits to the Bay unless it knows what it is trying to accomplish and how that can be done.

8.2 No Action Alternative

- All of the adverse affects over the past 40 years will continue for the period of relicensing. The ecosystem may rebound if the Facility is not relicensed. After admitting that the construction of the intake and discharge canals destroyed the ecosystem, how can NRC conclude (8-35) that the cessation of those impacts will be small?
- NRC should consider EPA's responses to concerns about salt, icing and fogging at the Brayton Point facility in Massachusetts when determining the impacts associated with cooling towers (see attached NJPDES comment letter). Did NRC consult with EPA on the assessment of the alternatives? Or is NRC relying on information supplied by the applicant?

8.3 Alternative Energy Sources

- What is the basis for NRC's assumption that New Jersey will need to replace the Facility's power generation?
- Excluding all of New Jersey's potential for clean energy and energy efficiency programs, a PJM regional electricity grid assessment of transmission requirements to the New Jersey Board of Public Utilities (NJBPU) shows that Oyster Creek's retirement by the end of its current operating license in 2009 will require one transmission line upgrade. (PJM Report, attached). The PJM assessment also shows that if Oyster Creek retires in combination with the expected retirement of other aging coal plants, the solution is likely new transmission lines or transmission line upgrades. However, with proper planning, the electricity generated by Oyster Creek, 1.7% of the electricity consumed on the PJM Mid-Atlantic regional electricity grid, can easily be replaced through a combination of proper use of efficiency and conservation measures, as well as clean, safe, renewable power like wind and solar.
- The NJBPU, in conjunction with many state agencies, including the NJDEP, has begun developing a regional Energy Master Plan that examines the state's energy needs for the next 20 years. Throughout this process, New Jersey regulators will be making decisions about what is needed to meet New Jersey's energy demand. They will consider impacts to both the environment and the economy and will assume that plants will likely be retired, including Oyster Creek and several aging coal plants. In addition, several measures recently adopted by the legislature and the NJBPU will deliver substantial energy savings and increase renewable energy development.
- New Jersey just adopted one of the strongest clean energy standards in the country, ensuring that 20 percent of electricity consumed in the state comes from clean sources, primarily wind and solar, by 2020. In addition, Governor Corzine also has a goal of reducing energy consumption by 20 percent by 2020.

Conclusions

For the reasons articulated in this comment letter, NRC should not and cannot make any conclusions about either the environmental impact associated with the proposed relicensing of the Facility or the license renewal application. Therefore, NRC cannot finalize the EIS and must prepare a new draft that addresses the inadequacies raised in this letter and submit it for public comment. Until a proper EIS is prepared and reviewed, NRC should not make any decisions with respect to the relicensing of Oyster Creek. To do otherwise would constitute an impermissible, irrevocable commitment of resources in violation of NEPA.

We thank you for the opportunity to submit these written comments.

Sincerely,

By: _____

Julia LeMense Huff, Esq.

Rutgers Environmental Law Clinic, Counsel to the Coalition