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March 5, 2007

VIA EMAIL & U.S. MAIL

New Jersey Department of Environmental Protection
Division of Land Use Regulation
P.O. Box 439
Trenton, New Jersey 08625-0439
Attn: A Heyl

Subject: DEP Project No. 1500-02-0005.5; OYSTER CREEK GENERATING
STATION LICENSE RENEWAL APPLICATION

Dear Mr. Heyl:

On behalf of Nuclear Information and Resource Service, Jersey Shore Nuclear Watch, Inc., Grandmothers, Mothers and More for Energy Safety, New Jersey Public Interest Research Group, New Jersey Sierra Club, New Jersey Environmental Federation, and Environment New Jersey ("Conservation Groups"), I am submitting additional comments on the Consistency Certification prepared by Oyster Creek Nuclear Generating Station dated December 1, 2006. These comments are in addition to documents and comments I submitted to the Department of Environmental Protection on January 4, 2007. The Conservation Groups find that the Consistency Certification is insufficient and respectfully request that the Department of Environmental Protection ("DEP") object to the Certification.

7:7E-1.5(a)1.i. Protect and enhance the coastal ecosystem

AmerGen relies on old, outdated reports to support the proposition that the license renewal will protect and enhance the coastal ecosystem. The Conservation Groups have commented at length on the reports to which AmerGen refers and incorporate by reference those comments. We submitted our comments on the NJPDES draft permit that has yet to be issued, as well as comments on the Draft Environmental Impact Statement on January 4, 2007.

7:7E-1.5(a)1.iv. Protect the health, safety and welfare of people who reside, work and visit

AmerGen alludes to the review process currently being undertaken by the NRC to determine whether the reactor should be relicensed. We believe the Department is aware

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of the current proceedings before the Atomic States Licensing Board, in which a coalition of citizens groups, many of which join in these comments, have raised serious concerns about the safety of the reactor. The pleadings and orders are too voluminous to reproduce and attach to this letter. However, the Conservation Groups incorporate those documents by reference and refer the Department to the following website where it can access these documents <http://www.nirs.org>. In summary, there is significant concern that the reactor is not operating within current safety margins and cannot operate safely for another twenty years.

In addition, the health, safety and welfare of the citizens of New Jersey are affected by other aspects of AmerGen's operations. In 2003, Oyster Creek emitted the highest levels of Strontium-90 of all operating commercial reactors. Oyster Creek adversely affects the marine ecosystem by thermally shocking fish, impinging threatened and endangered sea turtles, entraining trillions of aquatic biota, withdrawing over 1.4 billion gallons of water each day from the ecosystem, discharging thermal and other pollutants to groundwater and surface water. In addition, the Environmental Impact Statement reveals that over the years, AmerGen has dumped hazardous waste on its site, some of which remains on the site today. Please see the comments on the Environmental Impact Statement that we submitted to you on January 4, 2007 for more information.

7:7E-1.5(a)1.vi. Maintain and upgrade existing energy facilities

See comments to (iv) above with respect to safety and security. The Conservation Groups dispute AmerGen's claims that the reactor complies with all rules and laws. Please refer to the attached comment letters for a complete discussion.

7:7E-1.8 Definitions

Development: The Conservation Groups object to AmerGen's attempt to limit the applicability of the rules to the relicensing. AmerGen argues that because the Coastal Zone rules incorporate rules implementing other programs, most notably CAFRA, that the more narrow of development in CAFRA should control. Clearly, this is incorrect and ignores the plain language of the regulation.

Water Dependent: The Conservation Groups object to AmerGen's reference to flawed, outdated studies relating to the plant's impact on balanced indigenous populations in Barnegat Bay and its conclusion that it assures protection and propagation of a balanced indigenous population of fish, shellfish and wildlife. Please refer to the comment letter submitted in response to the draft NJPDES permit, in which there is a discussion about this aspect of the facility's compliance with the Clean Water Act.

7:7E-3.2 Shellfish habitat

The Conservation Groups note with interest that the oldest date by which a determination can be made about whether the area has a history of shellfish production is 1963—two

years prior to the commencement of construction of Oyster Creek. Even the NRC admits in the EIS that the construction of the facility destroyed the ecosystem. A review of the literature cited in the record of the NJPDES permit proceeding suggests that no studies existed that comprehensively documented the baseline of the area prior to its complete and utter alteration. As such, the Department should consider anecdotal information and should require AmerGen to compile earlier studies that pre-date the construction of the facility before any determination is made about whether the area had a history of shellfish production. If AmerGen's earlier activities, prior to the regulation of the coastal zone, in fact destroyed the ecosystem, then it should not now benefit from that destruction.

3.2(f) – AmerGen states that there is no shellfish habitat what would be affected by dredging activities. However, a question remains as to whether the requirements is to protect existing shellfish habitat, or areas that could support or historically supported shellfish. In light of the radical changes wrought on the ecosystem by AmerGen and the absence of a reliable baseline, AmerGen's response to this requirements, as well as any other requirement relating to shellfish habitat, should be carefully examined.

3.2(i) - AmerGen states that there are no national security aspects of its license renewal. The operation of a nuclear reactor in a coastal area presents national security issues, as the Ninth Circuit Court of Appeals has recognized in separate litigation involving a nuclear power plant in California. The facility presents a terrorist target, in particular due to the storage of spent fuel in above-ground storage pools. Please see the comment letter prepared by Richard Webster, Esq. of the Rutgers Environmental Law Clinic on the Environmental Impact Statement.

NJDEP Related Comment on Shellfish Habitat.

The Conservation Groups submitted comments on the problems associated with the data and the studies submitted over the years by AmerGen in connection with the requirements of 316(a) of the Clean Water Act. Please see the comment letters on the NJPDES permit and EIS for a complete discussion of these issues. In summary, AmerGen cannot rely on this information to conclude that there is no impact on shellfish habitat, in particular clams.

In addition, it is inappropriate for AmerGen to claim that the effects of its thermal discharges are only limited to the area immediately surrounding the facility. Please see the comment letter relating to the NJPDES permit for a more complete discussion of the problems associated with the thermal plume modeling and the conclusions reached therefrom in the 1980s.

The Conservation Groups are also concerned about the cropping of hard clam eggs and larvae by the power plant (entrainment) and question whether the entrainment has been responsible for the declining adult stock of clams in Little Egg Harbor and Barnegat Bay. If one compares the amount of water entrained by the power plant to the total volume of water in the estuary and compare that to the time that the eggs and larvae are present in

the water column (i.e., when they are susceptible to entrainment). The total volume of Barnegat Bay is 238 million cubic meters of water, and that of Little Egg Harbor is 116 million cubic meters. Therefore, the total volume of the estuary is 354 million cubic meters. The total volume of water entrained in the plant condensers over a three-week period (the time it takes for hard clam eggs and larvae to mature and settle to the bay bottom) amounts to 52,587,360 million cubic meters or about 15% of the total volume of the estuary. The total volume of water entrained in the dilution pumps over a three-week period equals 59,451,840 cubic meters of water or about 17% of the total volume of the estuary. The use of a three-week period stems from the fact that hard clam eggs and larvae are in the water column for only about three weeks prior to undergoing metamorphosis and settling to the bottom to dig into bottom sediments. Once in the bottom sediments, the clams are not affected by entrainment.

As a result, 15-17% of the total volume of the estuary is used by the plant over a three-week period to cool condensers and for dilution water flow to cool down the discharge in Oyster Creek. It also means that, most likely, less than 20% of the eggs and larvae of hard clams in the estuary would be entrained in the plant condensers and dilution pumps. However, a much higher percentage of clam eggs and larvae in Barnegat Bay would be entrained relative to those in Little Egg Harbor. Assuming 100% mortality of the eggs and larvae entrained (it might be less than that), operation of the plant could have a potentially significant impact on the early life stages of the organism, especially in Barnegat Bay (over a protracted period of time). The loss of eggs and larvae originating from Little Egg Harbor would be much lower, although there would be potential important losses. Over a 30-year period of operation, the losses could be significant, because hard clams must exceed a threshold density to maintain a viable reproducing population. Once the numbers drop below that threshold, the adult population will not be maintained long term.

Therefore, it is reasonable to conclude that operation of the power plant could have had an important impact on the hard clam resource in Barnegat Bay.

It is possible that the total amount of bay water entrained by the pumps (condenser entrainment) plus the dilution pumps is more like 32% (adding both systems). However, the loss of hard clam eggs and larvae is likely to be lower in the dilution flow. Without this information from the plant, no firm conclusions can be drawn—other than the fact that the plant has an impact. Will DEP require AmerGen produce data on the mortality of hard clam eggs and larvae due to dilution entrainment. DEP should also consider secondary entrainment of hard clam eggs and larvae in the heated discharge in Oyster Creek. Eggs and larvae bypassing the plant through the dilution pumps will be subjected to elevated temperatures in the discharge canal which could also be deadly.

Therefore, the total loss of hard clam eggs and larvae from the estuary would be higher than 15% (on the order of 15-25%) when considering all of the factors noted above.

3.3 Surf Clam Areas

AmerGen speculates that because surf clams are found in coastal, not estuarine, waters (an odd distinction, since estuaries are in coastal areas and are by definition the confluence of saline and fresh water), the only surf clam habitat would be near Barnegat Inlet. AmerGen again cites problematic studies to support the conclusion that impacts from the facility do not extend to the Inlet, and therefore, there is no affect on surf clams. Please see the comment letter and the discussion regarding thermal impacts. In addition, it is interesting to note that AmerGen makes the claim, without any support, that somehow its impacts on the ecosystem can somehow be divorced from any impacts on the larger Bay ecosystem. This reflects a very limited and unrealistic understanding of the ecosystem.

3.4 Prime Fishing Areas

(a) The dates of resources listed in the regulation pertaining to the historical prime fishing areas all post-date the initial construction of Oyster Creek. In this instance, because the facility pre-dates the enactment of the CZMA and no consistency determination was ever made, it is impossible to conclude, based on the information presented by AmerGen whether prime fishing area is affected.

AmerGen attempts to argue that its thermal pollution, which increases the ambient temperature of the water, is a benefit and has created a prime fishing area. While it may indeed be the case that fishermen are attracted to the open water caused by the thermal discharges, because fish congregate there, it is entirely insufficient for purposes of determining whether other species of fish used to inhabit Oyster Creek, Forked River or Barnegat Bay prior to the complete alteration of the ecosystem.

Is there any other historical data, anecdotal information, or pre-1963 newspaper articles that would reveal anything about the true historical nature of the area for this purpose?

(b) AmerGen has had several violations of its NJPDES permit, many of which relate to fish kills caused by thermal shock; therefore, it is inaccurate to categorically represent that it meets federal and state limits and standards.

Related Comment – see comments to (a) and (b) above.

3.5 Finfish Migratory Pathways

AmerGen submitted data associated with its most recent study of impingement and entrainment conducted in 2005 and 2006, but it is preliminary and has not been peer reviewed. In addition, there is nothing to suggest that a study conducted at the intake can in any way be extrapolated to draw conclusions about the overall health of the Bay.

Please also see comments submitted previously regarding the defects in the 316(a) and (b) demonstration

8.2 Marine Fish and Fisheries

See comments above and comment letters submitted on January 4, 2007.

Please also see the attached letter to DEP with an analysis of the recent Second Circuit Court of Appeals decision in Riverkeeper, et al. v. EPA relating to the Phase II Cooling Water Intake Structure Rule.

Please also see the attached letter from NMFS to NRC dated September 28, 2006 relating to the Essential Fish Habitat consultation in which NMFS recommended mitigation measures, such as close cycle cooling.

Further, AmerGen cannot draw the conclusion it makes on page 194 of its Consistency Certification that Oyster Creek has a positive impact on the New Jersey recreational fishery. First, the Kennish and Lutz study cited does not support this proposition. Second, this conclusion cannot be drawn without more data about the overall population status of all recreational fisheries in the Bay. Third, this conclusion is belied by the dramatic adverse impact the plant has on the recreational fishery in the way of impingement and entrainment effects, as well as the impacts on other trophic levels that have repercussions to the recreational fish populations.

8.4 Water Quality

Please see the comments submitted on January 4, 2007 regarding water quality impacts.

8.5 Surface Water Use

Please see the comments submitted on January 4, 2007 regarding surface water use.

8.6 Groundwater Use

Please see the comments submitted on January 4, 2007 regarding water quality impacts.

8.10 Air Quality

Please see the comments submitted on January 4, 2007 and attachments regarding air quality concerns.

8.14 Traffic

Please consider whether AmerGen should be required to submit information about the adequacy of its evacuation plan and the impacts an evacuation or any evacuation drills will have on the area, in light of the population growth experienced in the area.

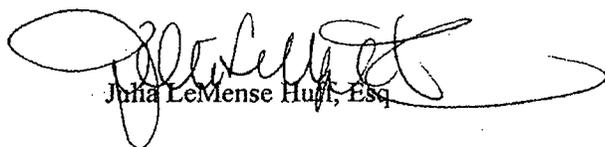
Other Comments

1. I note that Exelon, AmerGen's parent company is a member of the Wildlife Habitat Council—the organization that prepared the Site Assessment and Wildlife Management Opportunities Report for Exelon Corporations' Oyster Creek Generating Station, dated September 2005. The impartiality of this report is questionable, at best. In addition, it does not appear that this report was prepared using any information from the NJDEP, NMFS or the USFWS.

2. The American Eel population is in decline, regardless of whether Endangered Species Act protection is required.
<http://a257.g.akamaitech.net/7/257/2422/01jan20071800/edocket.access.gpo.gov/2007/pdf/07-429.pdf> The facility continues to adversely affect this species, based on data in A75. In fact, species entrainment density appears to have increased across the board.

The Conservation Groups find that the Consistency Certification is insufficient and respectfully request that the Department of Environmental Protection ("DEP") object to the Certification. Thank you for the opportunity to comment. If you have any questions, please contact me.

Sincerely,



Julia Lemense Huff, Esq.

Att.

Huff Letter to DEP dated February 6, 2007
NMFS Letter to NRC dated September 28, 2006

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February 6, 2007

Commissioner Lisa Jackson
State of New Jersey
Department of Environmental Protection
P.O. Box 402
Trenton, NJ 08625

Subject: Oyster Creek Nuclear Generating Station – NJPDES Permit;
Cooling Water Intake Structure Issues

Dear Commissioner Jackson:

On behalf of New Jersey Environmental Federation, New Jersey Public Interest Research Group, Sierra Club-New Jersey, Jersey Shore Nuclear Watch, Inc., Grandmothers, Mothers and More for Energy Safety, Nuclear Information and Resource Service and Environment New Jersey, I write to bring to your attention the recent decision of the United States Court of Appeals for the Second Circuit in the matter of *Riverkeeper, Inc., et al., v. EPA*, (Docket Nos. 04-6692-ag(L), 04-6693-ag(CON), 04-6694-ag(CON), 04-6695-ag(CON), 04-6696-ag(CON), 04-6697-ag(CON), 04-6698-ag(CON), 04-6699-ag(CON), Jan. 25, 2007). I have attempted to not only explain certain key aspects of this decision, but also explain the repercussions it has on the Department of Environmental Protection's ("DEP") handling of Draft New Jersey Discharge Elimination System Permit No. NJ0005550 for Oyster Creek Nuclear Generating Station, Lacey Township, Ocean County ("Oyster Creek").

In summary, the Second Circuit remanded certain aspects of the Phase II Cooling Water Intake Structure Rule ("Phase II Rule") to the EPA. The court found that certain provisions of the Phase II Rule violate the Clean Water Act. The Second Circuit's decision underscores the need for closed cycle cooling technology at Oyster Creek. It also casts serious doubt on the legality of certain aspects of the draft NJPDES permit, because DEP relies on portions of the Phase II Rule that have been remanded or ruled to be in violation of the Clean Water Act. I pointed out these legal concerns in a comment letter dated November 21, 2005 and a separate letter dated May 1, 2006 discussing in detail the applicability of the Phase II Cooling Water Intake System Rule to Oyster Creek. These comments were validated by the Second Circuit.

First, the Second Circuit's decision on the Phase II Rule makes clear that DEP cannot offer restoration as an option to Oyster Creek and comply with the Clean Water Act. *Riverkeeper, Inc., et al., v. EPA*, at 39-42. As I noted in my November 21, 2005

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* Admitted in New Jersey Pursuant to 1:21-3(c)

+ Also admitted in New York

Also admitted in Pennsylvania

February 6, 2007
Commissioner Jackson
Page 2 of 4

comment letter, restoration is not technology and the incorporation of this option in the draft permit violates the Clean Water Act.

Second, the court's decision confirms that DEP, in applying the Phase II Rule to Oyster Creek (or in the very least using the Phase II Rule as a guide to determining compliance under the Clean Water Act under DEP's best professional judgment), cannot allow Exelon to choose among a suite of technologies, other than closed cycle cooling, to meet performance standards. The court found that EPA's basis for selecting a suite of technologies was unclear and may have been improperly based on a cost-benefit analysis. Therefore, the court remanded this aspect of the Phase II Rule to EPA for clarification. *Id.* at 26. Any attempt by DEP to allow Exelon to choose among a suite of technologies to meet performance standards would be similarly flawed.

Third, the court instructed EPA to address concerns about the fact that the Phase II Rule established performance standards with broad ranges to reduce impingement and entrainment, instead of requiring facilities to adopt particular technologies. To the extent that those performance standards allow facilities to comply with the Clean Water Act without reducing environmental harm as much as is technologically possible, this aspect of the Phase II Rule is inconsistent with the Act. *Id.* at 38. If DEP incorporates into the NJPDES permit provisions that would allow Oyster Creek to comply with the law by falling within the broad range of performance standards, the permit would be similarly violative of the Clean Water Act.

Fourth, the court addressed the problematic "significantly greater than" test contained in the Phase II Rule. The Phase II Rule allows for site-specific compliance alternatives or variances if the facility can show that the cost of compliance with closed cycle cooling would be "significantly greater than the costs considered by the Administrator...in establishing the applicable performance standards." In my May 1, 2006 letter, I discussed this test at length and suggested that its cost-benefit analysis was contrary to the Clean Water Act. The court invalidated and remanded this aspect of the Phase II Rule for three reasons. First, EPA failed to comply with the Administrative Procedure Act when promulgating this provision of the Phase II Rule. *Id.* at 51. Second, it allows the facility to engage in an impermissible cost-benefit analysis. Third, it allows for an impermissible assessment of the quality of the receiving water body in determining whether a variance should be granted.

In my earlier letters, I also discussed at length the question of whether the Phase II Rule applies to Oyster Creek and argued that it does not. For facilities not governed by the Phase II Rule, and for all facilities prior to the promulgation of the rule, DEP may rely on its best professional judgment to comply with the Clean Water Act's mandate that a facility use the best technology available. There is nothing in the Second Circuit's decision that prevents DEP from moving forward and issuing a NJPDES permit requiring cooling towers as the best technology available.

In cases where the Phase II Rule does not apply, the test to be applied when determining whether a facility must technologically upgrade its facility to minimize adverse environmental impacts under Section 316(b) is the wholly disproportionate test. In my May 1, 2006 letter, I describe this test in light of the Environmental Appeals Board 2006 decision in the case of Brayton Point. A review of *In re Dominion Energy Brayton Point, L.L.C., (Brayton Point Station, NPDES 03-12)*, slip op. at 5-7 (EAB Feb. 1, 2006) is helpful, because it illustrates how the Environmental Appeals Board (EAB) has applied the "wholly disproportionate" standard. In that case, the EAB was faced with a dispute over how to determine "whether or not the cost of the BTA requirements for the Brayton Point facility would be 'wholly disproportionate to the environmental benefit to be gained.'" *Id.* at 155.

Importantly, the EAB held that because *Section 316(b) does not mention cost considerations*, costs should not be of primary importance under the 316(b) assessment. *Id.* at 230. In addition, the EAB suggested that the EPA (the permit issuer in the case of Brayton Point) is not even required to estimate any monetize benefits. *Id.* at 258. The EAB cited to numerous federal court decisions which held "that monetizing environmental benefits is difficult and that it would therefore be appropriate to consider nonmonetized benefits." *Id.* at 259. The EAB also rejected the facility's cost-benefit analysis under the wholly disproportionate standard because it was based solely on monetary costs and did not consider qualitative benefits. *Id.* at 271.

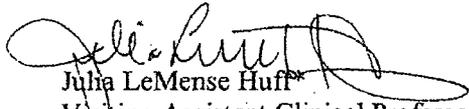
The Second Circuit's recent decision supports DEP's exercise of its best professional judgment that a closed-cycle cooling water intake structure is the best technology available for minimizing adverse environmental effects as required by 33 U.S.C. § 1326(a). DEP's restoration alternative in the draft permit flies in the face of the Clean Water Act and runs afoul of the Second Circuit's decision. In addition, any provision in the NJPDES permit that would allow Exelon time to do a study similar to those described in the Phase II Rule to show that the costs are greater than the benefits would violate the Clean Water Act.

While we recognize that Exelon and DEP will take into consideration the lifespan of the facility in evaluating whether the costs associated with BTA at the facility are wholly disproportionate to the environmental benefits, the uncertainty surrounding the relicensing proceeding should not allow the facility to put off for another 5 years (the term of the NJPDES permit) the installation of closed cycle cooling. Again, we urge DEP to incorporate timing options that would require the expeditious installation of closed cycle cooling should NRC relicense the facility.

February 6, 2007
Commissioner Jackson
Page 4 of 4

Thank you, as always, for your time and attention to this important issue. We trust that DEP will soon release the long-overdue NJPDES permit for Oyster Creek and require closed cycle cooling, the best technology available, to reduce impingement and entrainment by the facility. Please do not hesitate to contact me if you have any questions.

Sincerely,


Julia LeMense Huff*
Visiting Assistant Clinical Professor of Law
and Staff Attorney

cc: Deborah Mans
STROC
Environment New Jersey



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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SEP 28 2006

Mr. Frank Gillespie, Director
Division of License Renewal
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

RE: Essential Fish Habitat Consultation Regarding License Renewal of Oyster Creek
Nuclear Generating Station (TAC NO. MC7625)

ATTN: Dr. Michael Masnik, Senior Environmental Project Manager

Dear Mr. Gillespie:

The National Marine Fisheries Service (NMFS) has reviewed the essential fish habitat assessment that is contained within the draft supplement 28 to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (GEIS). The GEIS evaluates the proposed renewal of the operating license for the Oyster Creek Nuclear Generating Station (OCNGS), located in Lacey Township in Ocean County, New Jersey, for a period of an additional 20 years. We have submitted letters concerning the adverse effects to aquatic resources associated with the operation of this plant over the past three decades. The GEIS indicates that the plant has incurred adverse impacts on the estuarine community of Oyster Creek, the South Branch of Forked River, and a major portion of Barnegat Bay through its thermal discharge and cooling water intake facilities.

The supplement environment impact statement (SEIS) that was prepared by the U.S. Nuclear Regulatory Commission (NRC) evaluates the proposed action of license renewal for OCNGS and initiates an essential fish habitat consultation. The essential fish habitat assessment is included in Appendix E of the draft SEIS.

Project Background:

OCNGS employs a once-through cooling system designed to remove waste heat from the condensers. The circulating water system includes the intake canal, an intake structure divided into two bays, circulating water pumps, condensers, dilution pumps, discharge pipes, and the discharge canal. The system is capable of pumping as much as 1.25 million gallons per minute (gpm), but typically pumps less than one million gpm. An angled boom in the intake canal is immediately in front of the circulating water intake, preventing large mats of aquatic plant material, such as eelgrass (*Zostera marina*) and algae, from clogging the intake system. One purpose of the dilution pumps is to decrease



the attraction of migrating species of fish to the heated discharge during the fall, so that they will not remain in the estuary and become trapped by the heated discharge in the winter. Another purpose is to reduce thermal stress on the organisms in the discharge canal during the summer.

Barnegat Bay is the plant's cooling water source and heat sink. Cooling water is drawn from Barnegat Bay through the South Branch of Forked River and into a 150-foot-wide discharge canal, which also receives dilution water at ambient temperature; the water then flows to Oyster Creek and back to Barnegat Bay. Depths in the South Branch of the Forked River, canals, and lower reaches of Oyster Creek are maintained by periodic dredging.

Impacts on Aquatic Resources from Operation of the Cooling Water Intake

Page 4-17 of the document notes that impingement mortality studies were conducted between 1975 and 1978, and then again in 1985. We note concern that the latest study in the time series was conducted in 1985, 21 years ago. Table 4.5 summarizes the number of organisms impinged and the mortality significance for bay anchovy (*Anchoa mitchilli*), Atlantic menhaden (*Brevoortia tyrannus*), blue crab (*Callinectes sapidus*), sand shrimp (*Crangon septemspinosa*), Atlantic silverside (*Menidia menidia*), and winter flounder (*Pseudopleuronectes americanus*). The average annual impingement loss ranges from 13,000 winter flounder to eight million sand shrimp. Table 4.3 also lists hard clam (*Mercenaria mercenaria*), and opossum shrimp (*Neomysis integer*), including the organisms listed in Table 4.5, as organisms regularly entrained in large numbers. Despite large numbers of organisms impinged and entrained, the document notes that NRC staff concludes that potential impacts on fish and shellfish would be small, but acknowledges that compliance with EPA's phase II regulations may require modification of the facility.

The Alternatives Section of this document notes that a once-through (closed cycle) cooling system would result in a 70% decrease in water intake rates, which would likely result in a proportionate decrease in the number of impinged organisms.

Impacts on Aquatic Resources from the Cooling Water Discharge

Page 4-22 of the document discusses the history and effects of the thermal discharge, noting the possible need to modify thermal discharges, noting a high number of fish kills, likely caused by thermal shock due to an interruption of the heated effluent, especially during winter months. The document notes that NRC staff has concluded that, with plant changes in operation to regulate thermal discharges, and with expanded monitoring of the aquatic environment, potential impacts on fish and shellfish were determined to be small. We agree that operation changes and expanded monitoring have reduced the potential impact on fisheries, but do so with the caution that past fish kills, as with all fish kills, were likely underestimated. Many expired fish may have never surfaced for observation, and many of those that did surface were consumed by birds. In addition, we note that past fish kills often occurred as a result of emergency or unscheduled plant shutdowns,

especially in the winter. The document does not indicate how such emergency or unscheduled shutdowns which can result in fish-kills would be less likely in the future.

Essential Fish Habitat Comments:

Fourteen federally managed species with EFH designations within the vicinity of OCNGS were identified in the EFH assessment. Of these, according to NRC's assessment, thirteen federally managed species could receive a substantial adverse effect due to the withdrawal of water via a once-through cooling system. However, the conclusion on page E-61 states that "OCNGS operations do not have an adverse effect on the food web in Barnegat Bay;" that "current mitigation measures reduce the potential adverse effect on EFH; and that "an additional 20 years of operation would result in a minimal adverse effect on EFH." The NRC has also determined that continued operation of the OCNGS' cooling system, with its existing mitigation measures, is expected to have a minimal adverse effect on EFH.

NMFS does not concur with the conclusion of the EFH assessment. The history of the plant operation, as documented throughout the GEIS, shows that thermal, entrainment, and impingement impacts are directly impacting EFH species and their prey species. These impacts have been well documented and the OCNGS operation continues to have direct and cumulative effects.

According to Table 5 of Appendix E of the SEIS (the EFH assessment), prey items consumed by twelve EFH species are regularly entrained or impinged at OCNGS. These species are black sea bass, bluefish, clearnose skate, dusky shark, little skate, red hake, sandbar shark, scup, summer flounder, tiger shark, windowpane flounder, winter flounder, and winter skate (Steimle, et al. 2000). Of the prey items, bay anchovy, sand shrimp, blue crab, and silversides are impinged or entrained in significant numbers, according to the document. In addition, four species, bluefish, scup, summer flounder, and winter flounder, have some life stage commonly destroyed by thermal, entrainment, or impingement impacts. Of these four species, winter flounder mortalities through impingement and entrainment are of greatest concern as the mortalities are relatively high in relation to the population. Collectively, the species represent a trophic hierarchy that receives food web impacts which are relevant to NRC statement above as "substantially adverse."

NMFS is particularly concerned about the OCNGS's cooling system's impact on winter flounder because recruitment of winter flounder has been below average since 1989; and the 2001 year class appears to be the smallest in 22 years (NEFSC 2003).

According to the NJDEP's Fact Sheet, NJPDES #NJ000550 regarding the OCNGS's Surface Water Renewal Permit Action, a "closed cycle cooling is the only cooling water intake structure technology available to the facility to reduce entrainment." NMFS agrees that "a closed cycle cooling serves to significantly limit the amount of intake flow and thereby reduces both impingement and entrainment."

Essential Fish Habitat Recommendations:

To minimize the impacts on EFH, pursuant to Section 305(b)(4)(A) of the MSA, NMFS recommends that the following conservation recommendation be adopted:

Implement the best available technology to mitigate impingement, entrainment, and thermal impacts. This is apparently best represented by the use of cooling towers to place the plant on a closed cycle cooling system. A closed cycle cooling system would reduce the water intake rates by 70%, and likely result in a proportionate reduction in fish and shellfish mortalities.

Please note that Section 305(b)(4)(B) of the MSA requires that the NRC provide NMFS with a detailed written response to this EFH conservation recommendation, including a description of measures adopted by the NRC for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with NMFS' recommendation, Section 305(b)(4)(B) of the MSA also indicates that the NRC must explain its reasons for not following the recommendation. Included in such reasoning would be the scientific justification for any disagreements with NMFS over the anticipated effect of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effect pursuant to 50 CFR 600.920(k).

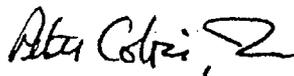
Please also note that a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920(l), if new information becomes available or the project is revised in such a manner that affects the basis for the above EFH conservation recommendation.

Endangered Species Act (ESA)

Endangered and threatened Sea turtles may be present in the project area. The NRC is currently in consultation with the NMFS Northeast Region's Protected Resources Division pursuant to Section 7 of the ESA and the NRC will conclude the ESA consultation with this division of NMFS.

If you have any questions regarding these comments or need additional information, please contact Stan Gorski at 732-872-3037.

Sincerely,



Peter D. Colosi, Jr.
Assistant Regional Administrator
for Habitat Conservation

cc: PRD - M. Colligan