

ATTACHMENT A

NEW JERSEY COASTAL ZONE MANAGEMENT RULES

TABLE OF CONTENTS

Section	Page
INTRODUCTION.....	1
BACKGROUND.....	1
ANALYSIS.....	3
7:7E-1.1 Purpose and Scope.....	3
7:7E-1.5 Coastal Decision-Making Process.....	4
7:7E-1.6 Mitigation.....	8
7:7E-1.7 Correspondence with the Department.....	9
7:7E-1.8 Definitions.....	10
7:7E-3.1 Purpose and Scope.....	13
7:7E-3.2 Shellfish Habitat.....	14
7:7E-3.3 Surf clam areas.....	20
7:7E-3.4 Prime fishing areas.....	21
7:7E-3.5 Finfish migratory pathways.....	23
7:7E-3.6 Submerged vegetation habitat.....	28
7:7E-3.7 Navigation channels.....	33
7:7E-3.8 Canals.....	34
7:7E-3.9 Inlets.....	35
7:7E-3.10 Marina Moorings.....	36
7:7E-3.11 Ports.....	37
7:7E-3.12 Submerged infrastructure routes.....	38
7:7E-3.13 Shipwreck and artificial reef habitats.....	39
7:7E-3.14 Wet borrow pits.....	40
7:7E-3.15 Intertidal and subtidal shallows.....	42
7:7E-3.16 Dunes.....	45
7:7E-3.17 Overwash areas.....	46
7:7E-3.18 Coastal high hazard areas.....	47
7:7E-3.19 Erosion hazard areas.....	48
7:7E-3.20 Barrier island corridor.....	49
7:7E-3.21 Bay islands.....	50
7:7E-3.22 Beaches.....	51
7:7E-3.23 Filled water's edge.....	53
7:7E-3.24 Existing lagoon edges.....	56
7:7E-3.25 Flood hazard areas.....	57
7:7E-3.27 Wetlands.....	61
7:7E-3.28 Wetlands buffers.....	67
7:7E-3.31 Coastal bluffs.....	70
7:7E-3.32 Intermittent stream corridors.....	71
7:7E-3.33 Farmland conservation areas.....	72
7:7E-3.34 Steep slopes.....	73
7:7E-3.35 Dry borrow pits.....	74
7:7E-3.36 Historic and archaeological resources.....	75
7:7E-3.37 Specimen trees.....	77
7:7E-3.38 Endangered or threatened wildlife or plant species habitats.....	78
7:7E-3.39 Critical wildlife habitats.....	82
7:7E-3.40 Public open space.....	85
7:7E-3.41 Special hazards area.....	87
7:7E-3.42 Excluded Federal lands.....	95
7:7E-3.43 Special urban areas.....	96
7:7E-3.44 Pinelands National Reserve and Pinelands Protection Area.....	97

7:7E-3.45 Hackensack Meadowlands District	100
7:7E-3.46 Wild and Scenic Rivers corridors	101
7:7E-3.47 Geodetic control reference marks	103
7:7E-3.48 Hudson River Waterfront Area	104
7:7E-3.49 Atlantic City	105
7:7E-3A.1 Purpose and scope	106
7:7E-3A.2 Standards applicable to routine beach maintenance	107
7:7E-3A.3 Standards applicable to emergency post-storm beach restoration	109
7:7E-3A.4 Standards applicable to dune creation and maintenance	111
7:7E-3A.5 Standards applicable to the construction of boardwalks	112
7:7E-3B.1 Purpose and scope	113
7:7E-3B.2 Tidal wetland and intertidal and subtidal shallows mitigation proposal requirements	114
7:7E-3B.3 Financial assurance requirements	117
7:7E-3B.4 Department review of mitigation proposal	118
7:7E-3B.5 Post-construction monitoring of the mitigation site	119
7:7E-3C.1 Purpose and Scope	122
7:7E-3C.2 Standards for conducting Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessments	123
7:7E-3C.3 Standards for conducting Endangered or Threatened Wildlife Species Habitat Evaluations	125
7:7E-3C.4 Standards for reporting the results of impact assessments and habitat evaluations	126
7:7E-4.1 Purpose and Scope	127
7:7E-4.2 Aquaculture	129
7:7E-4.3 Boat Ramps	130
7:7E-4.4 Docks and piers for cargo and commercial fisheries	131
7:7E-4.5 Recreational docks and piers	132
7:7E-4.6 Maintenance Dredging	134
7:7E-4.7 New Dredging	137
7:7E-4.8 Dredged material disposal	140
7:7E-4.9 Solid waste or sludge dumping	142
7:7E-4.10 Filling	143
7:7E-4.11 Mooring	146
7:7E-4.12 Sand and gravel mining	147
7:7E-4.13 Bridges	148
7:7E-4.14 Submerged pipelines	149
7:7E-4.15 Overhead transmission lines	150
7:7E-4.16 Dams and impoundments	151
7:7E-4.17 Outfalls and intakes	152
7:7E-4.18 Realignment of water areas	153
7:7E-4.19 Breakwaters	154
7:7E-4.20 Submerged cables	155
7:7E-4.21 Artificial reefs	158
Subchapter 5 – Requirements for impervious cover and vegetative cover for general land areas and certain special areas	160
7:7E-6.1 Rule on location of linear development	161
7:7E-6.2 Basic Location Rule	162
7:7E-6.3 Secondary Impacts	164
7:7E-7.1 Purpose and scope	165
7:7E-7.2 Housing Use Rules	166
7:7E-7.3 Resort Recreational Use	167
7:7E-7.3A Marina Development	168
7:7E-7.4 Energy facility use rule	169
7:7E-7.5 Transportation Use rule	176
7:7E-7.7 Industry Use rule	179
7:7E-7.8 Mining Use rule	180
7:7E-7.9 Port Use rule	181

7:7E-7.10 Commercial facility use rule	182
7:7E-7.11 Coastal engineering	183
7:7E-7.12 Dredged material placement on land	186
7:7E-7.13 National defense facilities use rule	188
7:7E-7.14 High Rise Structures	189
7:7E-8.1 Purpose and scope	190
7:7E-8.2 Marine Fish and Fisheries	191
Note: There is no Section 7:7E-8.3	195
7:7E-8.4 Water Quality	196
7:7E-8.5 Surface water use	198
7:7E-8.6 Groundwater Use	200
7:7E-8.7 Stormwater management	202
7:7E-8.8 Vegetation	203
7:7E-8.10 Air quality	205
7:7E-8.11 Public Access to the Waterfront	207
7:7E-8.12 Scenic Resources and Design	209
7:7E-8.13 Buffers and Compatibility of Uses	210
7:7E-8.14 Traffic	211
7:7E-8.21 Subsurface sewage disposal systems	214
7:7E-8.22 Solid and hazardous waste	215
REFERENCES	216

INTRODUCTION

Attachment A identifies New Jersey Coastal Zone Management Rules and analyzes how U. S. Nuclear Regulatory Commission (NRC) renewal of the Oyster Creek Generating Station (OCGS) operating license would be consistent with the rules.

BACKGROUND

The federal Coastal Zone Management Act's (CZMA) consistency requirement is limited to those State-enforceable requirements that have been submitted to, and approved by, the Secretary of Commerce through the National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resources Management. NOAA approved the New Jersey coastal zone management plan (CZMP) in 1978, and approved additional proven elements in 1980.

The New Jersey Department of Environmental Protection (NJDEP) maintains a website that describes the state coastal management program (Ref. A-1) and provides a discussion of federal consistency certification and links to the New Jersey's Federal Consistency Guidance Document and New Jersey's Approved Federal Consistency Listing (Ref. A-2). The consistency discussion and the guidance document indicate that the enforceable policies of the New Jersey coastal management program are contained in the following state rules:

- Coastal Zone Management Rules (NJAC¹ 7:7E)
- Coastal Permit Program Rules (NJAC 7:7)
- Freshwater Wetlands Protection Act Rules (NJAC 7:7A)

The Federal Consistency listing includes “[p]ermits and licenses required for the construction and operation of nuclear facilities under the Atomic Energy Act of 1954, Sections 6, 7, 8, and 10.” While the listing does not expressly include license renewal, AmerGen has prepared this certification as if it did. The following paragraphs present AmerGen's conclusions with regard to the applicability of the New Jersey enforceable coastal management policies to U. S. Nuclear Regulatory Commission (NRC) renewal of the Oyster Creek Generating Station (OCGS) operating license.

Coastal Zone Management Rules (NJAC 7:7E, as amended 4/17/06) – The New Jersey Land Use Regulation Program administers these rules under the authority of the State Coastal Area Facility Review Act (CAFRA) and other laws. The Program website (Ref. A-3) provides additional detail about its coastal programs and includes a link to a CAFRA zone map for a preliminary assessment of geographic coverage of the Act (Ref. A-4). The map indicates that the eastern one-half of Ocean County is within the coastal area. OCGS is located within that portion of Ocean County, in Lacey Township. The rules at section 7:7E-1.2(a)¹ indicate that the chapter (*i.e.*, 7E) is applicable to consistency determinations. AmerGen has concluded that the location of the OCGS is within the CAFRA geographic coverage and that these rules, as they implement CAFRA, apply to the OCGS certification.

¹ NJAC = New Jersey Administrative Code

Coastal Permit Program Rules (NJAC 7:7, as amended 4/17/06) – These are the rules by which NJDEP implements its requirements for permits for construction within the coastal area: draining, dredging, excavation, or deposition of material, and erection of any structure in any coastal wetlands; and filling or dredging, or construction in certain upland areas adjacent to tidal waterways. Because AmerGen is not seeking a coastal permit for such activities, AmerGen has concluded that these rules are not applicable to its federal consistency certification.

Freshwater Wetlands Protection Act Rules (NJAC 7:7A, effective 10/20/03) – These are the rules by which NJDEP regulates construction in, or other disturbance of, freshwater wetlands. AmerGen has concluded that these rules do not apply to the OCGS certification because AmerGen is not performing such regulated activities and does not need to perform such regulated activities in order to secure a renewed operating license.

On June 1, 2006, NJDEP provided AmerGen with guidance on preparing this consistency statement. The guidance identifies portions of NJAC 7:7E that are applicable to AmerGen's certification. AmerGen has organized its analysis of OCGS consistency by specific provisions of NJAC 7:7E. Rule text is highlighted as bold, small text and AmerGen response follows as regular, indented text. Where the rule provision is one that the NJDEP letter provided further clarification, AmerGen has added the excerpt from the letter in bold, small text after the regulatory discussion and included an AmerGen response to the letter. For example:

7:7E-X.Y Title of regulatory section

(x) Regulatory language in bold, small type.

AmerGen Response

Response to regulation in regular, indented text.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

Letter text in bold, small type.

AmerGen Response

Response to letter in regular, indented text.

In addition, AmerGen has started discussion of each titled regulatory provision on a new page to help the reader distinguish between topics.

ANALYSIS

Subchapter 1. Introduction

7:7E-1.1 Purpose and Scope

- (a) This chapter presents the substantive rules of the Department of Environmental Protection regarding the use and development of coastal resources, to be used primarily by the Land Use Regulation Program in the Department in reviewing permit applications under the Coastal Area Facility Review Act (CAFRA), N.J.S.A. 13:19-1 et seq. (as amended to July 19, 1993), Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq., Waterfront Development Law, N.J.S.A. 12:5-3, Water Quality Certification (401 of the Federal Clean Water Act), and Federal Consistency Determinations (307 of the Federal Coastal Zone Management Act). Requests for Water Quality Certification shall also be reviewed in accordance with other applicable statutes and regulations administered by the Department including the Surface Water Quality Standards, N.J.A.C. 7:9B. The rules also provide a basis for recommendations by the Program to the Tidelands Resource Council on applications for riparian grants, leases and licenses.

AmerGen Response:

AmerGen understands the statutory authority for the New Jersey Coastal Zone Management Rules to be the Coastal Area Facility Review Act (CAFRA), N.J.S.A. 13:19-1 et seq. (as amended to July 19, 1993), the Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq., and the Waterfront Development Law, N.J.S.A. 12:5-3

The rest of Section NJAC 7:7E-1.1 and Sections NJAC 7:7E-1.2 through 1.4 present general information such as the rule's purpose and scope, jurisdiction, severability, review, revision, and expiration and is not specifically applicable to AmerGen's certification.

7:7E-1.5 Coastal Decision-Making Process

- (a) The Coastal Zone Management rules represent the consideration of various conflicting, competing, and contradictory local, State, and national interests in diverse coastal resources and in diverse uses of coastal locations. Numerous balances have been struck among these interests in defining these rules, which reduce but do not presume to eliminate all conflicts among competing interests. One reason for this intentional balancing and conflict reducing approach is that coastal management involves explicit consideration of a broad range of concerns, in contrast to other resource management programs which have a more limited scope of concern. Decision-making on individual proposed actions using the Coastal Zone Management rules must therefore consider all three steps in the process, and weigh, evaluate, and interpret inevitably complex interests, using the framework established by the rules. In this process, interpretations of terms, such as "prudent," "feasible," "minimal," "practicable," and "maximum extent," as used in a specific rule or combinations of the rules may vary, depending upon the context of the proposed use, location, and design. Finally, these principles should not be understood as authorizing arbitrary decision-making or unrestrained administrative discretion. Rather, the limited flexibility intentionally built into the Coastal Zone Management rules provides a mechanism for incorporating professional judgment by the Department officials, as well as recommendations and comments by applicants, public agencies, specific interest groups, corporations, and citizens into the coastal decision-making process.
1. In the application of administrative discretion, the Department officials will be guided by eight basic coastal policies which summarize the direction of the specific rules.
 - i. **Protect and enhance the coastal ecosystem.**

AmerGen Response:

OCGS compliance with the New Jersey Coastal Management Program dates from the program's inception, as evidenced by the state's concurrence in 1979 that renewal of the station's NPDES permit was consistent with the program (Ref. A-22). Federal- and state-mandated evaluation of OCGS impacts on coastal ecosystems extended from 1965 through 1989, when a comprehensive state report concluded the following:

- OCGS-related losses do not adversely impact spawning and nursery functions of Barnegat Bay representative indicator species
- OCGS-related losses do not adversely affect the estuarine food web of Barnegat Bay
- OCGS-related losses do not adversely impact beneficial uses of Barnegat Bay (Ref. A-27, page VI-3)

Today, OCGS operates pursuant to 25 state-issued environmental protection permits that address the water, air, and other natural resources that make up the coastal ecosystem. It is the policy of AmerGen to be a good steward of the environment and AmerGen concludes that OCGS operations have protected and enhanced the New Jersey coastal ecosystem and that license renewal would continue to do so.

- ii. **Concentrate rather than disperse the pattern of coastal residential, commercial, industrial, and resort development, encourage the preservation of open space, and ensure the availability of suitable waterfront areas for water dependent activities.**

AmerGen Response:

OCGS presence near the waterfront is due to its dependence on water of Barnegat Bay for cooling and the area was zoned for industrial construction. While the site occupies

approximately 800 acres, only 150 acres are developed, and half that is maintained as a buffer. Approximately 650 acres of the site is a former cattle farm that remains open space. AmerGen concludes that current operations and license renewal would conform to this guideline.

AmerGen notes that, while the general policy encourages concentrated development, regulation 7:7E-7.4, Energy facility use rule, Section (r)1.iii requires that nuclear stations shall be located in generally remote, rural, and low density areas, consistent with NRC guidelines.

- iii. **Employ a method for decision making which allows each coastal location to be evaluated in terms of both the advantages and the disadvantages it offers for development.**

AmerGen Response:

AmerGen recognizes that OCGS presents adverse as well as beneficial impacts and that coastal zone certification represents a balancing of values. AmerGen, and previous OCGS owners, have worked with the state to minimize those disadvantages while maximizing advantages and AmerGen will continue to do so through the OCGS license renewal term.

AmerGen also notes that continuing to operate OCGS avoids the need for additional transmission lines to be built in New Jersey. The New Jersey Board of Public Utilities requested the operator of electric transmission lines in New Jersey to assess the impact of a potential retirement of OCGS. The assessment identifies transmission line routes that would have to be upgraded or replaced to import additional power to the New York City metro area to replace OCGS capacity. The cost was expected to exceed \$50 million (Ref. A-41, pages 13 and 14).

- iv. **Protect the health, safety and welfare of people who reside, work and visit the coastal zone.**

AmerGen Response:

AmerGen's top priority is operating OCGS in a manner that protects human health, safety, and welfare. If AmerGen cannot demonstrate to NRC that there is reasonable degree of assurance that it can protect the health, safety, and welfare of the public and OCGS workers, NRC will not allow OCGS to continue to operate.

- v. **Promote public access to the waterfront through protection and creation of meaningful access points and linear walkways and at least one waterfront park in each waterfront municipality.**

AmerGen Response:

AmerGen will commit to providing public access to Oyster Creek on OCGS property. See discussion in Section 7:7E-3.40 Public open space. AmerGen notes, however, that the public already has access to Oyster Creek waterfront; the New Jersey Natural Lands Trust holds the 120-acre Sands Point Harbor Preserve at the mouth of Oyster Creek, with frontage on the creek and Barnegat Bay (Ref. A-49).

vi. Maintain active port and industrial facilities, and provide for necessary expansion in adjacent sites.

AmerGen Response:

OCGS is an active industrial facility, with 450 direct employees and as many as 150 contract and matrixed employees, generating more than \$52 million in direct and indirect annual labor income in Ocean County at wages that are approximately 11 percent higher than the county average. The latter characteristic relates closely to what has become a worrisome subject in the state:

In sum, New Jersey:
 ...ranks at the bottom nationally in wage growth;
 ...is losing high wage jobs;
 ...is gaining low wage jobs;
 ...lost more high tech jobs than any other state.
 Clearly, the state IS losing its competitive edge.

Employment Sub-Sector	Numeric change in jobs (2001 to 2005)	Average weekly earnings
Total of all industries in New Jersey	-28,083	\$534.15
Top 10 industries ranked by job gain	80,783	\$437.12
Top 10 industries ranked by job loss	-81,798	\$698.57

Source: Prosperity at Risk: Toward a Competitive New Jersey (Ref. A-37, page 6).

By way of comparison:

OCGS workers	0	\$1,338.58
--------------	---	------------

Source: A-25, sixth page (reference shows annual wage \$69,606. $69,606 \div 52 = 1,338.58$).

In addition, OCGS creates approximately 1 additional job in the county for every job at the plant and OCGS purchases approximately \$8 million worth of goods and services in the county per year. OCGS accounts for \$12 million in state and local property, sales, and income taxes annually. Finally, OCGS generates 5 billion kilowatt-hours of electricity annually, approximately 9 percent of New Jersey's electricity needs. (Ref. A-25)

vii. Maintain and upgrade existing energy facilities, and site additional energy facilities in a manner consistent with the rules of this Coastal Management Program.

AmerGen Response:

NRC, through its maintenance rule, requires nuclear plant owners to inspect and maintain their facilities to a high standard, including repair or replacement of any safety related equipment. OCGS upgrades have also included items for environmental protection, such as installation of a fish return system on intake screens, and connection to the regional sewage treatment system. The OCGS heat dissipation system design and operation is consistent with U. S. Environmental Protection Agency rules and guidelines.

AmerGen notes that, regardless of regulatory provisions for siting additional electric generating plants, New Jersey relies on other states or provinces to supply

approximately 66 percent of the electricity that it uses.² It has been 10 years since New Jersey brought on line a non-nuclear baseload plant of any size and the last time that it brought on line one comparable in size to OCGS was before OCGS came on line (Ref. A-39). OCGS is an existing source of inexpensive electricity.

viii. Encourage residential, commercial, and recreational mixed-use redevelopment of the developed waterfront.

AmerGen Response:

AmerGen has no plans, as a result of license renewal, for expansion or additional development beyond existing footprint.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

Although not included in the list below, both the eight (8) Basic Coastal Policies, which summarize the direction of the specific rules and guide the coastal decision-making process (N.J.A.C. 7:7-1.5(a)) and the Basic Location Rule (N.J.A.C. 7:7E-6.2) may be utilized in the decision making process.

AmerGen Response:

The NJDEP letter cites NJAC 7:7-1.5(a) for the 8 Basic Coastal Policies. AmerGen concludes that this is a typographical error. NJAC 7:7-1.5(a) addresses permits and does not identify any coastal policies. NJAC 7:7E-1.5(a) includes the policies.

NJAC 7:7E-1-5(b) applies to issuance of a permit that AmerGen is not applying for and, therefore, is inapplicable to the certification.

² In 2002, New Jersey net import of electricity was 58,794 million kilowatthours (Ref. A-67, Page 205), or 58,794,000 megawatthours. Onsite electricity use was 14,141,764 megawatthours and electricity sales were 74,460,421 megawatthours (Ref. A-66, Page 135, Table 1), for a total of 88,602,205 megawatthours of electricity use in the state. $(58,794,000 \div 88,602,205) \times 100 = 66$ percent.

7:7E-1.6 Mitigation

NJAC 7:7E-1.6 addresses mitigation, which AmerGen addresses in individual sections, below.

7:7E-1.7 Correspondence with the Department

Correspondence related to this chapter may be submitted to the Department at the following address:

Land Use Regulation Program
New Jersey Department of Environmental Protection
501 E. State Street
PO Box 439
Trenton, New Jersey 08625-0439

AmerGen Response:

No action required.

7:7E-1.8 Definitions

(a) The Coastal Zone Management rules are stated in terms of actions that are encouraged, required, acceptable, conditionally acceptable, discouraged, or prohibited. Some rules include specific conditions that must be met in order for an action to be deemed acceptable. Within the context of the Coastal Zone Management Rules and the principles defined in N.J.A.C. 7:7E-1.5(a), the following words have the following meanings.

NJAC 7:7E-1.8(a) includes two pertinent definitions, as follows:

"Development" means any activity for which a Wetlands Act of 1970 Permit, Waterfront Development Permit, or Federal consistency determination is required, including site preparation and clearing. Development, for an application under the CAFRA, means the construction, relocation, or enlargement of any building or structure and all site preparation therefore, the grading, excavation or filling on beaches and dunes, and shall include residential development, commercial development, industrial development and public development. Development under CAFRA and the Waterfront Development Law does not include repairs or maintenance such as replacing siding, windows or roofs, unless such repairs or maintenance are associated with enlargements which are not exempt under CAFRA pursuant to N.J.A.C. 7:7-2.1(c)4 or the Waterfront Development Law pursuant to N.J.A.C. 7:7-2.3(d). Development under CAFRA does not include debris removal or cleanup provided such activities do not involve excavation, grading, or filling on beaches and dunes.

AmerGen Response:

It is AmerGen's understanding that the scope of the rule should be limited to the scope of the underlying law which, in this case, states the following:

"Development" means the construction, relocation, or enlargement of any building or structure and all site preparation therefore, the grading, excavation or filling on beaches or dunes, and shall include residential development, commercial development, industrial development, and public development. Coastal Area Facility Review Act (CAFRA), N.J.S.A. 13:19-1 et seq. (as amended to July 19, 1993), at Section 13:19-3.

The law clearly is limited to new buildings or structures or modifications to existing buildings and structures and to "assessment of impacts, stemming from the future location and kinds of development within the coastal area...." N.J.S.A. 13:19-2

Because AmerGen has no plans for any "development" as defined by N. J. S. A. 13:19-3, including construction, relocation, or enlargement as a result of OCGS license renewal, it is AmerGen's position that rule provisions that apply only to development, as opposed to existing facilities, would not apply to OCGS license renewal. AmerGen reserves the right to defend this position. AmerGen has, however, responded to certain provisions as if they applied to existing operations.

"Water dependent" means development that cannot physically function without direct access to the body of water along which it is proposed. Uses, or portions of uses, that can function on sites not adjacent to the water are not considered water dependent regardless of the economic advantages that may be gained from a waterfront location. Maritime activity, commercial fishing, public waterfront recreation and marinas are examples of water dependent uses, but only the portion of the development requiring direct access to the water is water dependent. The test for water dependency shall assess both the need of the proposed use for access to the water and the capacity of the proposed water body to satisfy the requirements and absorb the impacts of the proposed use. A proposed use will not be considered water dependent if either the use can function away from the water or if the water body

proposed is unsuitable for the use. For example, in a maritime operation, a dock or quay and associated unloading area would be water dependent, but an associated warehouse would not be water dependent.

1. **Examples of water dependent uses include: docks, piers, marina activities requiring access to the water, such as commissioning and decommissioning new and used boats, boat repairs and short term parking for boaters, storage for boats which are too large to be feasibly transported by car trailer (generally greater than 24 feet), rack systems for boat storage, industries such as fish processing plants and other commercial fishing operations, port activities requiring the loading and unloading of vessels, and water oriented recreation.**

2. **Water dependent uses exclude, for example: housing, hotels, motels, restaurants, warehouses, manufacturing facilities (except for those which receive and quickly process raw materials by ship), dry boat storage for boats that can be transported by car trailer, long-term parking, parking for persons not participating in a water-dependent activity, boat sales, automobile junk yards, and non-water oriented recreation such as roller rinks and racquetball courts.**

AmerGen Response

The OCGS site is located on Barnegat Bay, although the industrial portion of the site is located approximately 2 miles inland between the South Branch of the Forked River and Oyster Creek. The plant withdraws a maximum of 1.25 million gallons per minute of cooling water through a one-half-mile-long intake canal from the South Branch of the Forked River and discharges the water through a one-half-mile-long discharge canal to Oyster Creek. OCGS dredges the canals, Forked River, the South Branch of the Forked River, and Oyster Creek as needed to maintain water depths. Electric generating stations such as OCGS are sited on large bodies of water such as Barnegat Bay because of their cooling water needs, and their intakes and discharges must be in the water.

Barnegat Bay is separated from the Atlantic Ocean by a pair of barrier islands, forming a 30-mile-long body having a surface area of approximately 65 square miles and a volume of 9.5 billion cubic feet. OCGS is located across the bay from the inlet between the islands (Ref. A-44, page 2-4). At the time of OCGS construction, the state required the station to perform studies to assure protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife. OCGS performed those studies (Ref. A-18), demonstrating that Barnegat Bay has the capacity to absorb the impacts of OCGS operation.

For these reasons, AmerGen has concluded that OCGS is a water-dependent facility.

Subchapter 2 (Reserved)

Subchapter 3. Special Areas

7:7E-3.1 Purpose and Scope

- (a) **Special Areas** are areas that are so naturally valuable, important for human use, hazardous, sensitive to impact, or particular in their planning requirements, as to merit focused attention and special management rules. This subchapter divides **Special Areas** into four categories:
1. **Special Water Areas**, N.J.A.C. 7:7E-3.2 through 3.15, extend landward to the spring high water line or the level of normal flow in non-tidal waters;
 2. **Special Water's Edge Areas**, N.J.A.C. 7:7E-3.16 through 3.32, are divided into three subcategories depending on their location. **Special Water's Edge Areas** in (a)2i and ii below are found only next to tidal waters, while **Coastwide Special Water's Edge Areas** are found adjacent to tidal as well as non-tidal waters;
 - i. **Oceanfront, and Raritan and Delaware Bayfronts**, N.J.A.C. 7:7E-3.16 through 3.19;
 - ii. **Barrier and Bay islands**, N.J.A.C. 7:7E-3.20 and N.J.A.C. 7:7E-3.21; and
 - iii. **Coastwide Special Water's Edge Areas**, N.J.A.C. 7:7E-3.22 through 3.32;
 3. **Special Land Areas**, N.J.A.C. 7:7E-3.33 through 3.35, generally are landward of the **Special Water's edge Areas**; and
 4. **Coastwide Special Areas**, N.J.A.C. 7:7E-3.36 through 3.49, may include **Special Water Areas**, **Special Water's Edge Areas** or **Special Land Areas**.
- (b) All land or water areas, except certain **Special Water's Edge Area**, are subject to either the **General Land Area** rules at N.J.A.C. 7:7E-5 and either N.J.A.C. 7:7E-5A or N.J.A.C. 7:7E-5B of the **General Water Area** rules at N.J.A.C. 7:7E-4. In addition, certain land or water areas are subject to one or more **Special Area** rules. All **Special Water's Edge Areas** are subject to one or more **Special Area** rules. In some cases, a portion of a site is subject to both **General Area** rules and **Special Area** rules. Where the applicable **General Area** rules and the **Special Area** rules conflict, the **Special Area** rules shall govern.

AmerGen Response:

No action required.

7:7E-3.2 Shellfish Habitat

- (a) Shellfish habitat is defined as an estuarine bay or river bottom which has a history of production for hard clams (*Mercenaria mercenaria*), soft clams (*Mya arenaria*), eastern oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), or blue mussels (*Mytilus edulis*), or otherwise listed below in this section. A shellfish habitat area is defined as an area which meets one or more of the following criteria:
1. The area has a current shellfish density equal to or greater than 0.20 shellfish per square foot;
 2. The area has a history of natural shellfish production according to data available to the New Jersey Bureau of Shellfisheries, or is depicted as having high or moderate commercial value in the Distribution of Shellfish Resources in Relation to the New Jersey Intracoastal Waterway (US Department of the Interior, 1963), "Inventory of New Jersey's Estuarine Shellfish Resources" (Division of Fish, Game and Wildlife, Bureau of Shellfisheries, 1983-present); and/or the "Inventory of Delaware Bays and Estuarine Shellfish Resources" (Division of Fish, Game and Wildlife, Bureau of Shellfisheries, 1993);
 3. The area is designated by the State of New Jersey as a shellfish culture areas as authorized by N.J.S.A. 50:1 et seq. Shellfish culture areas include estuarine areas presently leased by the State for shellfish aquaculture activities or hard clam relay, transplant and transfer as well as those areas suitable for future shellfish aquaculture development; or
 4. The area is designated as productive at N.J.A.C. 7:25-24, Leasing of Atlantic and Delaware Bay Bottom for Aquaculture.

AmerGen Response:

Forked River and Oyster Creek - There is evidence of hard clam presence in Forked River and Oyster Creek but AmerGen is unaware of evidence that these waters meet the state definition of shellfish habitat. The Distribution of Shellfish Resources in Relation to the New Jersey Intracoastal Waterway does not identify either waterway as shellfish habitat (Ref. A-5). The Inventory of New Jersey's Estuarine Shellfish Resources included Forked River and Oyster Creek sampling sites but densities were less than 0.20 shellfish per square foot (Ref. A-6. Figure 1, page A-2 shows sampling locations and Table 1 shows location data). AmerGen concludes that Forked River and Oyster Creek are not shellfish habitat.

Barnegat Bay - There is a history and current evidence of hard clam production in Barnegat Bay in the vicinity of OCGS (Ref. A-5 and Ref. A-6, Figure 2, page A-5). Therefore, Barnegat Bay in the OCGS vicinity can be considered shellfish habitat. By the 1950's, oysters had all but disappeared from the Bay due to changes in the salinity regime,³ over-harvesting, and disease (Ref. A-7, page 105). Oysters, bay scallops, and blue mussels are no longer of recreational or commercial importance in the Bay (Ref. A-7, Chapter 6, Section VII, page 186). The Distribution of Shellfish Resources in Relation to the New Jersey Intracoastal Waterway shows limited soft clam production areas in Barnegat Bay (Ref. A-5) while The Inventory of New Jersey's Estuarine Shellfish Resources shows none (Ref. A-6).

- (b) Any area determined by the Department to be contaminated by toxins is excluded from this definition. The Final Short List, prepared by the Department pursuant to the Federal Clean Water Act 33 U.S.C. 1313(c)(1), identifies these known contaminated areas. Also excluded from this definition

³ Storm activity and canal construction in the early 1900's increased Barnegat Bay salinity, a change unfavorable to oysters but favorable to hard clams.

are those sites for which the Department is presented with clear and convincing evidence that the sites lack the physical features necessary for the support of a shellfish population, excluding those waterways listed at N.J.A.C. 7:7E-7.3(d)10 and (j) below.

AmerGen Response:

Applicability not known. Prior to OCGS operation, clams were found in Barnegat Bay near the site but harvesting was restricted by the state because of pollution levels (Ref. A-8, page 2.7-4) and the current state classification is seasonal (November to April) (Ref. A-30, Figure 5, page 15). The state has classified the OCGS intake and discharge canals as "prohibited" for shellfish harvesting and Forked River and Oyster Creek as special restricted (Ref. A-30, Figure 5, page 15). However, AmerGen has not been able to confirm whether these classifications are those referred to in NJAC 7:7E-3.2(b).

- (c) The water located under any boat mooring facility (including docks and associated structures) is automatically condemned and reduced to "prohibited" status pursuant to N.J.A.C. 7:12-2.1(a)1ii. Development which would result in the destruction, condemnation (downgrading of the shellfish growing water classification) or contamination of shellfish habitat is prohibited, unless the proposed development is a dock, pier, or boat mooring constructed in accordance with (d)3 below.
1. The term "destruction" includes actions of filling to create fast land, overboard dumping or disposal of solids or spoils which would smother shellfish populations, or create unsuitable conditions for shellfish colonization or the creation of bottom depressions with anoxic conditions.

AmerGen Response:

AmerGen has a barge mooring facility on Oyster Creek but has no plans to modify the facility as a result of license renewal. AmerGen has no mooring facility on Barnegat Bay or Forked River and no plans to construct one as a result of license renewal.

- (d) Construction of a dock, pier or boat moorings in shellfish habitat is prohibited, except for the following:
1. Public fishing piers owned and controlled by a public agency for the sole purpose of providing access for fishing;
2. In waters which have been classified as prohibited for the purpose of harvesting shellfish; and
3. A single noncommercial dock, pier, or boat mooring associated with a single family dwelling provided the proposed dock, pier, or boat mooring meets the requirements at (d)3i through v below. If a lot has frontage on both a natural waterway and a man-made lagoon, as defined at N.J.A.C. 7:7-1.3, the dock, pier, or boat mooring shall be located within the lagoon, unless locating the dock, pier or boat mooring on the lagoon would not otherwise comply with the Recreational docks and piers rule at N.J.A.C. 7:7E-4.5 or any other provisions of this chapter.
- i. The proposed dock, pier or boat mooring is:
- (1) Constructed of non-polluting or other inert material, such as natural lumber or other untreated wood, concrete, plastic or vinyl; and
- (2) Designed and constructed in a manner that reduces the size of the structure to limit the area of shellfish habitat condemned and reduces adverse impacts to the marine ecosystem to the extent practicable. Reduction of the area of shellfish habitat condemned and adverse impacts to the marine ecosystem may include, for example, adjustment of the dimensions and location of the proposed dock, pier, or boat mooring to reduce the total area covered by the structure while ensuring that the requirements of this chapter are met.

-
- ii. Unless the Department determines that a different length dock or pier is appropriate in order to ensure that the requirements of this chapter are met, the dock or pier shall not extend beyond, and a boat mooring shall not be located beyond, a straight line drawn between the outermost end of decking of the nearest adjacent existing legal dock or pier to each side of the dock, pier or boat mooring, except:
 - (1) If the dock, pier or boat mooring is associated with a lot that has frontage on both a man-made lagoon and a natural waterway and the dock, pier or boat mooring is to be located on the natural waterway as required under (d)3 above, the dock or pier shall not extend beyond, or the boat mooring shall not extend beyond, the outermost end of decking of the nearest adjacent dock or pier on the natural waterway; or
 - (2) To meet the requirements of the submerged vegetation habitat rule at N.J.A.C. 7:7E-3.6, a dock or pier shall be extended to the minimum length necessary, or the boat mooring shall be located where necessary to ensure that at mean low water a minimum water depth of four feet is present in the designated slips of the dock, pier or boat mooring;
 - iii. The dock, pier or boat mooring shall have no more than two designated slips. Boats shall not be moored at any area other than the two boat slips designated in the Department permit and/or the plan approved under that permit;
 - iv. Only one dock, pier or boat mooring shall be constructed per buildable single family lot pursuant to this subsection. Where two or more lots have been assembled for the purpose of building a single family dwelling, only one dock, pier or boat mooring shall be constructed pursuant to this subsection;
 - v. No dredging shall be performed in conjunction with the construction or use for the dock, pier, or boat mooring; and vi. Mitigation shall be performed in accordance with the following:
 - (1) A conservation restriction shall be placed on the subject property governing the construction or reconstruction of a shoreline protection structure, as follows:
 - (A) If the dock, pier or boat mooring is associated with an unbulkheaded shoreline, the conservation restriction shall prohibit the construction of a shoreline protection structure other than stone rip-rap or other similar sloped revetment; or
 - (B) If the dock, pier or boat mooring is associated with a previously bulkheaded shoreline, the conservation restriction shall prohibit replacement, reconstruction or rehabilitation of the bulkhead with anything other than non-polluting or other inert material; and
 - (2) A monetary contribution shall be provided to the Department's dedicated account for Shellfish Habitat Mitigation. The amount of each monetary contribution provided under this section shall be based upon the areas of shellfish habitat condemned due to coverage by the structure and boat moorings, the documented shellfish density on the property, and the commercial value of the shellfish resource.

AmerGen Response:

Not Applicable. AmerGen has no plans to construct a dock and no plans to modify its existing barge mooring facility as a result of license renewal.

- (e) New dredging (defined at N.J.A.C. 7:7E-4.7) within shellfish habitat is prohibited, except when it is necessary to maintain the use of public launching facilities (ramps) with 25 or more trailer parking spaces or marina facilities with 25 or more dockage units, consisting of either dry dock storage or wet slips. New dredging for existing marinas or for the expansion of such facilities is conditionally acceptable provided that:
 - 1. The expanded portion of the marina, other than the access channel, will not be located within the shellfish habitat;

2. **The marina provides on site restrooms, a marine sanitation disposal device and pumpout station; and**
3. **The width, depth and length of the to-be dredged channel and boat basin are limited to the minimum dimensions needed to service the existing or expanded facilities.**

AmerGen Response:

The state has imposed on AmerGen the obligation to dredge portions of Forked River and Oyster Creek where shoaling attributable to OCGS operation impedes navigation (Ref. A-8, page 2.5-9). The Inventory of New Jersey's Estuarine Shellfish Resources (Ref. A-6, Figure 2, page A-5) shows shellfish habitat adjacent to these locations, offshore in Barnegat Bay, which would mean that AmerGen dredging could affect the habitat. In order to perform dredging, AmerGen would have to obtain a dredging permit from the state and would work with the state to minimize shellfish habitat impacts. This would also be true if AmerGen had to dredge for barge access (construction of the plant included dredging a channel from the mouth of Oyster Creek towards the navigation channel of the Intercoastal Waterway to allow barge access to the creek).

(See, also AmerGen response to 7:7E-4.7).

- (f) **Maintenance dredging (defined at N.J.A.C. 7:7E-4.6) within shellfish habitat is conditionally acceptable, provided the disturbance to shellfish habitat is minimized to the greatest extent possible.**

AmerGen Response:

Dredging within Forked River and Oyster Creek would not be within shellfish habitat due to the lack of shellfish habitat in these waters. If shoaling within the Bay at the Forked River or Oyster Creek mouths necessitated dredging, disturbance to shellfish habitat would be minimized by restricting dredging generally to areas previously dredged. At the time of OCGS construction, a channel was dredged 10 to 12 feet deep from the mouth of Oyster Creek 75 feet towards the intercoastal waterway (Ref. A-8, page E4-1). The channel was used for barge-delivery of large components to OCGS. AmerGen is maintaining its barge mooring facility in case it is needed to receive large components or to ship large components offsite upon decommissioning OCGS. It is not known whether the area of the former channel would become shellfish habitat by that time; if it does, and additional dredging would be needed, AmerGen would comply with federal and state dredging permits and minimize shellfish impacts.

(See, also AmerGen response to 7:7E-4.6)

- (g) **New dredging adjacent to shellfish habitat is discouraged in general, but may be conditionally acceptable if it can be demonstrated that the proposed dredging activities will not adversely affect shellfish habitat, population or harvest. If the Department determines dredging to be acceptable, dredging shall be managed pursuant to N.J.A.C. 7:7E-4.7 so as not to cause significant mortality of the shellfish due to increased turbidity and sedimentation, resuspension of toxic chemicals, or any other occurrence which will interfere with the natural functioning of the shellfish habitat.**

See AmerGen Response to NJAC 7:7E-4.7.

- (h) **For the purpose of this rule all docks and piers, except public fishing piers defined in (d)1 above, are considered boat mooring facilities.**

AmerGen Response:

Not applicable.

OCGS has no docks or piers nor plans to construct any as a result of license renewal.

- (i) **Development required for national security for which there exists no other prudent and feasible alternative site is acceptable under this rule, provided that the shellfish resource is salvaged and mitigated pursuant to a plan approved in writing by the Department. The applicant is responsible for all the expenses of resource salvaging and mitigation. All such programs shall be coordinated with the appropriate shellfish management agency.**

AmerGen Response:

Not applicable. There are no national security aspects of OCGS license renewal.

- (j) **N.J.A.C. 7:7E-7.3(d)10 shall also apply to development of boat mooring facilities of five or more slips on the Navesink, Shrewsbury, and Manasquan Rivers and St. George's Thorofare.**

AmerGen Response:

Not Applicable. OCGS is not located on the Navesink, Shrewsbury, or Manasquan Rivers or St. George's Thorofare.

- (k) **Rationale: See the note at the beginning of this subchapter.**

AmerGen Response:

The referenced note indicates that the rationale sections of the rules are not reprinted in the Chapter but are available separately. The rationale provides informal discussion of the State's reason(s) for preparing specific requirements but does not introduce additional requirements. As such, AmerGen concludes that no action on its part is required for the rationale sections of the regulations.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-3.2 Shellfish Habitat

Shellfish, habitat is defined as an estuarine bay or river bottom which has a history of production for hard clams (*Mercenaria mercenaria*), soft clams (*Mya arenaria*), eastern oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), or blue mussels (*Mytilus edulis*), or otherwise listed below in this section. A shellfish habitat area is defined as an area which meets one or more of the four criteria found at 7:7E-3.2(b) 1-4. Any area defined by the Department to be contaminated by toxins is excluded from this definition. The Final Short List, prepared by the Department pursuant to the Federal Clean Water Act 33 U.S.C. 1313(c)(l), identifies these known contaminated areas. Also excluded from this definition are those sites for which the Department is presented with clear and convincing evidence that the sites lack the physical features necessary for the support of a shellfish population, excluding those waterways listed at N.J.A.C. 7:7E-7.3d)10 and (j).

The Division requests the applicant address any impacts of the facility, since its construction, on the adjacent shellfish beds in Barnegat Bay.

AmerGen Response:

Shellfish inventories and studies conducted intermittently in Barnegat Bay over the past 40 years do not suggest that the operation of OCGS has had an adverse significant impact on shellfish resources. In 1963, the U.S. Fish and Wildlife Service, Bureau of Sport Fisheries, compiled information concerning shellfish resources in Barnegat Bay based on information supplied by the New Jersey Department of Conservation and Economic Development. The area from just south of Forked River to about Waretown was characterized as a soft clam production area, and from Forked River north was a hard clam recreational area (Ref. A-5).

Studies of OCGS potential impacts on shellfish have focused on the thermal discharge. Studies found that thermal discharges have no effect on mortality of juvenile and adult hard clams (Ref. A-18, page C2-73) and, when there are other impacts (e.g., on growth rates), the impacts are limited to the discharge canal and Oyster Creek itself (A-19, page 331) and do not affect shellfish habitat.

Comparisons between studies of distribution and density are difficult due to differing research methodologies but may be of some value. Plant studies pre-dating OCGS operation found hard clams uniformly distributed in very low densities in Barnegat Bay near the OCGS site, with densities of 0 to 0.0084 clams per square foot (Ref. A-19, page 178 and Figure 2, page 180).⁴ Plant studies after 10 years of OCGS operation found densities of 0 to 0.19 clams per square foot (Ref. A-19, page 178 and Figure 3, page 182).⁵ NOAA studies after 15 years of OCGS operation showed densities of 0.0017 to 0.422 clams per square foot (Ref. A-6, Figure A-2, page A-5).⁶ Comparing the results of these studies suggests that there was an increase in hard clam numbers in the OCGS vicinity since start of OCGS operation.

Since 1986, there have been no further shellfish inventories of Barnegat Bay in the vicinity of OCGS. However, inventories of hard clams were taken approximately 20 miles south of OCGS in Little Egg Harbor Bay, a portion of the Bay that is not affected by OCGS operations. Inventories in 1986 to 1987 (Ref. A-16) and 2001 (Ref. A-17) indicate a decline of 67 percent in the hard clam stock in Little Egg Harbor Bay. In 2001, only 4 stations had abundances characterized as high, compared to 1986 to 1987 when 32 stations had abundances characterized as high.

In the face of the dramatic decline in clam densities in Little Egg Harbor Bay, an area beyond the influence of OCGS, it would be difficult to ascribe any decline in the OCGS vicinity to OCGS operation. Such a decline would probably be most reasonably ascribed to Bay-wide influences.

⁴ Referenced study reported densities as 0 – 0.09 M⁻². Assuming that “M⁻²” means per square meter, densities are converted to square foot by dividing by 10.76391.

⁵ Referenced study reported densities as 0 to 2.0 M⁻².

⁶ The referenced figure shows densities as moderate to high.

7:7E-3.3 Surf clam areas

- (a) Surf clam areas are coastal waters which can be demonstrated to support significant commercially harvestable quantities of surf clams (*Spisula solidissima*), or areas important for recruitment of surf clam stocks. This includes areas where fishing is prohibited for research sanctuary or conservation purposes by N.J.A.C. 7:25-12.1(d)4. Surf clams are a marine fish and therefore are also subject to the marine fish and fisheries rule, N.J.A.C. 7:7E-8.2.
- (b) Development which would result in the destruction, condemnation, or contamination of surf clam areas is prohibited except for the following:
 - 1. Development that is of national interest provided:
 - i. There are no prudent and feasible alternative sites; and
 - ii. Impacts to the surf clam area are minimized.
 - 2. Sand and gravel mining to obtain material for beach nourishment provided:
 - i. The beach nourishment project is in the public interest;
 - ii. There are no prudent and feasible alternative offshore borrow site that would result in less impact to marine fish and fisheries;
 - iii. The impacts to surf clam areas are minimized through the following:
 - (1) The beach nourishment project is designed to minimize the volume of sand borrowed from the surf clam area;
 - (2) The borrow cut is designed to minimize the area disturbed, for example, by designing a deeper cut;
 - (3) The borrow site is located to avoid those more productive surf clam areas; and
 - (4) When appropriate, notice shall be provided to clambers in advance of the mining operation to allow for surf clam harvest; and iv. The sand mining is not located within a surf clam conservation area as defined at N.J.A.C. 7:25-12.
- (c) Rationale: See note at the beginning of this subchapter.

AmerGen Response:

Not applicable because surf clams are generally found in coastal, not estuarine waters such as at OCGS. The closest likely habitat for adults is Barnegat Inlet, and OCGS impacts do not extend that far. Surf clam larvae have not been found in OCGS entrainment studies (Ref. A-9, page E-56).

7:7E-3.4 Prime fishing areas

- (a) **Prime fishing areas include tidal water areas and water's edge areas which have a demonstrable history of supporting a significant local quantity of recreational or commercial fishing activity. The area includes all coastal jetties and groins , public fishing piers or docks and artificial reefs. Prime fishing areas also include all red line delineated features within the coastal waters illustrated in: B.L. Freeman and L.A. Walford (1974) Angler's Guide to the United States Atlantic Coast Fish; Fishing Grounds and Fishing Facilities, Section III and IV or as indicated on New Jersey's Specific Sport and Commercial Fishing Grounds Chart (page 14) contained in "New Jersey's Recreational and Commercial Ocean Fishing Grounds." Long and Figley (1984); recently developed artificial reefs off the New Jersey coast as identified in Figley (1989) "A Guide to Fishing and Diving New Jersey's Artificial Reefs", and The Fishing Grounds of Raritan, Sandy Hook and Delaware Bays as determined in Figley and McCloy (1988) "New Jersey's Recreational and Commercial Fishing Grounds of Raritan Bay, Sandy Hook Bay and Delaware Bay and The Shellfish Resources of Raritan Bay and Sandy Hook Bay". While this information source applies only to the Delaware and Raritan Bay and Atlantic Ocean shorefronts, Prime Fishing Areas do occur throughout the coastal zone.**

AmerGen Response:

AmerGen is not aware of any history of significant recreational or commercial fishing in Forked River, the South Branch of Forked River, or Oyster Creek prior to the construction of OCGS. Post-OCGS-construction creel surveys demonstrated, however, that Oyster Creek - from Route 9 to Barnegat Bay – had become a popular recreational bank fishing area. This is due to the presence of heated saltwater discharges from OCGS into Oyster Creek. In fact, as a result of OCGS thermal discharges, there is bank fishing in Oyster Creek during 10 months of the year, compared to only eight months of the year in other regions of the estuary (Ref. A-19, page 300).

- (b) **Standards relevant to prime fishing areas are as follows:**

1. **Permissible uses of prime fishing areas include recreational and commercial finfishing and shellfishing, as presently regulated by the Department's Division of Fish and Wildlife, scuba diving and other water related recreational activities.**

AmerGen Response:

Since Oyster Creek would not be a prime fishing area in the absence of OCGS operation, OCGS does not use a prime fishing area.

2. **Prohibited uses include sand or gravel submarine mining which would alter existing bathymetry to a significant degree so as to reduce the high fishery productivity of these areas. Disposal of domestic or industrial wastes must meet applicable State and Federal effluent limitations and water quality standards.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve mining of sand or gravel. OCGS disposes of sanitary wastewater to a municipal system and not to Oyster Creek. OCGS non-radiological waste discharges to Oyster Creek meet state effluent limitations and water quality standards, and disposal of radiological wastes meet Federal (i.e., NRC) limits.

- (c) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-3.4 Prime fishing areas

Prime fishing areas include tidal water areas and water's edge areas which have a demonstrable history of supporting a significant local quantity of recreational or commercial fishing activity. The section of this Rule applicable to the facility is: "Disposal of domestic or industrial wastes must meet applicable State and Federal effluent limitations and water quality standards."

The applicant needs to demonstrate compliance with this Rule.

AmerGen Response:

Sanitary wastewater from OCGS is discharged to a municipal wastewater system, not into a prime fishing area. Industrial discharges are controlled in accordance with the facility's NJPDES permit, which specifies applicable effluent limitations that are protective of water quality standards. Radiological discharges are controlled in accordance with the facility's NRC Operating License, which incorporates limits for the protection of human health and the environment. In addition, AmerGen notes that the fishing area in Oyster Creek would not exist without the thermal discharge (*i.e.*, industrial waste) from OCGS. Therefore, OCGS is in compliance with the rules protecting prime fishing areas.

7:7E-3.5 Finfish migratory pathways

- (a) **Finfish migratory pathways are waterways (rivers, streams, creeks, bays and inlets) which can be determined to serve as passageways for diadromous fish to or from seasonal spawning areas, including juvenile anadromous fish which migrate in autumn and those listed by H.E. Zich (1977) "New Jersey Anadromous Fish Inventory" NJDEP Miscellaneous Report No. 41, and including those portions of the Hudson and Delaware Rivers within the coastal zone boundary.**
1. **Species of concern include: alewife or river herring (*Alosa pseudoharengus*), blueback herring (*Alosa sapidissima*), American shad (*Alosa aspidissima*), striped bass (*Monroe saxatilis*), Atlantic sturgeon (*Acipenser oxyrinchus*), Shortnose sturgeon (*Acipenser brevirostrum*) and American eel (*Anguilla rostrata*).**

AmerGen Response:

Excluding the Atlantic sturgeon and Shortnose sturgeon, these species are all found in Barnegat Bay, Forked River, and Oyster Creek.

- (b) **Development, such as dams, dikes, spillways, channelization, tide gates and intake pipes, which creates a physical barrier to the movement of fish along finfish migratory pathways is prohibited, unless acceptable mitigating measures such as fish ladders, erosion control, or oxygenation are used.**

AmerGen Response:

No new construction or development (as discussed in 7:7E-3.5(b)) is planned for purposes of license renewal that would create a physical barrier to the movement of fish along migratory pathways.

At the time of OCGS construction, a low dam was constructed on Oyster Creek to create a reservoir for emergency fire protection use. The presence of eels in Oyster Creek upstream of the dam, as recently as 2003, suggests that the dam has not prevented them from migrating past the dam (Ref. A-29, page 11).

- (c) **Development which lowers water quality to such an extent as to interfere with the movement of fish along finfish migratory pathways or to violate State and Delaware River Basin Commission water quality standards is prohibited.**
1. **Mitigating measures are required for any development which would result in: lowering dissolved oxygen levels, releasing toxic chemicals, raising ambient water temperature, impinging or suffocating fish, entrainment of fish eggs, larvae or juveniles, causing siltation, or raising turbidity levels during migration periods.**

AmerGen Response:

AmerGen is planning no new development as a result of license renewal that would lower dissolved oxygen levels, release toxic chemicals, raise ambient water temperatures, cause siltation, or raise turbidity levels during migration periods. AmerGen has carried out studies of impingement and entrainment in the past, satisfying applicable laws and regulations, and is currently conducting a study of impingement, impingement mortality, entrainment and entrainment mortality to satisfy the requirements of the new (2004) EPA Phase II facilities rule on cooling water intake structures. The

results of the study will be reported to NJDEP. Preliminary results and a discussion based on those results is provided below.

- (d) **Water's edge development which incorporates migration access structures, such as functioning fish ladders, will be conditionally acceptable, provided that the Department's Division of Fish and Wildlife approves the design of the access structure, As of January, 1994, the Department's Division of Fish and Wildlife is evaluating anadromous fish spawning areas for potential enhancement work. This may include building of fish ladders, removal of obstructions, stocking, and other means.**

AmerGen Response:

Not applicable because no new water's edge development is planned as a result of license renewal that would require migration access structures (fish passage facilities).

- (e) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-3.5 Finfish migratory pathways

Finfish migratory pathways are waterways (rivers, streams, creeks, bays and inlets) which can be determined to serve as passageways for diadromous fish to or from seasonal spawning areas, including juvenile anadromous fish which migrate in autumn and those listed by H.E. Zich (1977) "New Jersey Anadromous Fish Inventory" NJDEP Miscellaneous Report No. 41, and including those portions of the Hudson and Delaware Rivers within the coastal zone boundary. Species of concern include: alewife or river herring (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), American shad (*Alosa sapidissima*), striped bass (*Monroe saxatilis*), Atlantic sturgeon (*Acipenser oxyrinchus*), Shortnose sturgeon (*Acipenser brevirostrum*) and American eel (*Anguilla rostrata*).

Development, such as dams, dikes, spillways, channelization, tide gates and intake pipes, which creates a physical barrier to the movement of fish along finfish migratory pathways is prohibited, unless acceptable mitigating measures such as fish ladders, erosion control, or oxygenation are used. Development which lowers water quality to such an extent as to interfere with the movement of fish along finfish migratory pathways or to violate State and Delaware River Basin Commission water quality standards is prohibited.

It is the Division's understanding that some of the aforementioned species are impinged and/or entrained at the facility. In addition, the heated effluent may act as a barrier along the bay and/or act as a trap in Oyster Creek. The applicant should discuss the impact of the facility on applicable species listed above.

AmerGen Response:

A relatively large number of migratory fish species are found seasonally in Barnegat Bay. These include anadromous species (e.g., striped bass, American shad), semi-anadromous species (e.g., white perch), and a single catadromous species, the American eel. The New Jersey Coastal Management Rules use the term "diadromous" species, a more inclusive term that encompasses both anadromous and catadromous groups. Some diadromous fish species (e.g., striped bass, American shad) show seasonal movement in and out of Barnegat Bay, but do not spawn because suitable spawning streams are not present. Other diadromous species (e.g., blueback herring) actually ascend (or attempt to ascend) small Barnegat Bay tributary streams to spawn.

The Final Environmental Statement (FES) for operation of Oyster Creek listed five diadromous species that had been collected in pre-operational monitoring: alewife, American eel, American shad, blueback herring, and striped bass. The FES also listed several semi-anadromous species, including white perch and gizzard shad (Ref. A-15, Table 2.13, page 2-32). Operational monitoring and sampling at the plant intake screens over the 1975-1978 period also showed that a number of diadromous species were present. Kennish and Lutz (Ref. A-19) characterized the abundance of these species in the early 1980's as follows:

Relative Abundance of Diadromous Fishes in Barnegat Bay

Species	Oyster Cr. CWIS screens	Barnegat Bay
American eel	Occasional	Common
Blueback herring	Abundant	Abundant
Alewife	Common	Occasional
American Shad	Occasional	Occasional
Striped bass	Rare	Uncommon

Source: (Ref. A-19, page 273)

A draft report on spawning of clupeids in coastal New Jersey suggests that two streams in the immediate vicinity of OCGS could support runs of river herring. The report notes that there's a "confirmed" run of river herring in Oyster Creek to the Fire Pond dam. The report notes further that there is a confirmed run of river herring in the Middle Branch of the Forked River and a "reported" run of river herring in the North Branch of the Forked River to the downstream-most dam. (Ref. A-68)

In response to the EPA's Phase II rule on cooling water intake structures (CWIS) (Federal Register, Vol. 69, No. 131, July 9, 2004), AmerGen instituted a study of impingement, impingement mortality, entrainment, and entrainment mortality at the OCGS intake in the fall of 2005. Preliminary results estimate that, considering all life stages, approximately 1,000 alewife, 4,000 American eel, 1,000 American shad, 9,000 blueback herring and 1,000 white perch were impinged on the plant's CWIS intake screens between September 2005 and September, 2006. No striped bass or sturgeon were identified as being impinged or entrained.

When the monitoring studies and impingement/entrainment studies that have been conducted at OCGS since the 1970s are examined in light of local and regional trends in abundance of these same species and the various species' life histories, certain patterns emerge.

There appears to be no local spawning of striped bass. Striped bass spawn in large Atlantic Slope rivers, and in many of these rivers they spawn 50-150 miles upstream of the river's mouth or estuary. The striped bass in Barnegat Bay are probably a combination of fish produced in the Hudson River, the Delaware River, and tributaries of the Chesapeake Bay. Because state and federal restoration measures instituted in the 1980s and 1990s have been hugely successful, healthy populations of striped bass are now found all along the mid-Atlantic coast. It stands to reason that if these populations continue to expand, more striped bass will be found in Barnegat Bay and more striped bass may be impinged, but not entrained, at OCGS.

There appears to be little or no spawning of American shad in tributaries of Barnegat Bay. American shad in the Bay are presumed to be from spawning sites outside of Barnegat Bay and its tributaries. Adult and juvenile American shad migrate as composite groups north and south along the Atlantic coast with the seasons. Although they do have a tendency to return to natal streams, there is substantial straying for various reasons. For example, American shad spawned in the Delaware River are known to spawn in Chesapeake Bay tributaries and vice versa. American shad in Barnegat Bay are therefore more characteristic of a coastal assemblage than a local population.

River herring (blueback herring and alewife) are the only diadromous species that are believed to spawn in significant numbers in Barnegat Bay tributaries, and most of these spawners are assumed to be blueback herring. This is understandable, given the fact that river herring are known to use a variety of coastal, estuarine, and riverine habitats for spawning and have been documented spawning in big coastal rivers, tributaries of these rivers, small coastal streams, and even rice fields and impoundments adjacent to coastal rivers in the southern part of the species' range. The blueback herring in Barnegat Bay are likely a mix of locally-produced fish and fish produced in river drainages to the north and south of Barnegat Bay.

Diadromous fish populations tend to fluctuate widely from year to year. These fluctuations are a function of the species' reproductive habits, which can result in dramatic differences between years in production and survival of young. Most of these species broadcast eggs and show no parental care, which means survival in early life stages (eggs, larvae, post-larvae) is determined by river flows, water quality, availability of food (zooplankton, which are eaten by late-stage larvae) and other factors, which are ultimately controlled by weather (temperature, rainfall). Further, the tendency of these species to school and spawn *en masse* means adults are vulnerable to netters and hook-and-line fishermen. Smaller-bodied forms, such as shad and herring, are also preyed on by a host of piscine predators and are thus subject to the boom and bust cycles of these predator species. There is increasing speculation that the spectacular success of striped bass restoration, for example, has had the effect of depressing populations of Atlantic Coast shad and herring, on which striped bass prey heavily.

It is likely that small numbers of river herring spawned in Oyster Creek up until the late 1960s, when the stream channel was altered (and dredged) to better convey the plant's cooling water discharge and the upstream portion of the stream was dammed to create the OCGS Fire Pond. Similarly the South Branch of the Forked River, which probably supported small runs of river herring, was altered during construction of the plant. Neither stream was an important river herring spawning stream, and neither was unique, as there are many similar streams flowing into Barnegat Bay all along its length. This is the only finfish migratory pathway that may have been affected by development of the OCGS site. Blueback herring were impinged at OCGS in the past and continue to be impinged on the plant's intake screens, remaining one of the most frequently impinged species. Results suggest that any impact that OCGS may have on these two streams' production of river herring has had little or no effect on Bay-wide production.

With regard to operational impacts, OCGS has an intake structure on Forked River that impinges and entrains finfish from Barnegat Bay and probably Forked River. In 1989,

the NJDEP evaluated the impact of the cooling water intake structure on the Barnegat Bay fishery (Ref. A-27). NJDEP concluded that:

- Plant-related losses at OCGS do not adversely impact spawning and nursery functions of the selected representative important species
- Plant-related losses at OCGS do not significantly increase the abundance of nuisance species
- Plant-related losses at OCGS do not adversely affect the estuarine food web of Barnegat Bay
- Plant-related losses at OCGS do not adversely impact beneficial uses of Barnegat Bay

The thermal plume entering the Bay from Oyster Creek has temperatures 3 to 5 degrees Celsius above the ambient temperature of the Bay (Ref. A-19, page 325) and does not interfere with any fish migrations as demonstrated in the 316(a) demonstration submitted to and approved by NJDEP. NJDEP performed its own analysis of the impacts of thermal discharges to the balanced biological community in Barnegat Bay (Ref. A-27, page VI-10) and determined that “adverse impacts of the Oyster Creek NGS do not indicate unacceptable, substantial long-term population and ecosystem level impacts. Alternate effluent limitations that protect balanced indigenous populations may be granted for Oyster Creek NGS [Nuclear Generating Station].” In 1994, with the issuance of the NJPDES permit, the NJDEP granted a 316(a) variance based upon data collected between 1975 and 1985. For that permit, the NJDEP was required to evaluate the impact of the OCGS on marine fish and fisheries to ensure that the continued operation of the facility would “...assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife...” in and on the receiving water body. In the July 2005 Draft NJPDES Permit Renewal (Ref. A-61, Fact Sheet, Section 8.A.2.b, page 8 of 32), the NJDEP proposed to renew the 316(a) variance. In order to make that proposal, the NJDEP was required to evaluate the impact of the OCGS on marine fish and fisheries to ensure that the continued operation of the facility would “...assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife...” in and on the receiving water body. This proposed extension of the variance was based on the data collected between 1975 and 1985, the 1989 conclusions that NJDEP decided were still valid, and the NJDEP conclusion in the draft permit that “...the facility’s operations have not changed appreciably since the time that the existing permit was issued....” As stated in the response to NJAC 7:7E-3.4, OCGS industrial discharges are within permit limits and therefore are protective of water quality standards. OCGS is in compliance with the rules protecting finfish migrations and has no plans for development, as a result of license renewal, that would alter this conclusion.

As noted previously in this section, AmerGen began impingement and entrainment studies in September 2005 to gauge compliance of the plant’s CWIS with the EPA’s Phase II rule for existing facilities. The studies will be completed in 2007 for Phase II purposes and will be transmitted to New Jersey DEP, which has been delegated responsibility for administering the state’s NJPDES program. Preliminary results are consistent with previous conclusions of NJDEP regarding the impacts of OCGS on the local fish populations. (Ref. A-75). These are species with a high reproductive potential

that are subject to “boom and bust” cycles (both at the population level and the year-class/cohort level) that are mediated by an array of external factors. A short list of these external factors would include weather (in particular droughts that reduce river flows and freshwater inflows to estuaries), commercial and recreational fishing pressure, resource agency regulations and initiatives (catch and harvest restrictions, stocking programs), and predator-prey interactions (cycles of abundance of top-of-the-food-chain predators and the forage species that these predators rely on).

7:7E-3.6 Submerged vegetation habitat

- (a) A Submerged vegetation special area consists of water areas supporting or documented as previously supporting rooted, submerged vascular plants such as widgeon grass (*Ruppia maritima*), sago pondweed (*Potamogeton pectinatus*), horned pondweed (*Zannichellia palustris*) and eelgrass (*Zostera marina*). In New Jersey, submerged vegetation is most prevalent in the shallow portions of the Navesink, Shrewsbury, Manasquan and Metedeconk Rivers, and in Barnegat, Manahawkin and Little Egg Harbor Bays. Other submerged vegetation species in lesser quantities include, but are not limited to, the following: water weed (*Elodea nuttalli*), *Eriocaulon parkeri*, *Liaeopsis chinesis*, *Naja flexilis*, *Nuphar variegatum*, *Potamogeton crispus*, *Potamogeton epihydrus*, *Potamogeton perfoliatus*, *Potamogeton pusillus*, *Scirpus subterminalis* and *Vallisneria americana*. Detailed maps of the distribution of the above species for New Jersey, and a method for delineation, are available from DEP in the New Jersey Submerged Aquatic Vegetation Distribution Atlas (Final Report), February, 1980, conducted by Earth Satellite Corporation and also on "Eelgrass Inventory" maps prepared by the Division of Fish and Wildlife, Bureau of Shellfisheries, 1983. If the Department is presented with clear and convincing evidence that a part of its mapped habitat lacks the physical characteristics necessary for supporting or continuing to support the documented submerged vegetation species, such a site would be excluded from the habitat definition.

AmerGen Response:

AmerGen has contacted NJDEP with regard to instructions of how to obtain the New Jersey Submerged Aquatic Vegetation Distribution Atlas (Final Report), February 1980, and also "Eelgrass Inventory" maps. AmerGen has received no response, so AmerGen prepared the following discussion without the benefit of these references. Instead, AmerGen relied on images of Barnegat Bay submerged aquatic vegetation (SAV) that are available through the Grant F. Walton Center for Remote Sensing and Spatial Analysis (CRSSA) at Rutgers University (Ref. A-42).

Using aerial imagery augmented by boat surveys, the CRSSA has created images depicting the presence of submerged aquatic vegetation in Barnegat Bay in 1968, 1979, 1985-89, 1996-99, and 2003 (Ref. A-42). The 1968 and 1979 images show SAV present north of the Forked River mouth, south of the Oyster Creek mouth, and in the area between the two mouths. The 1985-89, 1996-99, and the 2003 images show SAV present south of the Oyster Creek mouth but generally absent in the other areas.

Prior to the construction of OCGS's cooling water system, the South Branch of the Forked River was affected by tidal flow as least as far as 5,500 feet east of Highway 9. Oyster Creek was tidal to within 1,900 east of highway 9 (Ref. A-8, page E4-1). Rutgers University sampled the aquatic biota-benthic flora and fauna from October 1966 to October 1967 in the fresh water, brackish estuary, and salt water aquatic environs of OCGS. Eelgrass was noted to be an abundant vegetative type (Ref. A-8, page 2.7-3).

- (b) Development in submerged vegetation habitat is prohibited except for the following:

1. Trenching for utility pipelines and submarine cables in the public interest, provided there is no practicable or feasible alternative alignment, the impact area is minimized and that, following pipeline or cable installation, the disturbed area is restored to its preconstruction contours and conditions. This may include subsequent monitoring and replanting of the disturbed area if these species have not recolonized the disturbed area within three years. The use of directional drilling techniques for utility installations is strongly encouraged, rather than the use of trenching;
2. New dredging of navigation channels maintained by the State or Federal government provided that there is no practicable or feasible alternative to avoid the vegetation; and that impacts to the habitat area (for example dredging width, length and depth) are minimized to the maximum extent practicable. Mitigation will be required for destruction of one acre or more which poses submerged aquatic vegetation;
3. Maintenance dredging as defined at N.J.A.C. 7:7E-4.6, of previously authorized, existing navigation channels maintained by the State or Federal government and associated disposal areas provided that there is no practicable or feasible alternative to avoid the vegetation and that impacts to the habitat area are minimized to the maximum extent practicable;
4. New and maintenance dredging as defined at N.J.A.C. 7:7E-4.6 and 4.7, of previously authorized operating marinas and any necessary access channels to the expanded portion of such marinas (this exception does not include the boat basin of the expanded portion of the marina) and existing launching facilities with 25 or more dockage, storage or trailer parking units and their associated access channels, provided the proposed areas to be dredged (such as channel length, depths and widths) are minimized to the maximum extent practicable;
5. Maintenance dredging as defined at N.J.A.C. 7:7E-4.6, to regain access to existing private docks, piers, boat ramps and mooring piles not associated with marinas that were previously dredged to an authorized channel and/or mooring depth, width and length, provided there is no practicable or feasible alternative on site that would avoid dredging in submerged vegetation habitat;
6. Construction of a single noncommercial dock or pier provided that:
 - i. There are no practicable or feasible alternatives to avoid impacts to submerged vegetation habitat at the site;
 - ii. The width of the structure will not exceed four feet, except for that portion of the structure adjacent to the mooring area, where the width and length may not exceed six and 20 feet, respectively;
 - iii. The pier shall have no more than two designated slips. No boats may be moored at a non-designated pier/dock area;
 - iv. No more than one pier shall be placed for every building lot and each building lot shall have a forty foot or greater frontage on the water. Where more than one lot has been assembled for the purpose of building, only one pier will be allowed;
 - v. No dredging shall be performed in conjunction with the use of the dock or pier;
 - vi. A minimum water depth of four feet at mean low water must be present in the area where the boats will be moored; and
 - vii. There is no alternative mooring area at the site that would have less impact on the submerged aquatic vegetation; and
7. The extension of existing piers or floating docks through submerged vegetation habitat to water at least four feet deep at mean low water, for the purpose of eliminating dredging or boating through submerged vegetation habitat, provided the width of the extended portion of the pier does not exceed four feet (except for the portion of the pier adjacent to the mooring area where the width shall not exceed six feet), there will be no increase in the number of boat moorings, and no dredging will be performed in conjunction with the use of the structure.

AmerGen Response:

As discussed in AmerGen's response to NJAC 7:7E-4.6 and 4.7, AmerGen performs periodic dredging in Forked River and Oyster Creek in accordance with state direction and permits to maintain navigation. The dredging is not within the areas depicted on CRSSA imagery as SAV habitat. AmerGen has no plans, as a result of license renewal, to alter past dredging practices or to construct pipelines, cables, docks, or piers in SAV habitat. AmerGen and the state are discussing the possibility of creating public access on Oyster Creek (see AmerGen's response to NJAC 7:7E-8.11) but, to the best of AmerGen's knowledge, this would not be within SAV habitat. At the time of OCGS construction, a channel was dredged 10 to 12 feet deep from the mouth of Oyster Creek 75 feet towards the intercoastal waterway (Ref. A-8, page E4-1). The channel was used for barge-delivery of large components to OCGS. AmerGen is maintaining its barge mooring facility in case it is needed to receive large components or to ship large components offsite upon decommissioning OCGS. It is not known whether the area of the former channel would become SAV habitat by that time; if it does, and additional dredging would be needed, AmerGen would comply with federal and state dredging permits and minimize SAV impacts.

- (c) **Development in upland or water areas adjacent to submerged vegetation habitat or in submerged vegetation habitat which results in erosion or turbidity increases in the waters supporting submerged vegetation or prop or hull scour through use of the development is prohibited unless mitigating measures are provided.**

AmerGen Response:

AmerGen has a certified soil erosion and sedimentation control plan for its dredged material disposal site (Ref. A-43) and all OCGS discharges are through NJPDES permitted outfalls (i.e., OCGS does not contribute to non-point pollution). The permit includes limits on total suspended solids. With OCGS best management practices controlling erosion and sedimentation and OCGS operation not contributing to turbidity increases, AmerGen concludes that OCGS is not having an adverse impact on SAV due to turbidity and AmerGen has no plans, as a result of license renewal, that could change this conclusion. To the best of AmerGen's knowledge, the OCGS boat ramp is not within or adjacent to SAV habitat.

- (d) **Compensation for unavoidable, permanent significant impacts to submerged vegetation habitats, when required, shall consist of the establishment of self-sustaining habitat for the appropriate species in accordance with scientifically-documented transplanting methods. Monitoring and replanting shall be carried out biannually to demonstrate persistence of the compensatory habitat for a minimum of three years. The following must be documented for any area proposed for seagrass habitat restoration: that the area previously supported seagrass but no longer does; the specific cause(s) of seagrass elimination; and that the specific condition(s) or action(s) responsible for elimination of seagrass has since ceased. Priority will be given to in-kind restoration of seagrass habitat in as close proximity as possible to the impacted site. No compensation credit will be given for attempts to plant seagrass within unvegetated interpatch areas of existing seagrass habitat or for attempts to increase bottom coverage within existing seagrass beds (defined as an area where seagrass rhizomes overlap, or where seagrass shoots intermingle within less than one square meter).**

AmerGen Response:

Not applicable because OCGS operation does not involve permanent significant impacts to submerged vegetation habitats and AmerGen is not undertaking compensation

measures. AmerGen has no plans, as a result of license renewal, that would change this status.

(e) **Rationale:** See note at the beginning of this Chapter.

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-3.6 Submerged vegetation

Submerged vegetation special area consists of water areas supporting or documented as previously supporting rooted, submerged vascular plants such as widgeon grass (*Ruppia maritima*), sago pondweed (*Potamogeton pectinatus*), horned pondweed (*Zannichellia palustris*) and eelgrass (*Zostera marina*). Development in upland or water areas adjacent to submerged vegetation habitat or in submerged vegetation habitat which results in erosion or turbidity increases in the waters supporting submerged vegetation or prop or hull scour through use of the development is prohibited unless mitigating measures are provided. Compensation for unavoidable, permanent significant impacts to submerged vegetation habitats, when required, shall consist of the establishment of self-sustaining habitat for the appropriate species in accordance with scientifically-documented transplanting methods.

The 1979 Forked River Submerged Aquatic Vegetation Distribution Map indicates the presence of eelgrass along the bay both north and south of the mouths of Forked river and Oyster Creek. The applicant should address impacts of the facility on this Special Area as per 3.6(c) and (d).

AmerGen Response:

Prior studies have demonstrated that the effects of OCGS operation on aquatic communities appear to be restricted to the discharge canal and Oyster Creek (Ref. A-19, page 331). Distribution of SAV in the OCGS vicinity has followed bay-wide patterns and does not appear to be affected by OCGS operation.

Eelgrass beds grow in shallow bays, coves, tidal creeks, and estuaries (eelgrass does not grow in fresh water). It was plentiful in Barnegat Bay in the early 1900s and harvesting it for industrial use was a principal occupation for inhabitants of Long Beach Island (Ref. A-7, page 100). Since that time, the distribution of SAV has fluctuated and SAV has been the victim of devastating disease. Eelgrass largely disappeared from Barnegat Bay in 1929 due to blight and took many years to re-establish itself and in 1950 it extended from Route 72 Bridge to Mantoloking. Wasting disease struck in 1995 and 1996, destroying 1,000 acres of eelgrass beds (Ref. A-7, page 100). The Barnegat Bay Estuary Program (BBEP) monitors SAV as a key indicator of the health of the bay and determined that the distribution of SAV had remained reasonably stable over the past five years (2000-2005) (Ref. A-30).

Many ecologists have studied SAV, focusing on the environmental stressors impacting SAV. BBEP sums up the scientific community findings with regard to the immediate environmental stressor that impacts SAV, stating, "It is well recognized that significant reduction of light transmission negatively impacts seagrass growth and production. Additionally, it has been demonstrated that various sources of light attenuation components exist and include phytoplankton, epiphytes, and macroalgae, as well as land runoff causing general turbidity." (Ref. A-30, page 5)

BBEP identifies nutrient enrichment as the cause of phytoplankton and benthic macroalgae overgrowth that reduces light availability, retarding growth and increasing disease susceptibility (Ref. A-30, page 1). Nutrient enrichment is primarily the result of non-point pollution sources such as run-off from septic systems, lawn and garden maintenance, golf course maintenance, automobile use, and agriculture. As recently as June 2006, Dr. Michael J. Kennish of Rutgers University, speaking to the environmental group, Save Barnegat Bay, blamed the decline in eelgrass on too much nitrogen in the bay, leading to algae overgrowth. He cited the sources of the nitrogen to be chemically treated lawns, pet waste, and other sources (Ref. A-31, page 1).

Besides phytoplankton and benthic macroalgae overgrowth restricting the light reaching SAV beds, BBEP identifies land runoff causing general turbidity as a light attenuation factor (Ref. A-30, page 5).

A comparison of CRSSA imagery for 1979 and later (Ref. A-42) shows the disappearance of SAV north of the Forked River mouth and between the mouths of Forked River and Oyster Creek in 1985-89 and a reduction south of Oyster Creek. This change remains today and is consistent with bay-wide changes; SAV has virtually disappeared from the western shore of the bay north of Oyster Creek and has become restricted in areas south to Little Egg Harbor Bay .

As indicated above, BBEP's assessment of SAV distribution was stable for 2000 to 2005. BBEP goes on to say "this stability is a positive outcome considering the continued development of the watershed, as well as the severe brown-tide blooms that occurred in the bay during 2001 and 2002." (Ref. A-30, page 2)

In summary, nutrient enrichment and turbidity appear to be primary current stressors for SAV in Barnegat Bay, with opportunistic disease a current secondary stress. AmerGen notes that OCGS is not a significant source of nutrients or sediments that produce turbidity. OCGS sanitary wastes, a potential nutrient source, go to a municipal wastewater treatment system. The primary source of sediments in OCGS discharges is the sediment loading in its intake; soil erosion and sedimentation control measures have limited OCGS site additions, and OCGS sediment discharges are monitored and are subject to state limits in the station NJPDES permit.. AmerGen concludes that OCGS operation or continued operation is not a factor in the population distribution or health of SAV in Barnegat Bay.

7:7E-3.7 Navigation channels

- (a) **Navigation channels are tidal water areas including the Atlantic Ocean, inlets, bays, rivers and tidal guts with sufficient depth to provide safe navigation. Navigation channels include all areas between the top of the channel slopes on either side. These navigation channels are often marked with buoys or stakes. Major navigation channels are shown on NOAA/National Ocean Service Charts.**

AmerGen Response:

AmerGen is aware of no official depiction of all New Jersey navigation channels but presumes that Forked River and Oyster Creek, as well as Barnegat Bay, meet the regulatory definition.

- (b) **Standards relevant to navigation channels are as follows:**

1. **Development which would cause terrestrial soil and shoreline erosion and siltation in navigation channels shall utilize appropriate mitigation measures.**
2. **Development which would result in loss of navigability is prohibited.**
3. **Any construction which would extend into a navigation channel is prohibited.**
4. **The placement of structures within 50 feet of any authorized navigation channel is discouraged, unless it can be demonstrated that the proposed structure will not hinder navigation.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve new development that would cause siltation in navigation channels; however, continued operation may, in the future as it has in the past, cause siltation in navigation channels that could result in loss of navigability. The state has imposed on AmerGen the obligation to dredge portions of Forked River and Oyster Creek where shoaling caused by OCGS operation impedes navigation (Ref. A-8, page 2.5-9). The proposed renewal of the OCGS operating license does not involve construction in a navigation channel or placement of a structure within 50 feet of a navigation channel.

- (c) **Rationale See note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-3.8 Canals

- (a) **Canals are navigation channels for boat traffic through land areas which are created by cutting and dredging or other human construction technique sometimes enlarging existing natural surface water channels. The Cape May, Point Pleasant, and Delaware and Raritan Canals are the principal examples in the New Jersey Coastal zone.**
- (b) **In canals presently used for navigation, any use that would interfere with existing or proposed canal boat traffic is prohibited.**
- (c) **In the Delaware and Raritan Canal, and in the surrounding Review Zone established by the Delaware and Raritan Canal Commission, development must be consistent with the rules and regulations of the Review Zone of the Delaware and Raritan Canal State Park (N.J.A.C. 7:45).**
- (d) **Rationale: See note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because there are no canals associated with OCGS, there are no canals in the OCGS vicinity, OCGS operations have no effect on canals, and AmerGen has no plans for any new development as a result of license renewal that would change this status. In documents related to OCGS, AmerGen uses the term "canal" to describe the waterways constructed to withdraw cooling water from Forked River and to discharge heated effluent to Oyster Creek. These waterways are not open to boat traffic and are not navigation channels.

7:7E-3.9 Inlets

- (a) Inlets are natural channels through barrier islands allowing movement of fresh and salt water between the ocean and the back bay system. Inlets naturally have delta fans of sediment seaward and landward, deposited by the ebb and flow of the tide.**
 - 1. The seaward limit of an inlet is defined as the seaward extent of the ebb delta fan. The landward limit is defined as the inland extent of the flood delta fan.**
 - 2. If there is doubt about the extent of these fans, the applicant shall submit up-to-date bathymetric surveys and Department staff will determine the boundary on a case-by-case basis.**
- (b) Development in inlets shall comply with the following:**
 - 1. Filling is prohibited; and**
 - 2. Submerged infrastructure is discouraged.**
- (c) Rationale: See note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because there are no inlets associated with OCGS, there are no inlets in the OCGS vicinity, OCGS operations have no effect on inlets, and AmerGen has no plans for new development as a result of license renewal that would change this status.

7:7E-3.10 Marina Moorings

- (a) **Marina moorings are areas of water that provide mooring, docking and boat maneuvering room as well as access to land and navigational channels for five or more recreational boats.**

AmerGen Response:

OCGS includes no marina moorings but there are marina moorings on Forked River and Oyster Creek.

- (b) **Non-water dependent development in a marina mooring area is prohibited.**

AmerGen Response:

Not applicable because OCGS is a water-dependent development (see response to NJAC 7:7E-1.8) but is not located in a marina mooring area and AmerGen has no license renewal plans that would change this.

- (c) **Any use that would detract from existing or proposed recreational boating use in marina mooring areas is discouraged.**

AmerGen Response:

AmerGen's periodic dredging of Forked River and Oyster Creek would enhance, not detract from, recreational boating use. After OCGS started operations, the warm water discharge encouraged growth of populations of a non-native, sub-tropical wood boring organism (shipworm), resulting in destruction of wood structures in Oyster Creek. Between replacement with treated wood or non-wood structures, and low water temperatures during a winter outage, the population was reduced and no other concerns have been raised by regulatory agencies (Ref. A-54, page 4-25).

- (d) **Rationale: See note at the beginning of this subchapter.**

AmerGen Response:

No action required.

7:7E-3.11 Ports

- (a) Ports are water areas having, or lying immediately adjacent to, concentrations of shoreside marine terminals and transfer facilities for the movement of waterborne cargo (including fluids), and including facilities for loading, unloading and temporary storage.**

(Rest of regulation not reprinted)

AmerGen Response:

This regulation is not applicable to OCGS certification because there is no port associated with OCGS and there are no ports in the OCGS vicinity.

7:7E-3.12 Submerged infrastructure routes

- (a) **A submerged infrastructure route is the corridor in which a pipe or cable runs on or below a submerged land surface.**

AmerGen Response:

AmerGen has no pipe or cable runs on or under submerged lands but OCGS operations could affect a submerged pipeline (see below).

- (b) **Any activity which would increase the likelihood of infrastructure damage or breakage, or interfere with maintenance operations is prohibited.**

AmerGen Response:

A submerged water main runs under the South Branch of Forked River approximately where it joins the Middle Branch and the North Branch. The state and federal permits that authorized dredging the South Branch in 1997 imposed limitations to prevent damage to the pipeline (Ref. A-13, page 3, Physical Condition 16 and Ref. A-14, Page 3) and the limitations were met.

- (c) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required

7:7E-3.13 Shipwreck and artificial reef habitats

- (a) The shipwreck and artificial reef habitats special area includes all permanently submerged or abandoned remains of vessels, and other structures including but not limited to, artificial reefs, anchors, quarry rocks or lost cargo, which serve as a special marine habitat or are fragile historic and cultural resources. An artificial reef is a manmade imitation of a natural reef created by placing hard structures on the sea floor for the purpose of enhancing fish habitat and fish stock. In time, an artificial reef will attain many of the biological and ecological attributes of a natural reef. Artificial reefs do not include shore protection structures, pipelines and other structures not constructed for the sole purpose of fish habitat.
- 1. Known sites include those shown either on National Ocean Survey (N.O.S.) Charts listed at N.J.A.C. 7:7E-3.7(a), the navigation channel rule, or listed in the following publications: W. Krotee and R. Krotee, *Shipwrecks Off the New Jersey Coast* (1966), B.L. Freeman and L.A. Walford, *Angler's Guide to the United States Atlantic Coast Fish, Fishing Grounds, and Fishing Facilities* (1974); and, B. Preim, J. Carlson, B. Figley, *A Guide to Fishing and Diving New Jersey Reefs*, (2000). In addition to known sites, unidentified remains of vessels may exist within tidal waters. Shipwrecks may also be considered historic or archaeological resources pursuant to N.J.A.C. 7:7E-3.36.
- 2. Shipwreck and artificial reef habitats may be subject to the marine fish and fisheries rule, N.J.A.C. 7:7E-8.2.
- (b) Acceptable uses of shipwreck and artificial reef habitats include finfishing, shellfishing, and scuba diving.
- (c) Any use, except archeological research, which would significantly adversely affect the usefulness of this special area as a fish habitat is prohibited. Persons conducting archeological research which significantly affects the usefulness of a shipwreck for fisheries purpose shall compensate for this loss by creation of an artificial reef of equal habitat value.
- (d) Rationale: See note at the beginning of this subchapter.

AmerGen Response:

Not applicable because Barnegat Bay is not marine habitat. This conclusion is consistent with the New Jersey Ocean Atlas, which lists no shipwrecks or artificial reefs in Barnegat Bay (Ref. A-40).

Exelon, AmerGen's parent company, has funded installation of an artificial reef near the mouth of Barnegat Inlet (Ref. A-21).

7:7E-3.14 Wet borrow pits

- (a) Wet borrow pits are scattered artificially created lakes that are the results of surface mining for coastal minerals extending below groundwater level to create a permanently flooded depression. This includes, but is not limited to, flooded sand, gravel and clay pits, and stone quarries. Where a wet borrow pit is also a wetland and/or wetlands buffer, the Wetlands rule, N.J.A.C. 7:7E-3.27, and/or Wetlands Buffers rule, N.J.A.C. 7:7E-3.28, shall apply.
- (b) All proposed dredging and filling activities shall comply with any applicable Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A). In addition, such activities must receive a Water Quality Certificate pursuant to N.J.S.A. 58:10A et seq. and Section 401 of the Federal Clean Water Act if a Federal permit is required for the activities.
- (c) Proposed uses which would promote the wildlife habitat and scenic amenity values of wet borrow pits are encouraged.
- (d) Surface mining is conditionally acceptable provided condition (b) above and the Mining rule, N.J.A.C. 7:7E-7.8, are met.
- (e) Recreational use of wet borrow pits is acceptable provided that wildlife habitat disturbance is minimized.
- (f) Disposal of dredged material is discouraged, but may be acceptable in limited cases, provided condition (b) above is met and that:
 - 1. The dredged material is clean and non-toxic, an appropriate particle size for the site, and will not disturb groundwater flow or quality;
 - 2. At least half of the water area in existence at the time of the first coastal permit application for filling of the pit remains as surface water in a pattern designed to maximize wildlife habitat value and create wetland areas, except that the entire lake may be filled if necessary to prevent the lake from acting as a channel for salt water intrusion into aquifers.
- (g) Filling of wet borrow pits for construction is conditionally acceptable provided that:
 - 1. The fill is clean and will not degrade groundwater quality;
 - 2. At least half of the water area in existence at the time of the first coastal permit application for filling of the pit is left as open water;
 - 3. Land-water edges are maximized and vegetated to promote native wildlife;
 - 4. A water quality buffer zone of at least 50 feet is designated in accordance with (j) below around remaining water areas;
 - 5. A program for water quality monitoring and maintenance is included with the application; and
 - 6. Recreational uses in water and water quality buffer areas minimize wildlife disturbance.
- (h) Discharge of liquid or solid waste, other than clean dredge fill of acceptable particle size, is prohibited.
- (i) All proposed uses directly adjacent to wet borrow pits shall grade all banks at the immediate water's edge, except those in acceptable water access areas, to a slope not greater than 33 percent, and shall stabilize the surface and initiate succession of native vegetation adapted to water's edge conditions.
- (j) A water quality buffer area is required around the perimeter of wet borrow pits. The minimum width of this buffer area will be 100 feet where soils are coarse (sands and gravels) and 50 feet elsewhere. Recreational use of the water quality buffer is acceptable provided that the disturbance is limited in

extent and wildlife habitat disturbance is minimized. The remainder of the buffer area shall be allowed to succeed naturally to water's edge. Structures and paving, except at limited water access points for recreational use, are prohibited in the water quality buffer.

(k) Rationale: See note at the beginning of this Chapter.

AmerGen Response:

Not applicable because there are no wet borrow pits associated with OCGS nor is AmerGen aware of any wet borrow pits within 100 feet of the property boundary that would require a buffer on AmerGen property.

7:7E-3.15 Intertidal and subtidal shallows

- (a) **Intertidal and subtidal shallows means all permanently or temporarily submerged areas from the spring high water line to a depth of four feet below mean low water.**

AmerGen Response:

Tidal fluctuations are apparent at the OCGS intake.

- (b) **Development, filling, new dredging or other disturbance is discouraged but may be permitted in accordance with (c), (d), (e), and (f) below and with N.J.A.C. 7:7E-4.2 through 4.22.**

AmerGen Response:

OCGS has performed dredging in Forked River or Oyster Creek to maintain depth. OCGS may dredge one or the other of the waterways in the future to maintain depth. AmerGen does not and will not develop or fill Oyster Creek or Forked River.

- (c) **Maintenance dredging of intertidal and subtidal shallows is acceptable to maintain adequate water depths in accordance with N.J.A.C. 7:7E-4.6.**

AmerGen Response:

Forked River and Oyster Creek dredging is occasionally necessary to prevent OCGS-caused shoaling from interfering with navigation. This dredging has been, and will continue to be, conducted in accordance with state and federal permits.

- (d) **New dredging in intertidal and subtidal shallows is discouraged, unless it complies with the following conditions:**

- 1. There is a need for the proposed facility that requires the dredging that cannot be met by other similar facilities in reasonable proximity taking into account scope and purpose of the proposed facility;**
- 2. There is no feasible alternative location for the proposed facility that requires the dredging, which would eliminate or reduce the amount of disturbance to intertidal and subtidal shallows without increasing impacts on other Special Areas; and**
- 3. The proposed dredging and the facility that requires the dredging have been designed to minimize impacts to intertidal and subtidal shallows.**

AmerGen Response:

For OCGS dredging in 1984 and 1997, the state has categorized most of the activity as maintenance and only the remainder as new. AmerGen would work with the state in conjunction with any future dredging to minimize impacts. OCGS provides needed electricity to the State of New Jersey, and, as demonstrated for license renewal in Chapter 8 of the Draft Environmental Impact Statement (Ref. A-9), alternatives to providing the electricity generated at OCGS would have adverse environmental impacts that exceed those of renewing the OCGS operating license.

The intertidal and subtidal shallows that could be affected by dredging are poor quality habitat because of the significant flow through the channel (volume and velocity), and

because the original contours of the river bottom were significantly modified at construction to accommodate the required volume and flow of water.

- (e) **The installation of submerged infrastructure within intertidal and subtidal shallows is conditionally acceptable, provided:**
1. **Directional drilling is used unless it can be demonstrated that the use of directional drilling is not feasible;**
 2. **Where directional drilling is not feasible, there is no feasible alternative route that would not disturb intertidal and subtidal shallows;**
 3. **The infrastructure is located deeply enough to avoid exposure or hazard; and**
 4. **All trenches are backfilled to the preconstruction depth with naturally occurring sediment.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve installation of submerged infrastructure within intertidal and subtidal shallows.

- (f) **The filling of intertidal and subtidal shallows for beach nourishment is conditionally acceptable provided it meets the requirements of the Filling rule at N.J.A.C. 7:7E-4.10(f) and the Coastal Engineering rule at N.J.A.C. 7:7E-7.11(d).**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve filling of intertidal and subtidal shallows for beach nourishment.

- (g) **Mitigation shall be required for the destruction of intertidal and subtidal shallows in accordance with (h) below. Mitigation proposals shall comply with the standards of N.J.A.C. 7:7E-3B. Mitigation shall not be required for the following:**
1. **Filling in accordance with N.J.A.C. 7:7E-4.10(c) and (e)1,2 and 3;**
 2. **Maintenance dredging in accordance with N.J.A.C. 7:7E-4.6;**
 3. **Beach nourishment in accordance with N.J.A.C. 7:7E-7.11(d);**
 4. **New Dredging in accordance with N.J.A.C. 7:7E-4.7 to a depth not to exceed four feet below mean low water; and**
 5. **Construction of a replacement bulkhead in accordance with N.J.A.C. 7:7E-7.11(e)2i or ii.**

AmerGen Response:

The most recent permit issued by the NJDEP to OCGS to perform dredging (Ref. A-13) limited dredging to a depth of 5 feet below mean low tide. Mitigation was not required.

- (h) **Mitigation shall be required for the destruction of intertidal and subtidal shallows at a creation to lost ratio of 1:1 through the creation of intertidal and subtidal shallows on the site of the destruction. For the purposes of this section, creation means excavating upland to establish the characteristics, habitat and functions of an intertidal and subtidal shallow. Where on-site creation is not feasible, mitigation shall be accomplished as follows:**

1. At a single family home or duplex property that is not part of a larger development, mitigation shall be in the form of a monetary contribution to the Wetlands Mitigation Fund. The monetary contribution shall be in the amount of the value of the land filled and the cost of creation of intertidal subtidal shallows of equal ecological value to those which are being lost; or
2. At a property other than a single family home or duplex property mitigation shall be performed in accordance with the following hierarchy:
 - i. If on site creation of intertidal and subtidal shallows is not feasible, then mitigation shall be required at a creation to loss ratio of 1:1 through the creation of intertidal and subtidal shallows within the same 11-digit hydrologic unit code area, as defined at N.J.A.C. 7:7E-1.8, as the destruction;
 - ii. If on site creation of intertidal and subtidal shallows is not feasible in accordance with (h)2i above, then mitigation shall be required at a creation to loss ratio of 1:1 through the creation of intertidal and subtidal shallows within an adjacent 11-digit hydrologic unit code area within the same watershed management area, as defined at N.J.A.C. 7:7E-1.8, as the destruction. An adjacent 11-digit hydrologic unit code area is one which shares a common boundary at any point on the perimeter of the 11-digit hydrologic unit code area where the destruction is located;
 - iii. If the creation of intertidal and subtidal shallows required in (h)2ii is not feasible, then mitigation shall be required at an enhancement to loss ratio of 2:1 through the enhancement of a wetland system which was previously more ecologically valuable but has become degraded due to factors such as siltation, impaired tidal circulation, or contamination with hazardous substances (degraded wetland system) on the site of the destruction. For the purposes of this section, enhancement means actions performed to improve the characteristics, habitat and functions of an existing degraded wetland;
 - iv. If the enhancement of degraded wetlands required in (h)2iii above is not feasible, then mitigation shall be required at an enhancement to loss ratio of 2:1 through the enhancement of a degraded wetland system within the same 11-digit hydrologic unit code area as the destruction;
 - v. If the enhancement of degraded wetlands required in (h)2iv above is not feasible, then mitigation shall be required at an enhancement to loss ratio of 2:1 through the enhancement of a degraded wetland system within an adjacent 11-digit hydrologic unit code area within the same watershed management area as the destruction. An adjacent 11-digit hydrologic unit code area is one which shares a common boundary at any point on the perimeter of the 11-digit hydrologic unit code where the destruction is located;
- iv. If the enhancement of degraded wetlands required in (h)2v above is not feasible, then mitigation shall be required in accordance with either of the following:
 - (1) Creation of intertidal and subtidal shallows at a creation to lost ratio of 1:1 within the same watershed management area; or
 - (2) Enhancement of degraded wetlands at an enhancement to loss ratio of 2:1 within the same watershed management area.

AmerGen Response:

Dredging performed at OCGS has not required mitigation.

- (i) Rationale: See note at the beginning of this chapter.

AmerGen Response:

No action required.

7:7E-3.16 Dunes

(a) A dune is a wind or wave deposited or man-made formation of sand (mound or ridge), that lies generally parallel to, and landward of , the beach and the foot of the most inland dune slope. "Dune" includes the foredune, secondary or tertiary dune ridges and mounds, and all landward dune ridges and mounds, as well as man-made dunes, where they exist (see Appendix, Figure 1, incorporated herein by reference).

(Rest of regulation not reprinted)

AmerGen Response:

This regulation is not applicable to OCGS certification because there are no dunes on or near the OCGS site.

7:7E-3.17 Overwash areas

(a) An overwash area is an area subject to accumulation of sediment, usually sand, that is deposited landward of the beach or dune by the rush of water over the crest of the beach berm, a dune or a structure. An overwash area may, through stabilization and vegetation, become a dune (see Appendix, Figure 1).

(Rest of regulation not reprinted)

AmerGen Response:

This regulation is not applicable to OCGS certification because there are no overwash areas on or near the OCGS site (overwash areas are ocean-front features).

7:7E-3.18 Coastal high hazard areas

(a) Coastal high hazard areas are flood prone areas subject to high velocity waters (V zones) as delineated on the Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency (FEMA), and areas within 25 feet of oceanfront shore protection structures, which are subject to wave run-up and overtopping. (see Appendix, Figure 2 incorporated herein by reference). The Coastal High Hazard Area extends from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The inland limit of the V zone is defined as the V zone boundary line as designated on the FIRM or the inland limit of the primary frontal dune, whichever is most landward.

(Rest of regulation not reprinted)

AmerGen Response:

This regulation is not applicable to OCGS certification because OCGS is not located in a coastal high hazard area (this is applicable to oceanfront locations).

7:7E-3.19 Erosion hazard areas

(a) Erosion hazard areas are shoreline areas that are eroding and/or have a history of erosion, causing them to be highly susceptible to further erosion, and damage from storms.

(Rest of regulation not reprinted)

AmerGen Response:

This regulation is not applicable to OCGS certification because OCGS is not located in a high erosion hazard area (this is applicable to oceanfront locations).

7:7E-3.20 Barrier island corridor

(a) Barrier island corridors are the interior portions of oceanfront barrier islands, spits and peninsulas. Along the New Jersey Coast, headlands are located between Monmouth Beach, Monmouth County and Pt. Pleasant Beach, Ocean County.

(Rest of regulation not reprinted)

AmerGen Response:

This regulation is not applicable to OCGS certification because OCGS is not located on, and does not affect, a barrier island, spit, or peninsula.

7:7E-3.21 Bay islands

(a) Bay islands are islands or filled areas surrounded by tidal waters, wetlands, beaches or dunes, lying between the mainland and barrier island. Such islands may be connected to the mainland or barrier island by elevated or fill supported roads (see Appendix, Figure 3, incorporated herein by reference). Existing lagoon edges (N.J.A.C. 7:7E-3.24) are not bay islands.

(Rest of regulation not reprinted)

AmerGen Response:

This regulation is not applicable to OCGS certification because OCGS is not located on, and does not affect, a bay island.

7:7E-3.22 Beaches

- (a) Beaches are gently sloping areas of sand or other unconsolidated material, found on all tidal shorelines, including ocean, bay and river shorelines (see Appendix, Figure 1), that extend landward from the mean high water line to either:
1. A man-made feature generally parallel to the ocean, inlet, or bay waters such as a retaining structure, seawall, bulkhead, road or boardwalk, except the sandy areas that extend fully under and landward of an elevated boardwalk are considered beach areas; or
 2. The seaward or bayward foot of dunes, whichever is closest to the bay, inlet or ocean waters.

AmerGen Response:

The beaches on the OCGS site are narrow strips of sand at the eastern edge of the Finninger Farm property. Most of the beach is seaward of an old bulkhead that is no longer maintained.

- (b) Development is prohibited on beaches, except for development that has no prudent or feasible alternative in an area other than a beach, and that will not cause significant adverse long-term impacts to the natural functioning of the beach and dune system, either individually or in combination with other existing or proposed structures, land disturbances or activities. Examples of acceptable activities are:
1. Demolition and removal of paving and structures;
 2. Dune creation and related sand fencing and planting of vegetation for dune stabilization, in accordance with N.J.A.C. 7:7E-3A;
 3. The reconstruction of existing amusement and fishing piers and boardwalks;
 4. Temporary recreation structures for public safety such as first aid and lifeguard stations;
 5. Shore protection structures which meet the use conditions of N.J.A.C. 7:7E-7.11(e);
 6. Linear development which meets the Rule on Location of Linear Development (N.J.A.C. 7:7E-6.1);
 7. Beach maintenance activities which do not adversely affect the natural functioning of the beach and dune system, and which do not preclude the development of a stable dune along the back beach area. These activities include routine cleaning, debris removal, mechanical sifting, maintenance of access ways and Department approved dune creation and maintenance activities;
 8. Post-storm beach restoration activities involving the placement of clean fill material on beaches, and the mechanical redistribution of sand along the beach profile from the lower to the upper beach. These post-storm activities, which are different than routine beach maintenance activities, must be carried out in accordance with the standards found at N.J.A.C. 7:7E-3A; and\
 9. The following development in Atlantic City provided it meets the standards of N.J.A.C. 7:7E-3.49:
 - i. Development on or over existing ocean piers;
 - ii. Pilings necessary to support development proposed on or over existing ocean piers; and
 - iii. Development on or over the Boardwalk.

AmerGen Response:

AmerGen has no plans to develop the beach.

- (c) **Public access and barrier free access to beaches and the water's edge is encouraged. Coastal development that unreasonably restricts public access is prohibited.**

AmerGen Response:

AmerGen has committed to providing public open space at the Finninger Farm if the OCGS license is renewed, and would work with the State regarding barrier-free access.

- (d) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-3.23 Filled water's edge

- (a) **Filled water's edge areas are existing filled areas lying between wetlands or water areas, and either the upland limit of fill, or the first paved public road or railroad landward of the adjacent water area, whichever is closer to the water. Some existing or former dredged material disposal sites and excavation fill areas are filled water's edge (see Appendix, Figure 4, incorporated herein by reference).**

AmerGen Response:

AmerGen property includes one area that was obviously developed as a filled water's edge; the OCGS barge mooring facility. It is not known whether other former dredge disposal sites on the property would be classified as filled water's edge.

AmerGen owns approximately 12 acres at the southeast corner of the Highway 9 bridge over Oyster Creek. In 1966, at the time of OCGS construction, this was a disposal area for material from the dredging of Oyster Creek. In accordance with a state permit, the area was diked along the creek right-of-way and approximately 40,000 cubic yards of material was deposited (Ref. A-8, page E4-3 and Figure E4-1). Current aerial photography suggest that approximately 625 feet along Oyster Creek and 265 feet inland were filled, for a total of approximately 4 acres. Approximately 100 feet of sheet piling was installed, centered in the waterfront, to form the barge unloading facility (Ref. A-51).

Other onsite dredged material disposal locations, inactive since OCGS construction, are on the area known as Finninger Farm (Ref. A-8, Response to Question E4, pages E4-1 through E4-7). All consist of material that was placed behind dikes.

- (b) **The "waterfront portion" is defined as a contiguous area at least equal in size to the area within 100 feet of navigable water, measured from the Mean High Water Line (MHWL). This contiguous area must be accessible to a public road and occupy at least 30 percent of its perimeter along the navigable water's edge.**

AmerGen Response:

The OCGS barge mooring facility is accessible to a public road (Highway 9) but public access is currently prevented by a fence.

- (c) **On filled water's edge sites with direct water access (that is, those sites without extensive inter-tidal shallows or wetlands between the upland and navigable water), development shall comply with the following:**

1. **The waterfront portion of the site shall be:**

i. **Developed with a water dependent use, as defined at N.J.A.C. 7:7E-1.8;**

ii. **Developed with an at-grade deck provided:**

(1) **The deck is open to the general public;**

(2) **The use of the deck is water oriented;**

(3) **The deck is not enclosed; and**

- (4) A public walkway is provided around the deck landward of the mean high water line at the water's edge; or
- iii. Left undeveloped for future water dependent uses;
- 2. On the remaining non-waterfront portion of the site, provision of additional area devoted to water dependent or water-oriented uses may be required as a special case at locations which offer a particularly appropriate combination of natural features and opportunity for waterborne commerce and recreational boating; and
- 3. On large filled water's edge sites, of about 10 acres or more upland acres, where water-dependent and water-oriented uses can co-exist with other types of development, a greater mix of land uses may be acceptable or even desirable. In these cases, a reduced waterfront portion, that is, less than that provided by a 100 foot setback, may be acceptable provided that non-water related uses do not adversely affect either access to or use of the waterfront portion of the site.

AmerGen Response:

The OCGS barge mooring facility was developed for a water dependent use, barge delivery of large components during OCGS construction, and AmerGen is maintaining the facility for a water dependent use, possible receipt of barge shipments of large components or barge removal of large components during OCGS decommissioning. In addition, OCGS has allowed Ocean County to use the facility in support of creation of artificial reefs in the nearby Atlantic Ocean.

- (d) On filled water's edge sites without direct access to navigable water, the area to be devoted to water related uses will be determined on a case-by-case basis.

AmerGen Response:

Not applicable because direct access to navigable water is available.

- (e) On filled water's edge sites with an existing or pre-existing water dependent use, that is, one existing at any time since July of 1977, development must comply with the following additional conditions:
 - 1. For sites with an existing or pre-existing marina, development that would reduce the area currently or recently devoted to the marina is acceptable if:
 - i. For every two housing units proposed on the filled water's edge the existing number of boat slips in the marina mooring area (N.J.A.C. 7:7E-3.10) is increased by one and at least 75 percent of the total number of slips (existing and new) remain open to the general public. Removal of upland to create slips is acceptable;
 - ii. Marina services are expanded in capacity and upgraded (that is, modernized) to the maximum extent practicable; and
 - iii. In-water or off site boat storage capability is demonstrated or upland storage is provided to accommodate at least 75 percent of the marina's boats, as determined by maximum slip capacity, 26 feet in length and longer, and 25 percent of the marina's boats less than 26 feet in length.
 - 2. For sites with an existing or pre-existing water dependent use other than a marina, development that would reduce or adversely affect the area currently or recently devoted to the water dependent use is discouraged.

AmerGen Response:

The barge mooring facility was constructed prior to July 1977 for a water dependent use other than a marina. AmerGen maintenance for possible future use would not reduce or adversely affect water dependent uses.

- (f) **In waterfront areas located outside of the CAFRA zone the water dependent use may be a public walkway, provided the upland walkway right-of-way is at least 30 feet wide, unless there are existing onsite physical constraints which cannot be removed or altered to meet this requirement.**

AmerGen Response:

Not applicable because OCGS is located within the CAFRA zone.

- (g) **The development shall comply with the requirements for impervious cover and vegetative cover that apply to the site under N.J.A.C. 7:7E-5 and either N.J.A.C. 7:7E-5A or 5B.**

AmerGen Response:

The barge mooring facility is vegetated and has no impervious cover.

- (h) **Along the Hudson River and in other portions of the Northern Waterfront and Delaware River Region, where water dependent uses are deemed infeasible, some part of the waterfront portion of the site may be acceptable for non-water dependent development under the following conditions:**

1. **The development proposal addresses, as a minimum, past use of the site as well as potential for future water dependent, commercial, transportation, recreation, and compatible maritime support services uses;**
2. **The developed land uses closest to the water's edge are water oriented;**
3. **Currently active maritime port and industrial land uses are preserved;**
4. **Adverse impacts on local residents and neighborhoods are mitigated to the maximum extent practicable; and**
5. **All other coastal rules are met.**

AmerGen Response:

Not applicable because OCGS is not located on the Hudson River, the Northern Waterfront, or Delaware River.

- (i) **On all filled water's edge sites, development must comply with the Public Access to the Waterfront Rule (N.J.A.C. 7:7E-8.11). Public access to the waterfront will not be required at single family or duplex residential lots along the waterfront, which are not part of a larger development.**

AmerGen Response:

See AmerGen Response to NJAC 7:7E-8.11.

- (j) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-3.24 Existing lagoon edges

- (a) Existing lagoon edges are defined as existing man-made land areas resulting from the dredging and filling of wetlands, bay bottom and other estuarine water areas for the purpose of creating waterfront lots along lagoons for residential and commercial development.**
 - 1. Existing Lagoon Edges extend upland to the limit of fill, or the first paved public road or railroad generally parallel to the water area, whichever is less.**
- (b) Development of existing lagoon edges is acceptable provided:**
 - 1. The proposed development is compatible with existing adjacent land and water uses;**
 - 2. Existing retaining structures are adequate to protect the proposed development;**
 - 3. New or reconstructed retaining structures are consistent with the filling rule at N.J.A.C. 7:7E-4.10 and structural shore protection rule N.J.A.C. 7:7E-7.11(e); and**
 - 4. The development complies with the requirements for impervious cover and vegetative cover that apply to the site under N.J.A.C. 7:7E-5 and either N.J.A.C. 7:7E-5A or 5B.**
- (c) See note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because there are no existing lagoon edges on OCGS.

7:7E-3.25 Flood hazard areas

- (a) Flood hazard areas are the floodway and flood fringe area around rivers, creeks and streams as delineated by the Department under the Flood Hazard Area Control Act (N.J.S.A. 58:16A-50 et seq.); and areas defined or delineated as an A or a V zone by the Federal Emergency Management Agency (FEMA). They are areas subject to either tidal or fluvial flooding. Where flood hazard areas have been delineated by both the Department and FEMA, the Department delineations shall be used. Where flood hazard areas have not been delineated by the Department or FEMA, limits of the 100 year floodplain will be established by computation on a case-by-case basis. The seaward boundary shall be the mean high water line (see Appendix 1, Figures 6 and 7, incorporated herein by reference).
1. A complete list of streams for which the Department has delineated the flood hazard area can be found in N.J.A.C. 7:13 (Rules Governing Flood Hazard Areas).
 2. The Federal Emergency Management Agency has delineated the tidal floodplain for all Coastal Zone municipalities.
 3. Where portions of the flood hazard areas meet the definition of another Special Water's Edge type (Filled Water's Edge, Lagoon Edge, Beaches, Dunes, Overwash Areas, Erosion Hazard Areas, Coastal High Hazard Areas, Barrier Island Corridor, Bay Islands, Wetlands, Wetlands Buffer, Coastal Bluffs, and Intermittent Stream Corridors), the Special Water's Edge rules shall apply in terms of location acceptability and the flood hazard areas rule shall apply in terms of setback and flood proofing requirements.

AmerGen Response:

The Department has not delineated flood hazard areas in Lacey or Ocean Townships (Ref. A-52). AmerGen has used department geographic information system data and FEMA Flood Insurance Rate Map (FIRM) data to determine which areas of the OCGS property are within a flood hazard area based on delineation of the 100- and 500-year flood elevations (Ref. A-20). Roughly, the eastern half of the Finninger Farm area and the areas immediately adjacent to the South Branch of the Forked River and Oyster Creek are within the 100-year floodplain and all but the inner-most portion of the remaining Finninger Farm area is within the 500-year floodplain. Small portions of the developed portion of the site west of Highway 9 are also within the 100- and 500-year delineations, although AmerGen notes that these may be based on pre-OCGS-construction topography. The OCGS fire pond, a small reservoir on Oyster Creek, and pumphouse are located within the Oyster Creek 100-year flood plain.

- (b) Dedication of flood hazard areas for purposes of public open space is encouraged.

AmerGen Response:

AmerGen has donated to Lacey Township a portion of the Finninger Farm 500-year floodplain for ballfields. See AmerGen's response to NJAC 7:7E-3.40 for discussion of potential additional open space dedication.

- (c) In an undeveloped portion of a flood hazard area that is within 100 feet of a navigable water body, development is prohibited unless the development is for water dependent use. "Navigable" and "water dependent" are defined at N.J.A.C. 7:7E- 1.8. For the purposes of this subsection and (d) below, an "undeveloped" area is an area that has no impervious cover.

AmerGen Response:

AmerGen has no plans to develop, as a result of license renewal, undeveloped portions of the OCGS flood hazard areas.

- (d) **In a portion of an undeveloped flood hazard area that is 100 feet or farther from a navigable waterway, development is conditionally acceptable provided the development would not prevent potential water-dependent use in any portion of the flood hazard area within 100 feet of a navigable water body.**

AmerGen Response:

Portions of the OCGS flood hazard area (on Finninger Farm) are further than 100 feet from navigable water. However, AmerGen has no plans to further develop these areas as a result of license renewal.

- (e) **Retention and detention basins developed specifically for storm water management purposes are conditionally acceptable provided they are constructed in accordance with the Stormwater Management rule (N.J.A.C. 7:7E-8.7).**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve any development of retention and detention basins for storm water management purposes.

- (f) **Development in areas subject to fluvial flooding must conform with the Flood Hazard Area Control Act and rules adopted thereunder. Development in areas subject to tidal flooding must conform with applicable federal flood hazard reduction standards as found at 44 C.F.R. Part 60 and the Uniform Construction Code, N.J.S.A. 52:27D-1 et seq.**

AmerGen Response:

The OCGS fire pond and pumphouse, barge mooring facility, and boat ramp are located in the area subject to fluvial (i.e., Oyster Creek) flooding. The boat ramp and barge mooring facility are within the area subject to tidal flooding. These developments were constructed and are maintained in accordance with the applicable regulations and standards. AmerGen has no plans, due to license renewal, for additional development in these areas.

- (g) **Development in a flood hazard area shall comply with the requirements for impervious cover and vegetative cover under N.J.A.C. 7:7E-5 and either N.J.A.C. 7:7E-5A or 5B, as applicable.**

AmerGen Response:

The OCGS fire pond and pumphouse, barge mooring facility, and boat ramp are in compliance with NJAC 7:7E-5 and -5B, being vegetated and having no impervious cover other than an access road to the fire pond pumphouse. AmerGen has no plans, due to license renewal, for additional development in these areas.

- (h) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-3.26 Reserved

7:7E-3.27 Wetlands

- (a) **Wetlands or wetland means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.**
1. **Wetlands areas are identified and mapped on the following:**
 - i. **National Wetlands Inventory Maps produced by the U.S. Fish and Wildlife Service at a scale of 1:24,000 (generalized locations only);**
 - ii. **Coastal wetland maps, pursuant to the Wetlands Act of 1970 (N.J.S.A. 13:9A-1 et seq.) prepared by the DEP at a scale of 1:2,400; and**
 - iii. **Freshwater wetland maps prepared by DEP at a scale of 1:12,000 (generalized locations only).**

Note: Maps referenced in (a)1ii and iii above are available from the DEP Map and Publications sales office (609) 777-1038.
 2. **Generalized locations of some wetland types can be found in county soil surveys prepared by the U.S. Department of Agriculture, Soil Conservation Service.**
 3. **The maps referenced under (a)1i, iii, and 2 above shall be useful as an indicator to assist in the preliminary determination of the presence or absence of wetlands only. They have been determined to be unreliable for the purposes of locating the actual wetlands boundary on a specific site.**
 4. **All tidal and inland wetlands, excluding the delineated tidal wetlands defined pursuant to N.J.A.C. 7:7-2.2, shall be identified and delineated in accordance with the USEPA three-parameter approach (that is, hydrology, soils and vegetation) specified under N.J.A.C. 7:7A-1.4 of the Freshwater Wetlands Protection Act Rules.**

AmerGen Response:

Portions of the OCGS site are classified as wetlands.

- (b) **Development in wetlands defined under the Freshwater Wetlands Protection Act of 1987 is prohibited unless the development is found to be acceptable under the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A).**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve any development in wetlands or new impacts to wetlands except for the potential impacts due to disposal of dredged material on a freshwater wetlands that has formed in the dredged material disposal dewatering basin (see response to NJAC 7:7E-7.12).

- (c) **Development of all kinds in all other wetlands not defined in (b) above is prohibited unless the Department can find that the proposed development meets the following four conditions:**
1. **Requires water access or is water oriented as a central purpose of the basic function of the activity (this rule applies only to development proposed on or adjacent to waterways). This means that the use must be water dependent as defined in N.J.A.C. 7:7E-1.8;**
 1. **Requires water access or is water oriented as a central purpose of the basic function of the activity (this rule applies only to development proposed on or adjacent to waterways). This means that the use must be water dependent as defined in N.J.A.C. 7:7E-1.5;**

2. **Has no prudent or feasible alternative on a non-wetland site;**
3. **Will result in minimum feasible alteration or impairment of natural tidal circulation (or natural circulation in the case of non-tidal wetlands); and**
4. **Will result in minimum feasible alteration or impairment of natural contour or the natural vegetation of the wetlands.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve any other development in wetlands or new impacts to wetlands.

- (d) **In particular, dumping solid or liquid wastes and applying or storing certain pesticides on wetlands are prohibited.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve dumping solid or liquid wastes and applying or storing pesticides on wetlands.

- (e) **No action by the Commissioner shall prohibit, restrict or impair the exercise or performance of the powers and duties conferred or imposed by law on the Department of Environmental Protection, the Natural Resource Council and the State Mosquito Control Commission in said Department, the Department of Health, or any mosquito control or other project or activity operating under or authorized by the provisions of chapter 9 of Title 26 of Revised Statutes. This rule does not supersede the authority of the State Mosquito Commission to undertake mosquito control projects authorized by chapter 9 of Title 26 of the Revised Statutes.**

AmerGen Response:

No action required.

- (f) **Development that adversely affects white cedar stands such as water table drawdown, surface and groundwater quality changes and the introduction of non-native plant species is prohibited.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve any new development including development that adversely affects white cedar stands or the introduction of non-native plant species.

- (g) **For projects which require a Waterfront Development permit, the reuse of former dredged material disposal sites for continued dredged material disposal is conditionally acceptable provided the following criteria are met:**

1. **The site has been used for dredged material disposal within the past 10 years;**
2. **The site has existing dikes or berms in sound condition, and/or has sufficient area of previously disposed material within the previously disturbed disposal area to allow the construction of structurally sound dikes and berms;**
3. **There are no anticipated adverse effects on threatened or endangered species;**
4. **There are no colonial nesting birds present on site which would be adversely affected (seasonal restrictions may be required);**

5. No wetlands regulated pursuant to the Wetlands Act of 1970 would be adversely affected;
6. The former dredged material disposal area is not subject to daily tidal inundation, and the vegetation community is limited primarily to scrub/shrub or phragmites; and
7. The required Waterfront Development permit and Water Quality Certification are obtained.

AmerGen Response:

The proposed renewal of the OCGS operating license does not require a Waterfront Development permit.

- (h) If an application to disturb or destroy wetlands meets the standards for permit approval, the Department will require the applicant to mitigate for the loss or degradation of the wetlands in accordance with the following:
1. Mitigation for the loss of wetlands subject to the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq., shall meet the standards of N.J.A.C. 7:7A.
 2. When a permit allows the disturbance or loss of wetlands by filling or other means, this disturbance or loss shall be compensated for as specified under (h)9 below unless the applicant can prove through the use of productivity models or other similar studies, that by restoring or creating a lesser area, there will be replacement of wetlands of equal ecological value. In order to demonstrate equal ecological value, the applicant shall survey and provide written documentation regarding, at a minimum, existing soil, vegetation, water quality functions, flood storage capacity, soil erosion and sediment control functions, and wildlife habitat conditions and detail how the proposed mitigation plan will replace the ecological values of the wetland to be lost or disturbed.
 3. Mitigation shall be performed prior to or concurrent with activities that will permanently disturb wetlands and immediately after activities that will temporarily disturb these habitats. A letter of credit or other financial assurance is required prior to approval of the mitigation proposal by the Department, except if the mitigator is a government agency or entity that is exempt from this requirement under Federal law. The financial assurance requirements are found at N.J.A.C. 7:7E-3B.3.
 4. Where the Department permits a mitigation surface area of less than 2:1, monitoring by the permittee at a frequency determined by the Department to be appropriate on a case-by-case basis shall be required. In such cases, additional mitigation or further remedial action shall be required at a level and within the forms determined to be appropriate on a case-by-case basis by the Department when the Department determines that a net loss of equal ecological value occurs. Under no circumstances shall the mitigation area be smaller than the disturbed area. Creation of wetlands from existing natural resources protected under the applicable Special Area Rules (N.J.A.C. 7:7E-3) is not an acceptable form of mitigation, nor is transfer of title of existing wetlands or intertidal or subtidal shallows to a government agency or conservation organization.
 5. The Department will not consider a mitigation proposal in determining whether a project should be awarded a permit, but will require mitigation as a condition of any permit found to be acceptable under the criteria listed in N.J.A.C. 7:7A-3 and/or N.J.A.C. 7:7E-3.15 and 3.27.
 6. As a condition of every creation or enhancement plan authorized under this subsection, an applicant shall sign a Department approved conservation restriction and register this restriction on the deed for the subject parcel. This conservation restriction will provide that no regulated activities will occur in the created or enhanced wetland area. This conservation restriction shall be approved by the Department and shall run with the land and be binding upon the applicant and the applicant's successors in interest in the premises or any part thereof. The permit will not become effective until the conservation restriction is recorded with the county clerk or Registrar of Deeds and Mortgages, if applicable. Any regulated activities undertaken on the site before a copy of the recorded conservation restriction is submitted to the Department will be considered in violation of these rules.

-
- i. **No future development will be permitted on the mitigation site unless the Department finds that the regulated activity has no practicable alternative which would:**
 - (1) **Not involve a wetland site;**
 - (2) **Involve a wetland but would have a less adverse impact on the aquatic ecosystem;**
 - (3) **Not have other significant adverse environmental consequences, that is, it shall not merely substitute other significant environmental consequences, for those attendant on the original proposal; and**
 - (4) **There is a compelling public need for the activity greater than the need to protect the mitigation site.**
 - ii. **To satisfy (h)6 above, the applicant shall provide a copy of the recorded document or a receipt showing that the conservation restriction has been recorded at the county clerk's office.**
 7. **Except for publicly funded projects, as described at (h)7i below, any mitigation carried out off-site shall be on private property.**
 - i. **Mitigation for publicly funded projects may be carried out on public lands provided that these lands were private lands purchased by a public agency expressly for the purpose of performing mitigation.**
 8. **Future development of the mitigation site is prohibited and as a condition of any permit which includes creation of the mitigation site, the owner shall be required to record a conservation restriction governing that site.**
 9. **The Department distinguishes between four types of mitigation: restoration, creation, enhancement, and contribution. Depending on the circumstances under which wetlands are lost or disturbed, different types of mitigation may be required by the Department. The types of mitigation are explained below, in decreasing order of their desirability:**
 - i. **Restoration refers to actions performed on the site of a regulated activity, within six months of the commencement of the regulated activity, in order to reverse or remedy the effects of the activity on the wetland and to restore the site to preactivity condition.**
 - (1) **Restoration shall be required at a ratio of one acre created to one acre lost or disturbed. If restoration actions are performed more than six months after the commencement of the regulated activity which disturbed the wetland, these actions will no longer be considered restoration, but will be considered creation, and will be governed by the provisions of (h)9ii(3) below.**
 - (2) **If restoration actions are performed on degraded wetlands offsite, these actions will be considered enhancement and will be governed by the provisions of (h)9iii below.**
 - ii. **Creation refers to actions performed to establish wetland characteristics, habitat and functions on:**
 - (1) **A non-wetlands site; or**
 - (2) **A former wetlands site which has been filled or otherwise disturbed such that it no longer retains wetland characteristics. If the site retains wetland characteristics such that it meets the definition of a degraded wetland pursuant to N.J.A.C. 7:7A-1.4, it is not eligible for use in creation. Rather, it is only eligible for enhancement activities pursuant to (h)9iii below. If the disturbance to a formerly wetlands site is the result of a violation of the Freshwater Wetlands Protection Act and/or the Wetlands Act of 1970, the Department may, at its discretion, condition an approval of a mitigation proposal, or a permit, or both, on the resolution of the violation.**
 - (3) **Creation will be required at a ratio of two acres created to one acre lost or disturbed. Under no circumstances shall the mitigation area be smaller than the disturbed area.**
 - (4) **Creation shall not be permitted on a site that retains wetlands characteristics.**
 - iii. **Enhancement refers to actions performed to improve the characteristics, habitat and functions of an existing, degraded wetland such that the enhanced wetland will have resource values and functions**

similar to an undisturbed wetland. The enhancement requirement will be determined on a case-by-case basis.

- iv. Contribution refers to the donation of money or land. The Department will permit the donation of land only after determining that all alternatives to the donation are not practicable or feasible, or that the permanent protection of the land will provide ecological benefits equal to or greater than those resulting from the creation of wetlands. This determination will be made in consultation with the United States Environmental Protection Agency (USEPA) for freshwater wetlands. Monies donated shall be used for the purchase of land to provide areas for wetland losses, to provide areas for restoration of degraded wetlands, and to provide areas to preserve wetlands and transition areas determined to be of critical importance, and the transfer of funds for research to enhance the practice of mitigation. If money is donated, the Department will require an amount equivalent to the lesser of the following costs:
 - (1) Purchasing and enhancing existing degraded wetlands, resulting in preservation of wetlands of equal ecological value to those which are being lost; or
 - (2) Purchase of property and the cost of creation of wetlands of equal ecological value to those which are being lost.
 - v. If the Department determines that land may be donated as part or all of a contribution to mitigate for the destruction of freshwater wetlands, the Wetlands Mitigation Council must first determine that the donated land has the potential to be a valuable component of the wetlands ecosystem.
10. All mitigation projects shall be carried out on-site to the maximum extent practicable. Mitigation of wetlands, on-site or off-site, from other existing climax habitats is not practicable and is discouraged.
- i. If on-site mitigation is found to be impracticable, off-site mitigation shall be considered and implemented within the same watershed or estuary if feasible.
11. All mitigation proposals submitted to the Department shall be prepared in accordance with N.J.A.C. 7:7E-3B.

AmerGen Response:

The proposed renewal of the OCGS operating license will not disturb or destroy wetlands or introduce any new wetlands impacts.

- (i) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-3.27 Wetlands

Wetlands or wetland means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation. Coastal wetlands are wetlands regulated under the Wetlands Act of 1970. The Department has produced promulgated maps delineating the extent of coastal wetlands. Freshwater wetlands are wetlands regulated under the Freshwater Wetlands Protection Act. The State's mapping of these wetlands are not promulgated and are used as a planning tool. The Division will review an application to determine the extent of freshwater wetlands on a site and issue a Letter of Interpretation (LOI) to acknowledge the extent of wetlands and its resource classification.

The portion of the site known as Finnenger's Farm contains both mapped coastal wetlands and freshwater wetlands. The Division is not aware of any proposal by the applicant under the forthcoming federal consistency request to conduct regulated activities within either coastal or freshwater wetlands, other than a possible footpath for public access to the waterfront.

The Division is aware of and would support a wetlands a mitigation/restoration program under a NJPDES-DSW Permit. However, this may be a regulated activity. The Division offers General Permits under the Coastal and Freshwater Wetland Programs for habitat restoration, and recommends the applicant review N.J.A.C. 7:7-7.29 and N.J.A.C. 7:7A-5.15 to ascertain the applicability of these permits to the applicant's potential mitigation/restoration program. Should the applicant not be able to utilize these General permits, the applicant would need to apply for Individual Permits under the Coastal and Freshwater Wetland Programs.

Should the wetland mitigation/restoration occur, the Division suggests the applicant work with New Jersey colleges/universities to determine if they are interested in conducting research at the mitigation/restoration site.

AmerGen Response:

AmerGen will work with the NJDEP in the NJPDES permit venue on supplemental actions.

7:7E-3.28 Wetlands buffers

- (a) **Wetlands buffer or transition area means an area of land adjacent to a wetland which minimizes adverse impacts on the wetlands or serves as an integral component of the wetlands ecosystem (see Appendix, Figure 7). Wider buffers than those noted below may be required to establish conformance with other Coastal Rules, including, but not limited to, 7:7E-3.38 and 3.39.**
1. **A wetlands buffer or transition area of up to 150 feet in width shall be established adjacent to all wetlands defined and regulated under the Freshwater Wetlands Protection Act. (Refer to the Freshwater Wetland Protection Act Rules, N.J.A.C. 7:7A, for further guidance).**
 2. **For all other wetlands, including wetlands regulated under the Coastal Wetlands Act of 1970, a wetlands buffer of up to 300 feet shall be established.**

AmerGen Response:

Required buffer or transition areas for existing wetlands have been established. In addition, AmerGen and the State have had informal discussions about providing public open space at the Finninger Farm, which could provide additional buffer for wetlands included within the public open space.

- (b) **Subject to (a) above, all wetlands buffers (that is, transition area) associated with wetlands subject to the Freshwater Wetlands Protection Act shall be regulated in accordance with the Freshwater Wetlands Protection Act Rules, N.J.A.C. 7:7A.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve any activities or new impacts in a wetlands buffer area.

- (c) **Development is prohibited in a wetlands buffer around all other wetlands, unless it can be demonstrated that the proposed development will not have a significant adverse impact and will cause minimum feasible adverse impact, through the use of mitigation where appropriate on the wetlands, and on the natural ecotone between the wetlands and surrounding upland. The precise geographic extent of the actual wetlands buffer required on a specific site shall be determined on a case-by-case basis using these standards.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve any development or new impacts in a wetlands buffer area.

- (d) **In areas of the coastal zone which are within the Hackensack Meadowlands District, the appropriate buffer width shall be determined in accordance with the requirements set forth in the Hackensack Meadowlands District Zoning Regulations.**

AmerGen Response:

OCGS is not within the Hackensack Meadowlands District.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-3.28 Wetlands buffers

Wetlands buffer or transition area means an area of land adjacent to a wetland which minimizes adverse impacts on the wetlands or serves as an integral component of the wetlands ecosystem (see Appendix, Figure 7). Wider buffers than those noted below may be required to establish conformance with other Coastal Rules, including, but not limited to, 7:7E-3.38 and 3.39.

A wetlands buffer or transition area of up to 150 feet in width shall be established adjacent to all wetlands defined and regulated under the Freshwater Wetlands Protection Act. (Refer to the Freshwater Wetland Protection Act Rules, N.J.A.C. 7:7A, for further guidance). For all other wetlands, including wetlands regulated under the Coastal Wetlands Act of 1970, a wetlands buffer of up to 300 feet shall be established.

The Division is not aware of any proposed activities within a wetlands buffer under than the forthcoming federal consistency request other than the creation of public access to the waterfront and possible restoration/mitigation activity. Regulated activity in a coastal wetlands buffer associated with public access to the waterfront could be approved under a federal consistency request. Regulated activity in a coastal or freshwater wetland for enhancement would be reviewed under their associated general or individual permits referenced above.

AmerGen Response:

Any regulated activity in a coastal wetlands buffer associated with public open space and access to the waterfront should be authorized in connection with NJDEP approval of the plan for providing public access.

7:7E-3.29 and 7:7E-3.30 Reserved

7:7E-3.31 Coastal bluffs

- (a) A coastal bluff is a steep slope (greater than 15 percent) of consolidated (rock) or unconsolidated (sand, gravel) sediment which is adjacent to the shoreline or which is demonstrably associated with shoreline processes.
 - 1. The waterward limit of a coastal bluff is a point 25 feet waterward of the toe of the bluff face, or the mean high water line, whichever is nearest the toe of the bluff.
 - 2. The landward limit of a coastal bluff is the landward limit of the area likely to be eroded within 50 years, or a point 25 feet landward of the crest of the bluff, whichever is farthest inland (see Appendix, Figures 7 and 8, incorporated herein by reference).
 - 3. Steep slopes (N.J.A.C. 7:7E-3.34) are isolated inland areas with slopes greater than 15 percent. All steep slopes associated with shoreline processes or adjacent to the shoreline and associated wetlands, or contributing sediment to the system, will be considered coastal bluffs.
- (b) Development is prohibited on coastal bluffs, except for linear development which meets the rule on the Location of Linear Development (N.J.A.C. 7:7E-6.1), shore protection activities which meet the appropriate Coastal Engineering Use rules (N.J.A.C. 7:7E-7.11), and single family homes and duplexes which are not located along the shorelines of the Atlantic Ocean, Delaware Bay, Raritan Bay or Sandy Hook Bay and comply with N.J.A.C. 7:7E-7.2(e) or (f).
- (c) The stabilization of coastal bluffs with vegetation is encouraged.
- (d) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

The rationale states the following:

Coastal bluffs are most prominent in New Jersey along the Delaware River at Roebling and Florence and along the Raritan Bay at Aberdeen Township and Atlantic Highlands. They have a significant function in storm damage prevention and flood control, by eroding in response to wave action and resisting erosion caused by wind and rain runoff. Bluff erosion is also an important source of beach nourishment where the coastal bluff faces an open water body. Disturbance of coastal bluffs which undermines their natural resistance to wind and rain erosion increases the risk of their collapse and causes cuts in the bluffs. This increases danger to structures at the top of the bluff and reduces the bluff's ability to buffer upland area from coastal storms. Vegetation helps stabilize bluffs and can reduce the rate of erosion caused by wind and rain runoff. A minimum construction setback on stable land is required to protect life and property, and reaffirms the setback requirement of the Erosion Hazard Area rule (N.J.A.C. 7:7E-3.19).

AmerGen concludes that this rule is not applicable to the OCGS certification because there are no coastal bluffs at or in the vicinity of OCGS.

7:7E-3.32 Intermittent stream corridors

- (a) Intermittent stream corridors are areas including and surrounding surface water drainage channels in which there is not a permanent flow of water and which contain an area or areas with a seasonal high water table equal to or less than one foot. The inland extent of these corridors is either the inland limit of soils with a seasonal high water table depth equal to, or less than one foot, or a disturbance of 25 feet measured from the top of the channel banks, whichever is greater (see Appendix, Figures 7 and 9, incorporated herein by reference).**
- 1. Where an intermittent stream corridor is also a wetland, the Wetlands rule (N.J.A.C. 7:7E-3.27) shall apply.**
- (b) Uses that promote undisturbed growth of native vegetation and wildlife habitat value are encouraged.**
- (c) Cutting, filling, damming, detention basins for runoff recharge, paving, structures or any other activities that would directly degrade the function of intermittent stream corridors, except for linear infrastructure for which there is no feasible alternate route, is prohibited.**
- (d) Intermittent streams not subject to the ebb and flow of the tide shall also comply with the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A).**
- (e) Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

The Soil Survey of Ocean County, New Jersey (Ref. A-76) indicates one intermittent stream in the very northwest part of Finninger Farms. License renewal activities will not affect this stream corridor.

7:7E-3.33 Farmland conservation areas

- (a) Farmland conservation areas are defined as any contiguous area of 20 acres or more (in single or multiple tracts of single or multiple ownership) with soils in the Capability Classes I, II and III or special soils for blueberries and cranberries as mapped by the United States Department of Agriculture, Soil Conservation Service, in National Cooperative Soil Surveys, which are actively farmed, or suitable for farming, unless it can be demonstrated by the applicant that new or continued use of the site for farming or farm dependent purposes is not economically feasible. Farming or farm-dependent purposes include nurseries, orchards, vegetable and fruit farming, raising grains and seed crops, silviculture (such as Christmas tree farming), floriculture (including greenhouses), dairying, grazing, livestock raising, and wholesale and retail marketing of crops, plants, animals and other related commodities.
- (b) Farmland conservation areas shall be maintained and protected for open space or farming purposes. Farming or farm-dependent uses are permitted uses in farmland conservation areas. Housing is permitted only if it is an accessory use to farming. Mining is permitted only in accordance with a reclamation plan which meets the requirements of the Mining Use rule (N.J.A.C. 7:7E-7.8).
- (c) Continued, renewed, or new farming is encouraged in farmland conservation areas.
- (d) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

AmerGen property includes the 650-acre Finninger Farm site, once an active beef cattle farm, located east of Highway 9. The United States Department of Agriculture, Natural Resources Conservation Service,⁷ has mapped non-irrigated capability class ratings for Ocean County, New Jersey. None of the Finninger Farm soils are in Capability Classes I, II, or III. The highest-rating soil on the farm is Capability Class IV (Ref. A-57), which the Service characterizes as having severe limitations that restrict the choice of plants, require very careful management, or both. The Service has no data for the area for irrigated capability class ratings or croplands (e.g., special soils for cranberries or blueberries). Based on this information, AmerGen concludes that the Finninger Farm site is not a farmland conservation area.

⁷ Formerly the Soil Conservation Service.

7:7E-3.34 Steep slopes

- (a) **Steep slopes are land areas with slopes greater than 15 percent, which are not adjacent to the shoreline and therefore not coastal bluffs (see N.J.A.C. 7:7E-3.31). Steep slopes include natural swales and ravines, as well as manmade areas, such as those created through mining for sand, gravel, or fill, or road grading. Slopes of less than 15 percent are not considered to be steep slopes.**

AmerGen Response:

The only steep slopes at OCGS are the sides of the intake and discharge canals, which have a 1 to 1.5 slope (33 percent).

- (b) **Development on steep slopes is discouraged where wetlands, wetland buffers, intermittent stream corridors, threatened and endangered species habitats or water areas are located adjacent to or at the base of the slope and on steep slopes which are forested as defined at N.J.A.C. 7:7E-5.5(c).**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve any development on steep slopes.

- (c) **Development on steep slopes other than those listed in (b) above, is conditionally acceptable provided:**

1. **The steep slope is vegetated with native woody vegetation to the maximum extent practicable; and**
2. **Stabilization measures are used, if necessary, such as terracing and paving, that are consistent with the natural or predevelopment character of the entire site, to the maximum extent practicable.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve any development on steep slopes.

- (d) **Rationale: See note in the beginning of this chapter.**

AmerGen Response:

No action required.

7:7E-3.35 Dry borrow pits

- (a) Dry borrow pits are excavations for the purpose of extracting coastal minerals which have not extended below the groundwater level. This includes, but is not limited to, dry sand, gravel and clay pits, and stone quarries.
- (b) Surface mining is conditionally acceptable, provided the mining use rule at N.J.A.C. 7:7E-7.8 is satisfied.
- (c) Channeling clean surface runoff into dry sand and gravel pits for the purposes of aquifer recharge is encouraged. Pavement runoff may be channeled into dry borrow pits provided that it is adequately filtered to remove pavement contaminants.
- (d) Discharge of clean effluent from liquid waste treatment facilities for aquifer recharge is encouraged (e.g., tertiary sewage effluent), provided groundwater quality is monitored and maintained.
- (e) Storing water in impermeable dry borrow pits is conditionally acceptable.
- (f) Dredged material disposal is conditionally acceptable provided that:
 - 1. The dredged material will not degrade groundwater quality;
 - 2. The dredged material is of a particle size that will not disturb groundwater hydrology; and
 - 3. Dredged material disposal is compatible with neighboring uses.
- (g) Solid waste disposal is conditionally acceptable on a case-by-case basis provided that:
 - 1. Waste disposal is compatible with neighboring uses;
 - 2. Elevations of the landfill do not exceed original surface elevations before mining; and
 - 3. The waste disposal complies with the solid and hazardous waste rule at N.J.A.C. 7:7E-8.22.
- (h) Filling or grading for construction is conditionally acceptable provided the fill is clean and of a texture that will not disturb local groundwater flow.
- (i) All proposed uses must reduce all banks to a slope of less than one in three, stabilize them, and prepare them for planting, and initiate native successions.
- (j) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because there are no dry borrow pits at OCGS.

7:7E-3.36 Historic and archaeological resources

- (a) Historic and archaeological resources include objects, structures, shipwrecks, buildings, neighborhoods, districts, and man-made or man-modified features of the landscape and seascape, including historic and prehistoric archaeological sites, which either are on or are eligible for inclusion on the New Jersey or National Register of Historic Places.
- (b) Development that detracts from, encroaches upon, damages, or destroys the value of historic and archaeological resources is discouraged.
- (c) Development that incorporates historic and archaeological resources in sensitive adaptive reuse is encouraged.
- (d) Scientific recording and/or removal of the historic and archaeological resources or other mitigation measures must take place if the proposed development would irreversibly and/or adversely affect historic and archaeological resources. Surveys and reports to identify and evaluate historic and archaeological resources potentially eligible for the New Jersey or National Registers shall be performed by professionals who meet the National Park Service's Professional Qualifications Standards in the applicable discipline. Professional procedures and reports shall meet the applicable Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation and the New Jersey Historic Preservation Office's professional reporting and surveying guidelines, once these guidelines are promulgated as rules, in accordance with the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. A description of the qualifications and performance standards is available at the Historic Preservation Office.
- (e) New development in undeveloped areas near historic and archaeological resources is conditionally acceptable, provided that the design of the proposed development is compatible with the appearance of the historic and archaeological resource. For archaeological resources within the area of the undertaking, avoidance and protection is appropriate. When this is not feasible and prudent, and these resources are of value solely for the information which they contain, archaeological data recovery to mitigate the project impact will be required.
- (f) Recovery of shipwrecks consistent with the protection of historic values and environmental integrity of shipwrecks and their sites may be permitted subject to the conditions listed at (f) 1 through 7 below. The recovery of shipwrecks must also be consistent with the Shipwrecks and artificial reefs rule at N.J.A.C. 7:7E-3.13.
 - 1. The proposed project is in the public interest;
 - 2. The archaeological knowledge gained will outweigh the loss to future archaeological research and to the public of the preserved shipwreck;
 - 3. The applicant has expertise in underwater archaeology as outlined by the Federal Requirements 36 CFR 66, pursuant to the Archaeological and Historic Preservation Act of 1974 (P.L. 93-291), and through the National Environmental Policy Act, the National Historic Preservation Act of 1966, (as amended), the Abandoned Shipwreck Act of 1987, and their respective implementing regulations and guidelines;
 - 4. Artifacts will be recovered in an archaeologically appropriate manner;
 - 5. Recovered artifacts will be analyzed and inventoried, and as appropriate, preserved, restored, and/or made accessible to future researchers;
 - 6. Two copies of a professional archaeological report will be prepared for the Department giving the following information about the shipwreck and its excavation: Historic background, description of environment, salvage methodology, artifact analysis, description of techniques used in preservation of artifacts, base map, narrative and grid map on artifacts recovered, bibliography, photographs, National Register documentation and conclusions; and
 - 7. The entire exploration and salvage effort will be in accordance with the Secretary of the Interior's 1983 Standards and Guidelines for Archaeology and Historic Preservation, and the Department of

the Interior's 1990 Abandoned Shipwreck Act Final Guidelines which are available from the Historic Preservation Office.

- (g) The Department may require the submission of a cultural resource survey report if it is determined that there is a known historic or prehistoric resource in the project area, or a reasonable potential for the presence of such a resource, which may be affected by a proposed development. However, in general, such surveys will not be required for the developments and/or sites listed below:
1. Single family and duplex developments which are not part of a larger development;
 2. Sites which can be documented as being previously disturbed to the extent that any archaeological resources present would have been completely destroyed;
 3. Sites which are located on lands containing fill material, including Psammments soils (PN, PO, PW) or Urban Land Soils (UL, UP), as defined in the appropriate County Soil Survey; and
 4. The replacement of structures and utilities, in-place and in-kind, provided that the area of previous disturbance does not increase.
- (h) The ultimate decision on the requirement for a cultural resource survey will be made by the Department's Land Use Regulation Program, based on information received in response to public comments or information provided by the New Jersey Historic Preservation Office regarding the presence of known historic and prehistoric resources or the potential for their presence.

AmerGen Response:

AmerGen is aware of no historic or archaeological resources at the OCGS site. Given the extent of excavation and filling that occurred in the developed area of the site during construction, it is unlikely that resources would remain in these areas. However, there has been no survey conducted, and a potential exists for resources to be present in undisturbed areas. This is particularly true of the Finninger Farm area. In preparing its application for OCGS license renewal, AmerGen contacted the New Jersey State Historic Preservation Officer (SHPO). The SHPO responded that license renewal would not impact historic and archaeological resources. NRC staff conducted its own investigation and came to a similar conclusion, pointing out that OCGS procedures include reviewing planned ground-disturbing activity for potential impacts to such resources (Ref. A-9, page 4-39).

7:7E-3.37 Specimen trees

- (a) Specimen trees are the largest known individual trees of each species in New Jersey. The Department's Division of Parks and Forestry maintains a list of these trees (see "New Jersey's Biggest Trees", published by the Department's Division of Parks and Forestry, Summer 1991 for a listing of specimen trees). In addition, large trees approaching the diameter of the known largest tree shall be considered specimen trees. Individual trees with a circumference equal to or greater than 85 percent of the circumference of the record tree, as measured 4.5 feet above the ground surface, for a particular species shall be considered a specimen tree.
- (b) Development is prohibited that would significantly reduce the amount of light reaching the crown, alter drainage patterns within the site, adversely affect the quality of water reaching the site, cause erosion or deposition of material in or directly adjacent to the site, or otherwise injure the tree. The site of the tree extends to the outer limit of the buffer area necessary to avoid adverse impacts, or 50 feet from the tree, whichever is greater.
- (c) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because AmerGen is aware of no specimen trees on or near the OCGS site. The Department's publication "New Jersey's Big Trees" lists only one big tree in Ocean County, located in Manahawkin (Ref. A-55, page 19), 8 miles from OCGS.

7:7E-3.38 Endangered or threatened wildlife or plant species habitats

- (a) Endangered or threatened wildlife or plant species habitats are areas known to be inhabited on a seasonal or permanent basis by or to be critical at any stage in the life cycle of any wildlife or plant identified as "endangered" or "threatened" species on official Federal or State lists of endangered or threatened species, or under active consideration for State or Federal listing. The definition of endangered or threatened wildlife or plant species habitats include a sufficient buffer area to ensure continued survival of the population of the species. Absence of such a buffer area does not preclude an area from being endangered or threatened wildlife or plant species habitat.
1. Areas mapped as endangered or threatened wildlife species habitat on the Department's Landscape Maps of Habitat for Endangered, Threatened and Other Priority Wildlife (known hereafter as Landscape Maps) are subject to the requirements of this section unless excluded in accordance with (c)2 below. Buffer areas, which are part of the endangered or threatened wildlife species habitat, may extend beyond the mapped areas. The Department's Landscape Maps, with a listing of the endangered and threatened species within a specific area, are available from the Department's Division of Fish and Wildlife, Endangered and Nongame Species Program at the Division's web address, www.State.nj.us/dep/fgw/ensphome.
 2. Information on the areas mapped as endangered or threatened plant species habitat on the Department's Landscape Maps and the occurrence of endangered or threatened plant species habitat is available from the Department's Office of Natural Lands Management, Natural Heritage Database at PO Box 404, Trenton, New Jersey 08625-0404.
 3. The required endangered or threatened wildlife or plant species habitat buffer area shall be based upon the home range and habitat requirements of the species and the development's anticipated impacts on the species habitat.

AmerGen Response:

OCGS is located on land that New Jersey Landscape Map 64 identifies as providing emergent wetland and forest upland/forest wetland habitat for threatened and endangered species (Ref. A-49). The recently-completed "Threatened and Endangered Species Habitat Impact Assessment for Oyster Creek Generating Station National Security Upgrades" is the most up-to-date source of information on threatened and endangered terrestrial species at the Oyster Creek site (Ref. A-36). This assessment was conducted in 2004 in support of proposed national security upgrades at OCGS, and focuses on the undeveloped part of the site that lies between the facilities on the west and US Route 9 on the east. This threatened and endangered species assessment included a review of New Jersey Department of Environmental Protection Natural Heritage Program records of sensitive species in the project area, a review of the Heritage Program's maps of threatened and endangered species habitat and occurrences, a review of the Heritage Program's Grid Map of rare plants and ecological communities, a review of vernal habitat maps provided by Rutgers University and NJDEP, and field surveys. In addition, a formal request was made to the Natural Heritage Program regarding the possible presence of sensitive species and habitats in the vicinity of the site. The Natural Heritage Program response, dated May 11, 2004, provides the basis for much of the discussion that follows.

Based on a review of the Natural Heritage Database and Landscape Project records, the Natural Heritage Program response reported that the following State-listed animal species occur in the vicinity of the OCGS site: barred owl (*Strix varia*), Cooper's hawk (*Accipiter cooperii*), Northern pine snake (*Pituophis m. melanoleucus*), pine barrens treefrog (*Hyla andersoni*), and wood turtle (*Clemmys insculpta*). Table 2-1 of the License

Renewal Environmental Report (Ref. A-44, page 2-30) provides the State and federal status of each of these species.

In May 2004, AmerGen conducted an on-the-ground reconnaissance of the undeveloped area potentially affected by the security upgrades to ensure that no listed species would be affected by the proposed action. Based on an examination of site conditions (including soils, plant communities, topography, existing barriers to animal movement, possible sources of disturbance), AmerGen concluded that barred owls, Cooper's hawks, Northern pine snakes, and wood turtles were unlikely to occur in the project area. Because potential habitat for the Pine Barrens treefrog was present, they conducted more focused surveys for this species. None were observed and none were detected vocalizing, despite conditions that were ideal (warm, humid nights in June, a peak period for male singing). Treefrogs were heard calling at a control site several miles from OCGS.

Since June 1992, a number of threatened or endangered sea turtles have been impinged on the OCGS intake trash racks. As a result, the NRC has consulted with the National Marine Fisheries Service (NMFS) under Section 7 of the Endangered Species Act regarding the effect of OCGS operations on sea turtle populations. In its most recent biological opinion for OCGS, NMFS concluded that the operation of OCGS may adversely affect individual loggerhead, green, and Kemp's ridley sea turtles but is not likely to jeopardize the species' continued existence (Ref. A-46, cover letter and page 47). The NMFS Biological Opinion includes an Incidental Take Statement (ITS) that exempts the annual take of no more than eight (8) turtles, of which no more than three (3) are expected to be loggerheads (no more than one [1] lethal), and no more than one (1) green sea turtle (no more than one [1] lethal) for the license renewal term of operation of the OCGS. (Ref. A-46)

- (b) **Development of endangered or threatened wildlife or plant species habitat is prohibited unless it can be demonstrated, through an Endangered or Threatened Wildlife or Plant Species Impact Assessment as described at N.J.A.C. 7:7E-3C.2, that endangered or threatened wildlife or plant species habitat would not directly or through secondary impacts on the relevant site or in the surrounding area be adversely affected.**

AmerGen Response:

Renewal of the OCGS operating license does not involve new development of or impacts to endangered or threatened wildlife or plant species habitat. Current operation of OCGS does not adversely affect any listed terrestrial species or its habitat and plant operations are not expected to change significantly during the license renewal term. Therefore, no adverse impacts to threatened or endangered terrestrial species from current or future operations are anticipated.

As noted above three species of sea turtle that are listed as endangered or threatened by both the New Jersey and federal governments (Kemp's ridley sea turtle, green sea turtle and loggerhead sea turtle) have occasionally been impinged on the trash racks at the OCGS circulating water and dilution pump intakes. The NRC consultation with NMFS concerning the proposed renewal of the OCGS operating license is complete.

- (c) **Applicants for development of sites that contain or abut areas mapped as endangered or threatened wildlife species habitat on the Landscape Maps shall either:**

1. **Demonstrate compliance with this rule by conducting an Endangered or Threatened Wildlife Species Impact Assessment in accordance with N.J.A.C. 7:7E-3C.2; or**
2. **Demonstrate that the proposed site is not endangered or threatened wildlife species habitat and this rule does not apply by conducting an Endangered or Threatened Wildlife Species Habitat Evaluation in accordance with N.J.A.C. 7:7E-3C.3.**

AmerGen Response:

As discussed above, the proposed renewal of the OCGS operating license does not involve development of a site that contains or abuts areas mapped as endangered or threatened wildlife species habitat on the Landscape Maps.

- (d) **If the Department becomes aware of an occurrence of an endangered or threatened wildlife species on a site that is not mapped as endangered or threatened wildlife species habitat on the Department's Landscape Maps, and the Department determines that the habitat may be suitable for that species, the Department shall notify the applicant and the applicant shall demonstrate compliance with or inapplicability of this rule in accordance with (c) above.**

AmerGen Response:

No action required because the Department has not notified AmerGen of additional habitat.

- (e) **If the Department becomes aware of an occurrence of an endangered or threatened plant species on a site that is not in the Natural Heritage Database, the Department will notify the applicant and the applicant shall demonstrate compliance with this rule in accordance with (b) above.**

AmerGen Response:

No action required because the Department has not notified AmerGen of additional occurrences.

- (f) **The Department is responsible for the promulgation of the official Endangered and Threatened Wildlife lists pursuant to the Endangered and Non-Game Species Conservation Act, N.J.S.A. 23:2A et seq. These lists include wildlife species that are endangered and threatened in New Jersey as well as wildlife species officially listed as endangered or threatened pursuant to the Endangered Species Act of 1973, 16 U.S.C.1531 et seq. Because the lists are periodically revised by the Department in accordance with N.J.S.A. 23:2A-1 et seq., the lists are not published as part of this rule. The lists are found at N.J.A.C. 7:25-4.13 and 7:25-4.17, the rules adopted pursuant to the Endangered and Non-Game Species Conservation Act. To obtain a copy of the most current Endangered and Threatened Wildlife lists, please contact the Department, Division of Fish and Wildlife, Endangered and Nongame Species Program at the Division's web address, www.State.nj.us/dep/fgw/ensphome, or by writing to the Division at PO Box 400, Trenton, New Jersey 08625-0400.**

AmerGen Response:

AmerGen obtained input from the Department with regard to potential impacts from license renewal. The State Heritage Program provided information about species potentially in the project area and the State Division of Fish and Wildlife confirmed that it had no information not already in the Natural Heritage Program response (Ref. A-44, pages 9-4, C-54, and C-55).

- (g) **The Department is responsible for promulgation of the official Endangered Plant Species List pursuant to N.J.S.A. 13:1B-15. The Endangered Plant Species List, N.J.A.C. 7:5C-5.1, includes plant species determined by the Department to be endangered in the State as well as plant species**

officially listed as endangered or threatened or under active consideration for Federal listing as Endangered or Threatened. Because the Endangered Plant Species List is periodically revised based on new information documented by the Department, it is not published as part of this rule. To obtain the most current Endangered Plant Species List, please contact the Department, Division of Parks and Forestry, Office of Natural Land Management, PO Box 404, Trenton, NJ 08625-0404.

AmerGen Response:

No action required.

- (h) For sites located within the Pinelands National Reserve and the Pinelands Protection Area, the plant species listed in the Pinelands Comprehensive Management Plan (N.J.A.C. 7:50-6.24) are also considered endangered or threatened plant species.

AmerGen Response:

OCGS is within the Pinelands National Reserve, but not the state's Pinelands Protection Area.

- (i) Rationale: See OAL Note at the beginning of this chapter.

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

737E-3.38 Endangered or threatened wildlife or plant species habitats

Endangered or threatened wildlife or plant species habitats are areas known to be inhabited on a seasonal or permanent basis by or to be critical at any stage in the life cycle of any wildlife or plant identified as "endangered" or "threatened species on official Federal or State lists of endangered or threatened species, or under active consideration for State or Federal listing. The definition of endangered or threatened wildlife or plant species habitats include a sufficient buffer area to ensure continued survival of the population of the species. Absence of such a buffer area does not preclude an area from being endangered or threatened wildlife or plant species habitat.

The facility periodically impinges a sea turtle on the federal endangered and threatened species list. Under this Rule, the applicant needs to demonstrate compliance with federal requirements for the taking of these sea turtles.

In addition, there are federal and State endangered and threatened species on or in close proximity to the facility. The Division requests the applicant submit a list and mapping of all properties owned or under the control of Exelon, AmerGen or other subsidiaries in order to provide additional guidance with regard to this Rule.

AmerGen Response:

The responses to 7:7E-3.38(a) and (b) demonstrate compliance with the federal requirements concerning species on the federal endangered and threatened species list, including sea turtles. Exelon, AmerGen, or other subsidiaries do not have a controlling interest in any other properties in New Jersey, other than the OCGS site, including the area east of Route 9 known as Finninger Farm, and 12 acres east of Route 9 and south of the Oyster Creek in Waretown.

7:7E-3.39 Critical wildlife habitats

- (a) **Critical wildlife habitats are specific areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding, and migrating.**
1. **Rookeries for colonial nesting birds, such as herons, egrets, ibis, terns, gulls, and skimmers; stopovers for migratory birds, such as the Cape May Point region; and natural corridors for wildlife movement merit a special management approach through designation as a Special Area.**
 2. **Ecotones, or edges between two types of habitats, are a particularly valuable critical wildlife habitat. Many critical wildlife habitats, such as salt marsh water fowl wintering areas, and muskrat habitats, are singled out as water or water's edge areas.**
 3. **Definitions and maps of critical wildlife habitats are currently available only for colonial waterbird habitat in the 1979 Aerial Colony Nesting Waterbird Survey for New Jersey (NJDEP, Division of Fish and Wildlife). Until additional maps are available, sites will be considered on a case-by-case basis by the Division of Fish Wildlife.**

AmerGen Response:

The OCGS site, due its location in the Pine Barrens ecoregion, is potentially home to many species of wildlife including six terrestrial species that are threatened or endangered (Pine Barrens treefrog, Wood turtle, Barred owl, Indiana bat, Northern pine snake, and Cooper's hawk) (Ref. A-47). The Department's Fish and Wildlife Division's landscape program has mapped habitat (Map Grid #64) for threatened and endangered species on and near the OCGS (Ref. A-49). The map identifies portions of Finninger Farm as emergent wetlands suitable for threatened and endangered species. The map also identifies small portions of the site to the east of the intake and discharge canals as critical habitat for the state-threatened wood turtle. The majority of the wood turtle habitat identified on Map #64 is on property owned by FirstEnergy, which is not owned or under the control of Exelon, AmerGen or other subsidiaries. This adjacent habitat area is separated from the OCGS site by the intake and discharge canals which, due to their steep-sided banks, width and water velocity would act as significant barrier to terrestrial species such as the Wood turtle (Ref. A-36). Also, the Department has identified Vernal Pool Number 1503ocp onsite just north of the discharge canal. The next nearest vernal pool mapped under the Department's vernal pool project has been designated 1504ocp, which is near property owned by First Energy.

AmerGen retained EcolSciences to conduct a threatened and endangered (T&E) species habitat impact assessment of an undeveloped portion of the OCGS site that lies west of US Route 9 (Ref. A-36). EcolSciences found that based on surrounding land use and existing land cover these portions of the OCGS site are not critical habitat for the T&E species with the possible exception of the Pine Barrens treefrog. EcolSciences conducted field surveys for Pine Barren treefrog presence at and surrounding the identified vernal pool. No Pine Barren treefrogs were seen or heard during the survey, but were present at a control site. EcolSciences concluded that no further investigations for T&E species were warranted for the study area. In 2006, AmerGen had EcolSciences survey the balance of the undeveloped site contained within the arc prescribed by the intake and discharge canals and Highway 9. The survey noted that these areas had disturbed habitat atop fill material and were unlikely to contain species of concern (Ref. A-69, pages 15 and 19)

Finninger Farm contains mapped coastal and freshwater wetlands. However, the proposed activities under a renewed license do not involve disturbance of these wetlands, allowing them to continue to serve as habitat for a variety of species. OCGS use of an area on Finninger Farm for dredged material disposal has resulted in the formation of an unmapped wetland. Prior to disposal of 1997 dredged materials, OCGS had to obtain a special permit from the NJDEP due to the impact on this wetland. Such a permit is likely to be required for future dredging projects.

Although not critical habitat in the strictest sense, there are areas designated Essential Fish Habitat (EFH) in Barnegat Bay. Areas designated EFH by the National Marine Fisheries Service contain habitat that is "essential to the long-term survival and health of our nation's fisheries." (Ref. A-70). EFH includes those habitats that support important or sensitive life stages of each species managed by the eight regional fishery management councils and NMFS. A single species may use many different habitats throughout its life to support breeding, spawning, nursery, feeding, and protection functions, all of which could be identified as EFH.

The regional fishery management councils worked with NMFS to describe and identify EFH. Any Federal Agency that takes an action that could adversely affect EFH by reducing the quantity or quality of habitat must work with NOAA Fisheries to identify impacts. NMFS must then provide recommendations for conserving the habitat and reducing the impact of that action.

The Mid-Atlantic Fishery Management Council (MAFMC) is one of eight regional fishery management councils created by the 1976 Magnuson-Stevens Fisheries Conservation and Management Act to manage marine resources within their respective areas. The MAFMC is responsible for the creation of fishery management plans (FMPs) in Federal waters off New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina (Ref. A-71). FMPs have been established for Atlantic bluefish, Atlantic surfclam and ocean quahog, Atlantic mackerel, squid and butterfish; summer flounder, scup and black seabass; spiny dogfish; and tilefish. Most of these species have designated EFH in Barnegat Bay; squid, Atlantic surfclam and ocean quahog, tilefish, and spiny dogfish do not. Some of the fish species have designated EFH for only one life stage, such as larvae, and some have designated EFH for all life stages (eggs, larvae, juvenile, adult, spawning adult). For example, Barnegat Bay provides EFH for only juvenile scup, but provides EFH for all life stages of winter flounder. Ref A-72 provides a summary of EFH designations for Barnegat Bay.

Normal operation over the license renewal period is not expected to affect these species' EFH. Activities associated with license renewal and on-going operation that could, in theory, affect EFH, would include major dredging projects that extend into the interior of Barnegat Bay. Any major dredging project would be subject to agency review and agency oversight. AmerGen has waste minimization programs in place to control the amount of hazardous chemicals transported, stored, and used on site and a Spill Prevention Controls and Countermeasures Plan in place to respond to plant upsets and chemical spills, ensuring that any accidental spill would be quickly contained and any impacts resulting from such a spill would be mitigated.

- (b) **Development that would directly or through secondary impacts on the relevant site or in the surrounding region adversely affect critical wildlife habitats is discouraged, unless:**

1. **Minimal feasible interference with the habitat can be demonstrated;**
2. **There is no prudent or feasible alternative location for the development; and**
3. **The proposal includes appropriate mitigation measures.**

AmerGen Response:

As discussed above, the developed portions of the site as well as adjacent undeveloped portions of the site are not suitable habitat for T&E species or, in the case of the Pine Barrens treefrog, the suitable habitat does not contain the T&E species. Furthermore, continued operation of OCGS does not involve activities to disturb the Finninger Farm portion of the site except for the dredged material disposal basin nor new construction in the disturbed portions of the site to the west of US Route 9 as a result of license renewal. Also, the renewal application does not propose a change in current operations, so any T&E species that may be inhabiting property nearby would continue when considering OCGS operations only (i.e., without regard to other factors such as population increases and non-point source pollution beyond the control of OCGS).

- (c) **The Department will review proposals on a case-by-case basis.**

AmerGen Response:

No action required. The Department is reviewing this certification and AmerGen is not proposing, as a result of license renewal, additional development.

- (d) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7;7E-3.39 Critical wildlife habitats

Critical wildlife habitats are specific areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding, and migrating.

There appears to be Critical wildlife habitats on or within close proximity of the facility. The Division requests the applicant submit a list and mapping of all properties owned or under the control of Exelon, AmerGen or other subsidiaries in order to provide additional guidance with regard to this Rule.

AmerGen Response:

Exelon, AmerGen, or other subsidiaries do not have a controlling interest in any other properties in New Jersey other than the OCGS site, including the area east of Route 9 known as Finninger Farm, and 12 acres east of Route 9 and south of the Oyster Creek in Waretown. See discussion above regarding the critical wildlife habitats on or within close proximity of OCGS.

7:7E-3.40 Public open space

- (a) **Public open space constitutes land areas owned or maintained by State, Federal, county and municipal agencies or private groups (such as conservation organizations and homeowner's associations) and used for or dedicated to conservation of natural resources, public recreation, visual or physical public access or, wildlife protection or management. Public open space also includes, but is not limited to, State Forests, State Parks, and State Fish and Wildlife Management Areas, lands held by the New Jersey Natural Lands Trust (N.J.S.A. 13:1B-15.119 et seq.), lands held by the New Jersey Water Supply Authority (N.J.S.A. 58:1B-1 et seq.) and designated Natural Areas (N.J.S.A. 13:1B-15.12a et seq.) within DEP-owned and managed lands.**

AmerGen Response:

The Edwin B. Forsythe National Wildlife Refuge contains 6,000 acres in units all along Barnegat Bay; two are within 5 miles of OCGS, one of which the state recently sold to the U. S. Fish and Wildlife Service (Ref. A-23).

There are two state parks across the Bay from OCGS, Island Beach State Park and Barnegat Lighthouse State Park. The state has more than 100,000 acres of public open space in Ocean County. This includes the 3,900-acre Forked River Mountain Preserve located across the Garden State Parkway and held by the New Jersey Fish, Game, and Wildlife Division and the 120-acre Sands Point Harbor Preserve held by the New Jersey Natural Lands Trust (Ref. A-48). Sands Point Harbor Preserve fronts on Oyster Creek, opposite OCGS property known as Finninger Farm, and on Barnegat Bay (Ref. A-49).

Lacey Township and Ocean Township each have two holdings listed in the NJDEP Recreation and Open Space Inventory. Lacey Township includes the Forked River Mountain Addition and Miller Air Park. Ocean Township has Wells Mills Park and Barnegat Bay Waterfront. OCGS has donated a portion of its Finninger Farm property to Lacey Township for ballfields, an area now known as Clune Park (Ref. A-50). Finally, primarily due to the influence of the Pinelands Commission or CAFRA, just 12 square miles of Lacey Township's entire land area have been developed (Ref. A-24) out of a total of 84 square miles (Ref. A-56).

- (b) **New or expanded public or private open space development is encouraged at locations compatible or supportive of adjacent and surrounding land uses.**

AmerGen Response:

AmerGen and the State have had informal discussions about providing public open space with access to Oyster Creek for fishing, crabbing, birding, and nature walks. AmerGen has committed to providing public open space at the Finninger Farm if the OCGS license is renewed.

- (c) **Development that adversely affects existing public open space is discouraged.**

AmerGen Response:

The proposed renewal of the OCGS operating license will not adversely affect existing public open space.

- (d) Development within existing public open space is conditionally acceptable, provided that the development is consistent with the character and purpose of public open space, as described by the park master plan when such a plan exists.**

AmerGen Response:

Not applicable because OCGS is not located within existing open space, although AmerGen has donated a portion of the site to Lacey Township for open space purposes.

- (e) Development in Atlantic City is acceptable within existing public open space provided the public open space is a street right-of-way or the Boardwalk and the development meets the standards of N.J.A.C. 7:7E-3.49(e) through (j).**

AmerGen Response:

Not applicable because OCGS is not located in Atlantic City.

- (f) Provision of barrier free access to public open space is encouraged.**

AmerGen Response:

AmerGen would work with the state regarding barrier-free access at Finninger Farm.

- (g) All new development adjacent to public open space will be required to provide an adequate buffer area and to comply with the Buffers and Compatibility of Uses rule (N.J.A.C. 7:7E-8.13). The buffer required will be dependent upon adjacent land uses and potential conflicts between users of public open space and the proposed adjacent land use.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve new development adjacent to public open space.

- (h) Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-3.41 Special hazards area

- (a) **Special hazard areas include areas with a known actual or potential hazard to public health, safety, and welfare, or to public or private property, such as the navigable air space around airports and seaplane landing areas, potential evacuation zones and areas where hazardous substances as defined at N.J.S.A. 58:10-23.11b-k are used or disposed, including adjacent areas and areas of hazardous material contamination.**

AmerGen Response:

OCGS uses hazardous substances as defined by NJSA 58:10-23.11b-k, including substances that are corrosive, ignitable, flammable or radioactive. In accordance with NRC requirements, potential evacuation zones encompassing the OCGS site and the surrounding area out to 10 miles from the OCGS are identified in the OCGS Emergency Plan. There is no other potential hazard that would cause the OCGS site to be considered a special hazard area.

- (b) **Coastal development, especially residential and labor-intensive economic development, within special hazard areas is discouraged. All development within special hazard areas must include appropriate mitigating measures to protect the public health and safety.**

AmerGen Response:

NRC regulations designate appropriate mitigating measures to protect the public health and safety, including both measures to protect members of the public from hazards associated with OCGS and measures to protect OCGS and its plant staff from hazards at OCGS that originate offsite.

- (c) **Approvals from the Department's Division of Solid and Hazardous Waste shall be obtained prior to the commencement of any hazardous substance investigations or cleanup activities at contaminated sites.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve hazardous substance investigations or cleanup activities at contaminated sites.

- (d) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-3.41 Special hazard areas

Special hazard areas include areas with a known actual or potential hazard to public health, safety, and welfare, or to public or private property, such as the navigable air space around airports and seaplane landing areas, potential evacuation zones and areas where hazardous substances as defined at N.J.S.A. 58:10-23.11b-k are used or disposed, including adjacent areas and areas of hazardous material contamination. Coastal development, especially residential and labor-intensive economic development, within special hazard areas is discouraged. All development within special hazard areas must include appropriate mitigating measures to protect the public health and safety.

Please provide details on the applicant's participation in the radiological emergency response plan, including its degree of cooperation with the New Jersey State Police and the Department's Bureau of Nuclear Engineering.

AmerGen Response:

OCGS Emergency Response Plan is designed to assure effective coordination with State and local government officials, including the state police and BNE. The plan has been reviewed by the Nuclear Regulatory Commission (NRC) and its effectiveness is tested during periodic drills and planned exercises. The OCGS Emergency Response Organization works closely with State and local officials to assure that there is a well-coordinated response to any emergency. OCGS is responsible for promptly notifying State and local officials of the occurrence of an emergency. State and local officials are then responsible for notifying the public.

AmerGen coordinates with the state police and BNE on annual emergency management training. AmerGen also coordinates with municipal, county, and other local governments on emergency worker training, health protection, decontamination training, and reception center training. Approximately 3,000 persons participate in this effort annually.

Furthermore, the NJ Legislature determined that the citizens of the State of New Jersey were entitled to the maximum protection possible from any and all threats to their health and welfare which may result from a radiation accident at a nuclear facility. They determined that the emergency response capabilities that were existing prior to the adoption of the Radiation Response Act, were dispersed among various State and local agencies and private organizations and were limited in geographic scope. In addition, they concluded that the dangers posed by these accidents can best be minimized by the development and implementation of a comprehensive and coherent response plan to coordinate and guide all necessary and appropriate resources and personnel into a unified course of action.

The New Jersey Department of Environmental Protection (Department) and the New Jersey Division of State Police in the Department of Law and Public Safety (Division), after consultation with the Departments of Health, Energy, and Transportation and after careful review of all relevant guidelines established by the Federal Emergency Management Agency, jointly prepared and adopted a State Radiation Emergency Response Plan. The plan is based upon planning criteria, objectives, requirements, responsibilities, and concepts of operation for the implementation of all necessary and appropriate protective or remedial measures to be taken with respect to a radiation accident, or threatened radiation accident, at a nuclear facility, including but not limited to the designation of all counties and municipalities which shall prepare radiation emergency response plans, the establishment and implementation of appropriate training programs for all personnel who may be involved in any aspect of radiation emergency planning and response, the establishment of emergency operations headquarters proximate to the site of each nuclear facility from which emergency response operations can be coordinated efficiently and effectively, the development and installation of a mechanism to monitor all temporary circumstances or conditions such as road repairs, utility activities, and floods, which may impede or preclude implementation of the emergency response plan and apprise all relevant emergency response personnel thereof, the preparation and updating of an inventory of temporary housing facilities

which may be required in the event of a radiation accident, the development and administration of a communications system to efficiently and effectively discharge all responsibilities and duties in the event of a radiation accident, the preparation of a public emergency response plan for residents of the affected area, the establishment of procedures and practices to review and monitor potential threats from nuclear facilities in neighboring states and to coordinate emergency response plans with any such plans established for such out-of-State-facilities, and a public emergency notification and public information and educational program to furnish all citizens who may be affected with information as they may require to act safely and prudently. The plan is revised and updated at least bi-annually. The criteria, objectives, requirements, concepts of operation, and designations are published by the Department and Division.

Every municipality in each county wherein is located one or more nuclear facilities or which is designated as an affected municipality, prepares and submits to the county where it is located, a local radiation emergency response plan. These local radiation emergency response plans are submitted through the county for approval by the Division and the Department. The local plans are reviewed and revised at least once every 18 months, subject to county approval.

Every county where one or more nuclear facilities is located or which is designated as an affected county, prepares and submits to the Department and the Division a county radiation emergency response plan which coordinates and supplements and, if necessary, replaces radiation emergency response plans of municipalities within its jurisdiction. The county emergency response plan is, after initial approval, updated at least every 18 months.

The New Jersey Department of Health is required to:

- a. Complete and update annually a study of the public health aspects of nuclear emergency response planning, which study shall include, but not necessarily be limited to, an evaluation of existing medical facilities and personnel to determine the State's present capacity to respond to any radiation threat to public health; an evaluation of the evacuation plans of hospitals and other health care facilities and alternate sources of care for patients; and an inventory of the standby plans, capacity, and distribution of all prophylactic or preventive supplies and equipment deemed medically advisable for use, as well as an evaluation of the feasibility and desirability of the State purchase and distribution of potassium iodide in order to minimize the adverse effects of the radiation accident. The results of the study, and any recommendations, shall be submitted to the Department and the Division for their use in preparing the plan and relevant portions of such study shall be submitted by the Department to the municipalities charged with developing local emergency response plans to assist them in the preparation of such plans;
- b. Establish standards and criteria to identify those persons at greatest health risk in the event of radiation exposure so that they may be afforded maximum protection;
- c. Develop a plan for medical services to evacuees en route and at the sites of temporary shelter, and submit such plan to the department and the division for incorporation into the plan;
- d. Develop and implement appropriate training programs for emergency medical personnel, health facility managers, and health officers; and

-
- e. Develop and implement, in cooperation with the division and the department, public educational programs concerning the effects and hazards of radiation.

The New Jersey Department of Transportation is required to:

- a. Complete a study evaluating all means of transportation serving affected counties and municipalities and, in conjunction with the Department of Health, develop an inventory of emergency transport vehicles. Such study shall be submitted to the Department and the Division, and relevant portions thereof shall be submitted by the Department to municipalities charged with developing local emergency response plans; and
- b. Prepare and submit to the Department and the Division for inclusion in the plan, and annually update, a radiation emergency transportation plan, which plan shall include, but not be limited to, the designation, construction, and maintenance of primary and secondary routes to be used by radiation emergency response personnel and the general public in the event of a radiation accident or threatened radiation accident, and the development of traffic management procedures sufficient to assure rapid access to and from any affected county or municipality.

The New Jersey Department of Energy is required to:

- a. Complete a study and evaluation of all existing emergency energy supplies available to the State and accessible to affected counties and municipalities in the event of a radiation accident or threatened radiation accident, and submit such study to the Department and the Division, and relevant portions shall be submitted by the Department thereof to municipalities charged with developing local emergency response plans for their use in preparing emergency response plans; and
- b. Develop and submit to the Department and the Division, for inclusion in the plan, and update annually, an emergency energy supply plan to assure that any area affected by a radiation accident or threatened radiation accident, will have access to sufficient energy supplies to implement any emergency response plans or procedures.

In order to defray the expenses of local, county and State agencies in discharging their responsibilities under this act, including those costs associated with the development, testing and updating of the Emergency Radiation Response Plans and for the acquisition and maintenance of any equipment necessary to carry out their responsibilities, the State Treasurer annually makes an assessment against Oyster Creek. In 2005, AmerGen paid New Jersey approximately \$2 million.

The Department's Bureau of Nuclear Engineering (BNE) has provided the following items as issues that need to be resolved. Please provide a response of the applicant's willingness to comply with the BNE's requests.

Issue 1: Testing of Security and Emergency Plans

Nuclear emergency preparedness and response is a critically important issue, especially in light of September 11, 2001. It is essential that nuclear power plant owners' procedures for security response are integrated into the plans of State and local officials for response to security events involving a potential release of radioactivity from the site. Additionally, this interface should be exercised. For public assurance, the Department requires that a security exercise be conducted prior to the decision on the federal consistency determination.

AmerGen Response:

The OCGS plant emergency preparedness (EP) programs, like those of other nuclear power plants, are designed to address a wide range of event scenarios. After the terrorist attacks of September 11, 2001, the Nuclear Regulatory Commission (NRC) evaluated the EP planning basis to ensure it continued to protect the public health and safety in the current threat environment. In 2002, the NRC issued orders requiring compensatory measures for nuclear security and EP. The NRC staff has reviewed all of the responses to the 2002 orders. The NRC staff has observed nuclear plant operator performance during security-event-based EP drills and exercises and security force-on-force exercises, including Oyster Creek. The NRC staff has discussed security-related EP issues with Federal, State, and local government officials and with nuclear plant operators. The NRC staff determined that the EP planning basis continues to protect the health and safety; however, the NRC staff determined that enhancements should be made to increase the assurance of effective plan implementation during security-related events. Examples of such enhancements include more timely NRC notification, improvement to onsite protective actions and revision of emergency action levels to identify security-related emergencies more succinctly.

The NRC staff issued NRC Bulletin 2005-02 on July 18, 2005, to obtain information from nuclear plant operators, including AmerGen, on progress in implementing security-event-related EP program enhancements. The NRC staff's evaluation of nuclear plant operator responses to the bulletin, including Oyster Creek, indicates that all licensees are considering or have implemented enhancements to their programs. The Nuclear Energy Institute (NEI) developed guidance to clarify the various options available to nuclear plant operators to implement these enhancements, and requested NRC endorsement in a letter dated November 22, 2005.

The NRC staff endorsed the NEI guidance entitled "Enhancements to Emergency Preparedness Programs Hostile Action:" (Rev. A-74). The NEI guidance clarifies issues, enhances emergency action levels and provides implementation methods in support of Bulletin 2005-02. The NEI guidance remains consistent with the intent of the bulletin and the NRC has determined that it is appropriate for nuclear plant operator use.

The NRC staff recognizes the need for U.S. Department of Homeland Security involvement in drill and exercise program enhancements to ensure that plan changes are coordinated with offsite response organizations. Although NEI guidance provides an acceptable method for implementing enhancements, nuclear plant operators may select other methods. If nuclear plant operators adopt changes as written in the NEI guidance and Bulletin 2005-02, the NRC staff believes that those changes, on their own, would probably not pose a decrease in effectiveness and could be adopted under Title 10 of the Code of Federal Regulations (10 CFR) Section 50.54(q) without prior NRC approval. However, nuclear plant operators have the responsibility to ensure that changes do not decrease the effectiveness of the emergency plans and that the plans, as changed, continue to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50. Other methods for implementing the enhancements may also be acceptable, but should be evaluated by nuclear plant operators to ensure they do not decrease effectiveness. Proposed changes that decrease the effectiveness of the

approved emergency plans may not be implemented without application to, and approval by the NRC.

The likelihood for a security-based event at a nuclear power plant, such as Oyster Creek, that causes damage to safety related equipment is low. However, emergency response organizations (ERO) should be prepared to respond if such damage occurs. Assessments indicate that nuclear plant operator measures are available to limit or mitigate the effects of security-based events. Consequently, such events would not create an accident that causes a larger release or one that occurs more quickly than the accidents already addressed by the emergency preparedness planning basis. However, security-based events pose aspects that are different from the usual conditions traditionally practiced in EP drill and exercise programs. The ERO is the primary organization trained to effectively mitigate damage caused by a hostile action event. As such, the NRC believes that the ERO should practice response to security-based events.

The NEI Emergency Preparedness and Security Working Group worked with the NRC staff to establish guidelines for integration and demonstration of emergency responses to security events, including preparation and conduct of integrated drills exercising Emergency Response Organizations', Operation's, and Security's response to a range of security events. The NEI task force's target date for developing draft guidelines was the first quarter, 2005, followed by four industry tabletop drills and two pilot drill demonstrations within 9-12 months. Lessons learned from these drills will be used to improve guidelines for industry use, and for internal site reviews, training, and future drills. Over the following 3 years starting in November 2005, it is expected that each site will initiate an integrated drill during the off year. The long-term expectations are that each site, including Oyster Creek, will demonstrate an emergency response to security event one time during the 6-year biennial exercise cycle.

Project Timeline

Phase 1 – Develop Materials and Conduct Pilot Tabletops

- Initial draft guidance documents 2/16/05 (completed)
- EP Security Event Drill task force meeting 3/15/05 (completed)
- NEI task force pre-meeting 3/30/05 (completed)
- Presentation to NRC/FEMA 3/31/05 (completed)
- National FEMA Presentation 4/13/05 (completed)
- National Security Conference 6/06/05 (completed)
- NEI EP Forum Presentation 6/14/05 (completed)
- Conduct 4 site tabletops (one in each NRC region) 6/05-3/06

Phase 2 – Test Baseline Drills

- Revise guideline based on Phase 1 results 1/06 (completed)
- Conduct 2 site drills 3/06-5/06 (completed)

Phase 3 – Conduct Baseline Drills (industry wide)

- Finalize guideline based on Phase 2 results 5/06 (completed)
- NRC endorsement 5/06 (completed)
- Joint industry / NRC Workshop 6/06 (completed)
- Utilities conduct baseline Security Event Drills July '06 – December '08

Phase 4 – Implement Security Event as Evaluated Exercises

As can be shown above, the industry and the NRC are working to insure that the procedures for security-event based response are integrated in the emergency response plans at the individual operating units. This process is on-going. NJ BNE has been made aware of the schedule for this implementation. Once the site-specific plans and procedures have been issued by the NRC for Oyster Creek, AmerGen will implement them as required by the NRC. AmerGen will endeavor to keep NJ BNE aware of the status of the regulations as this effort progresses.

Issue 2: Ground Water Surveillance and Reporting

The identification and subsequent remediation of radioactive liquids in groundwater has been initiated by Exelon in response to leaks at other operating nuclear power plants in their fleet. The NRC has assembled a group of experts to examine the issue of inadvertent, unmonitored releases of radioactive liquids from commercial nuclear power plants. These are positive initiatives. In support of these initiatives, the Department requires Exelon to split all on-site ground water samples with the DEP as part of a routine monitoring program. The DEP will perform analyses for radioactive constituents in a subset of these ground water samples. Additionally, Exelon must report all on-site measurements as part of the site's radiological environmental monitoring program (REMP).

AmerGen Response:

The NRC has exclusive authority to regulate the discharge of radioactive materials at OCGS. AmerGen will work with NJDEP to split samples and include the analytical results of groundwater monitoring for tritium and gamma-emitters in an attachment to the annual REMP reports.

Issue 3 : Financial Responsibility for Cleanup from Decommissioning

The Department is concerned about adequate funding for the eventual decontamination and decommissioning of the Oyster Creek facility. While a decommissioning trust fund has been set up, this covers only radioactivity generated by the operation of Oyster Creek to clean the site to NRC's acceptable levels. It would not cover any chemical contamination or radioactive contamination that was below NRC standards. The Department requires Exelon to commit to full financial responsibility and reimbursement for cleanup costs at and beyond the plant site, to New Jersey clean up standards (both radiological and chemical), when decommissioning occurs.

AmerGen Response:

NRC regulations require nuclear plants to meet license termination requirements as specified in 10 CFR Part 20, Subpart E, "Radiological Criteria for License Termination." The license termination radiation dose limit specified by this regulation is 25 mrem/yr from all pathways. In contrast, the State of New Jersey has issued New Jersey Administrative Code Title 7, Chapter 28, Subchapter 12 (N.J.A.C. 7:28-12), "Soil Remediation Standards for Radioactive Materials," which specifies a 15 mrem/yr from all

pathways dose standard. The NJDEP, in its N.J.A.C. 7:28-12 rulemaking, noted, "it is impossible to determine if the NRC standards are more or less stringent than the proposed standards." The NJDEP points to NRC's final rule, which "requires measures to be taken to reduce dose to below 25 mrem/yr by applying the concept that doses should be as low as reasonably achievable (ALARA)." As a result, the NJDEP concludes, and AmerGen agrees, that:

An examination of the methodology used by NRC to determine compliance with the ALARA limit shows that it is reasonable to assume that the 15 mrem/yr dose standard would be achieved. The uncertainties due to modeling assumptions and measurement of radioactivity as described below would cause the party responsible for remediating a site to perform clean-up activities in a manner such that 15 mrem and 25 mrem with ALARA are virtually interchangeable.

AmerGen is satisfied that the current decommissioning funding profile, which contemplates a 25 mrem/yr plus ALARA decommissioning standard, will meet NJDEP's soil remediation standards rule.

Regarding hazardous waste at Oyster Creek, the NRC has no jurisdiction. However, the Oyster Creek site is an industrial site subject to New Jersey Administrative Code, Title 7, Chapter 26B (N.J.A.C. 7:26B), "Industrial Site Recovery Act Rules" (also known as "ISRA"). As such, AmerGen is aware, and has addressed the possibility, that some hazardous waste may remain at the end of operations which will have to be remediated during the plant decommissioning process. Included in the decommissioning cost estimate for Oyster Creek, to which decommissioning funding is matched, are specific line items for liquid and PCB-contaminated soil and Resource Conservation and Recovery Act hazardous waste. Based upon AmerGen's current information regarding the existence of these materials on site, sufficient funds are allocated for 2,019 cubic feet of liquid, and 27,000 cubic feet of contaminated soil disposal. Unless these amounts change in future cost estimate updates, AmerGen is satisfied that ISRA rules can be met with the current decommissioning funding and plans.

7:7E-3.42 Excluded Federal lands

- (a) Excluded Federal lands are those lands, the use of which is, by law, subject solely to the discretion of or held in trust by the Federal Government, its officers or agents. These lands are excluded from the coastal zone as required by Section 304 of the Federal Coastal Zone Management Act.**
- 1. The list of excluded Federal lands is found in the New Jersey Coastal Management Program, Final Environmental Impact Statement, August 1980, page 370.**
- (b) Federal actions on excluded Federal lands that affect any land or water use, or natural resource of the coastal zone shall be consistent with the Coastal Zone Management rules to the maximum extent practicable. The effects on the land or water use or natural resource maybe direct, indirect, cumulative, secondary or reasonably foreseeable effects.**
- (c) Rationale: See note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because there are no excluded federal lands at OCGS.

7:7E-3.43 Special urban areas

- (a) Special urban areas are those municipalities defined in urban aid legislation (N.J.S.A. 52:27D-178) qualified to receive State aid to enable them to maintain and upgrade municipal services and offset local property taxes. Under N.J.S.A. 52:27D-178 t seq., the Department of Community Affairs (DCA) establishes a list of qualifying municipalities each fiscal year. DCA's list of qualifying municipalities may be obtained on request from the Department's Land Use Regulation Program, PO Box 439, Trenton, New Jersey 08625-0439, (609) 292-0060.
- (b) Development that will help to restore the economic and social viability of special urban areas is encouraged. Development that would adversely affect the economic well being of these areas is discouraged, when an alternative which is more beneficial to the special urban areas is feasible. Development that would be of economic and social benefit and that serves the needs of local residents and neighborhoods is encouraged.
- (c) Housing, hotels, motels and mixed use development, which is consistent with the Public Access to the Waterfront rule (N.J.A.C. 7:7E-8.11) and the Hudson River Waterfront Area rule (N.J.A.C. 7:7E-3.48) where applicable, including those provisions relating to fishing access as appropriate are acceptable only over large rivers where water dependent uses are demonstrated to be infeasible. These uses are conditionally acceptable on structurally sound existing pilings, or where at least one of the following criteria is met:
 - 1. Where piers have been removed as part of the harbor clean up program, the equivalent pier area may be replaced in either the same or other nearby location;
 - 2. Where structurally sound existing pilings have been reconfigured, provided that the total area of water coverage is not increased and that fisheries resources are not adversely impacted; or
 - 3. Where expansion of the existing total area water coverage has occurred, provided that it can be shown that extensions are functionally necessary for water dependent uses. For example, additional piers and pilings would be conditionally acceptable for a marina which is a water dependent use.
- (d) Housing, hotels, motels and mixed use development are acceptable in filled water's edge areas, provided that development is consistent with the filled water's edge rule at N.J.A.C. 7:7E-3.23 and public access is provided for, as required by the public access to the waterfront rule at N.J.A.C. 7:7E-8.11.
- (e) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because OCGS is not located within a special urban area.

7:7E-3.44 Pinelands National Reserve and Pinelands Protection Area

- (a) The Pinelands National Reserve includes those lands and water areas defined in the National Parks and Recreation Act of 1978, Section 502 (P.L. 95-625), an approximately 1,000,000 acre area ranging from Monmouth County in the north, south to Cape May County and from Gloucester and Camden County on the west to the barrier islands of Island Beach State Park and Brigantine Island along the Atlantic Ocean on the east (see Appendix, Figure 10, incorporated herein by reference). The "Pinelands Area" is a slightly smaller area within the Pinelands National Reserve. It was designated for State regulation by the Pinelands Protection Act of 1979 (N.J.S.A. 13:18-1 et seq.). The Pinelands Commission adopted a Comprehensive Management Plan in November, 1980. Within the Pinelands Area, the law delineates a Preservation Area, where the plan shall "preserve an extensive and contiguous area of land in its natural State, thereby insuring the continuation of a Pinelands environment ..." (Section 8c).
1. Under the authority of the Department's Surface Water Quality Standards (N.J.A.C. 7:9B), all surface waters within the boundaries of the Pinelands Area, except those waters designated as FWI, are designated "Pinelands Waters" which have special antidegradation policies, designated uses and water quality criteria (see N.J.A.C. 7:9B1-4, 1.5(d)6ii, 1.12(b), and 1.14(b)). The Department's present Groundwater Quality Standards (N.J.A.C. 7:9-6), which were adopted on March 3, 1981, and revised on February 1, 1993, identify the "Central Pine Barrens Area" as the only part of the Pinelands distinguished from the rest of the State (N.J.A.C. 7:9-6.7(c)).
 2. The coastal municipalities wholly or partly within the Pinelands National Reserve Area include:

Atlantic County
Brigantine City
Corbin City
Egg Harbor City
Egg Harbor Township
Estell Manor Township
Galloway Township
Hamilton Township
Mullica Township
Port Republic
Somers Point City
Weymouth Township

Burlington County
Bass River Township
Washington Township

Cape May County
Dennis Township
Middle Township
Upper Township
Woodbine Borough

Cumberland County
Maurice River Township

Ocean County
Barnegat Township
Beachwood Borough
Berkeley Township
Dover Township
Eagleswood Township
Lacey Township
Lakehurst Borough
Little Egg Harbor Township
Manchester Township

Ocean Township
South Toms River Borough
Stafford Township
Tuckerton Borough

AmerGen Response:

The OCGS site, located between the Garden State Parkway and the coastline, is within the Pinelands National Reserve and, as such, is subject to requirements of the New Jersey Pinelands Commission and its Comprehensive Management Plan (NJAC 7:50-1 et seq.). The site is outside the eastern boundary (the Parkway) of the Pinelands Area and is not subject to more restrictive requirements applied to the Pinelands Preservation Area and the Pinelands Protection Area.⁸

- (b) **Coastal development shall be consistent with the intent, policies and objectives of the National Parks and Recreation Act of 1978, P.L. 95-625, Section 502, creating the Pinelands National Reserve, and the State Pinelands Protection Act of 1979 (N.J.S.A. 13:18A-1 et seq.).**
1. **Within the Pinelands National Reserve, the Pinelands Commission will serve as a reviewing agency for coastal construction permit applications.**
 2. **The Department's Land Use Regulation Program and the Pinelands Commission will coordinate the permit review process through the procedure outlined in the February 8, 1988 Memorandum of Agreement between the two agencies and any subsequent amendments to that agreement. Copies are available from the Department's Land Use Regulation Program, PO Box 439, Trenton, New Jersey 08625-0439, (609) 292-0060.**

AmerGen Response:

Portions of the OCGS site are in the Pinelands National Reserve. No part of OCGS lies within the state designated "Pinelands area." Thus OCGS is not subject to the direct jurisdiction of the Pinelands Commission. However, areas that are within the Pinelands National Reserve are affected mostly by local land use planning and ordinances, as the Commission imposes standards on those entities. In the case of OCGS, this means Lacey and Ocean Townships. OCGS is in compliance with these requirements. The other Commission requirement that arises is its designation of 59 endangered plant species. See response to 7:7E-3.38 for discussion of this compliance issue.

- (c) **Coastal activities in areas under the jurisdiction of the Pinelands Commission shall not require a freshwater wetlands permit, or be subject to transition area requirements of the Freshwater Wetlands Protection Act, except that discharge of dredged or fill materials in freshwater wetlands and/or State open waters shall require a State permit issued under the provisions of Section 404 of the Federal Water Pollution Control Act of 1972 as amended by the Clean Water Act of 1977, or under an individual or Statewide general permit program administered by the State under the provisions of 33 USC 1344 and N.J.S.A. 13:9B-6(b).**

⁸ The National Park Service has a general website on the reserve (Ref. A-10), but links for detailed information go to the New Jersey Pinelands Commission website (Ref. A-11). The Commission website has some maps and a summary of its comprehensive plan. However, the best map found on the web that shows the reserve boundary is in a presentation on a website associated with Bryn Mawr College (Ref. A-12, page 20).

AmerGen Response:

OCGS has secured a freshwater wetlands permit for dredged materials disposal (see response to NJAC 7:7E-7.12) and would secure any other permits required for any future OCGS activity. See Response to 7:7E-4.8 for discussion of how OCGS disposes of dredge material.

- (d) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-3.45 Hackensack Meadowlands District

- (a) The "Hackensack Meadowlands District" is a 19,730 acre area of water, coastal wetlands and associated uplands designated for management by a State-level agency known as the New Jersey Meadowlands Commission, by the Hackensack Meadowlands Reclamation and Development Act of 1968 (N.J.S.A. 13:17-1 et seq.). See Figure 20.

(Rest of regulation not reprinted)

AmerGen Response:

This regulation is not applicable to OCGS certification because OCGS is not located within the Hackensack Meadowlands District.

7:7E-3.46 Wild and Scenic Rivers corridors

- (a) Wild and scenic river corridors are all rivers designated into the National Wild and Scenic Rivers System and any rivers or segments thereof being studied for possible designation into that system pursuant to the National Wild and Scenic Rivers Act (16 U.S.C. 1271-1278). For rivers designated into the national system, the wild and scenic river corridor shall include the river and adjacent areas located within one-quarter mile from the mean high water line on each side of the river until a Federal River Management Plan has been adopted, after which time the wild and scenic corridor shall be the area defined in the adopted plan. For rivers under study for possible designation into the national system, the wild and scenic river corridor shall include the river and adjacent areas extending one-quarter mile from the mean high water line on each side of the river.
- (b) Development in wild and scenic river corridors shall comply with (b)1 and 2 below, and the standards for the specific type of development at (c), (d), (f), (g) and (h) below. The standards for linear development are found at (e) below.

 - 1. Development that would have a direct and adverse effect on any “outstandingly remarkable resource value” for which the river was designated or is being studied for possible designation into the National Wild and Scenic Rivers System is prohibited. For the purposes of this rule, “outstandingly remarkable resource values” means any of those extraordinary scenic, recreational, cultural, historical, or fish and wildlife attributes of a river corridor which, under the National Wild and Scenic Rivers Act, are required to be preserved and protected for the benefit and enjoyment of future generations.
 - 2. The development shall comply with the standards set forth in the Federal River Management Plan adopted pursuant to the National Wild and Scenic Rivers Act for the wild and scenic river corridor if a plan exists.
- (c) Development of docks, piers, and moorings on the Great Egg Harbor River and Maurice River and their tributaries shall comply with the following:

 - 1. A dock, pier or mooring shall not extend to a depth greater than two feet at mean high water or further than 20 percent of the river width, as measured from mean high water line on one side of the river to the mean high water line on the opposite side of the river, whichever is less.
 - 2. On the Great Egg Harbor River and Maurice River, development of a dock, pier or mooring within 75 feet of the edge of a navigation channel, as defined at N.J.A.C. 7:7E-3.7, is prohibited.
 - 3. On the tributaries to the Great Egg Harbor River and Maurice River, development of a dock, pier or mooring within 25 feet of the edge of a navigation channel, as defined at N.J.A.C. 7:7E-3.7, is prohibited.
- (d) Where the need for shoreline stabilization has been demonstrated, biostabilization of eroding shorelines shall be used where feasible. These systems include live branch cuttings, live facings, live stakes, vegetative cuttings, vegetated earth buttresses, choir fiber products, fiber plugs, plants, fiber pallets, fiber carpet, and wood stake anchor systems. These materials shall be installed in accordance with the construction guidelines of Chapter 16 “Streambank and Shoreline Stabilization Protection,” of the National Engineering Handbook (NEH), Part 650, 1996, published by the United States Department of Agriculture, herein incorporated by reference as amended and supplemented. This document is available on the web at www.NTIS.gov for a fee (order PB98114358). Standards for structural shore protection are found at N.J.A.C. 7:7E-7.11.
- (e) Linear development shall be located within the right of way of an existing linear development route or outside of the wild and scenic river corridor where feasible. Where an analysis of alternatives demonstrates that proposed development which is in the public interest can not be so located, the linear development shall be located and designed to minimize adverse effect on outstandingly remarkable resource values and the width of the clearing for the linear development shall be minimized.
- (f) Communication and cellular towers are prohibited in a wild and scenic river corridor.

- (g) Development of bridges is conditionally acceptable provided it complies with the following:
1. The structure spans the entire width of the water body, and has no associated structures located below the mean high water line, unless it is demonstrated that such a structure is not feasible;
 2. The bridge is non-obtrusive, including siting, design and materials, all of which are in character with the surrounding development;
 3. A vertical clearance of five feet is maintained between the elevation of the water body at mean high water and the lowest structural member of the bridge where the water depth is greater than two feet at mean high water;
 4. A single crossing is used where feasible;
 5. There is no reduction of the total width and volume of the water body passing under the bridge;
 6. The water body is crossed by a method which minimizes disruption to the bottom of the water body; and
 7. The crossing is designed to minimize impacts to the fishery resources, and is generally at a 90 degree angle to the shoreline.
- (h) Development of culverts is conditionally acceptable provided it complies with the following:
1. A natural streambed is provided through either the use of a bottomless structure or by recessing the culvert bottom a minimum of 12 inches below the bottom of the water body;
 2. There is no reduction of the total pre-construction width and volume of the water body passing through the culvert; and
 3. The crossing is designed to minimize impacts to the fishery resources, and is generally at a 90 degree angle to the shoreline.
- (i) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because OCGS is not within or near the Great Egg Harbor River or the Maurice River watersheds (the only wild and scenic rivers in New Jersey).

7:7E-3.47 Geodetic control reference marks

- (a) Geodetic control reference marks are traverse stations and benchmarks established or used by the New Jersey Geodetic Control Survey pursuant to P.L. 1934, c.116. They include the following types:
1. **Monument-(Mon), Disk-(DK):** A standard United States Coast and Geodetic Survey or New Jersey Geodetic Control Survey disk set in a concrete post, pavement, curb, ledge rock, etc., stamped with a reference number, and used for both horizontal and vertical control.
 2. **Point (Pt.):** A State highway, tidelands (riparian), city, etc. survey marker represented by a chiseled cross, punch hole, brass plug, etc. used for horizontal and vertical control. These stations are not marked, but if there should be an enclosing box, the rim is stamped with a number.
 3. **Rivet-(Rv.):** A standard metal rivet set by the New Jersey Geodetic Control Survey, used for vertical control.
 4. **Mark-(Mk.):** Same as point, but used only for vertical control. In the description of such marks there should appear a mark number followed by an equality sign and then the original name or elevation of the bench mark, and in parentheses the name of the organization which established the mark.
- (b) The disturbance of a geodetic control reference mark is discouraged. When a geodetic control reference mark must be moved, raised or lowered to accommodate construction, the New Jersey Geodetic Control Survey shall be contacted at least 60 days prior to disturbance, and arrangements shall be made to protect the position. If the position can not be protected, it may be altered in position after approval by the New Jersey Geodetic Control Survey and under the supervision of a licensed professional engineer or land surveyor using standard methods. Copies of field notes and instruments, tape, and rod specifications including calibration data, shall be submitted to the New Jersey Geodetic Control Survey.
- (c) **Rationale:** See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because, to the best of AmerGen's knowledge, there are no geodetic control reference marks on the OCGS site (including Finninger Farm) and renewal of the OCGS license will not result in the disturbance of a geodetic control reference mark.

7:7E-3.48 Hudson River Waterfront Area

(Regulation text not reprinted)

AmerGen Response:

Not applicable because OCGS is not located near the Hudson River.

7:7E-3.49 Atlantic City

(Regulation text not reprinted)

AmerGen Response:

Not applicable because OCGS is not located in Atlantic City.

7:7E-3A.1 Purpose and scope

- (a) This subchapter sets forth the standards applicable to routine beach maintenance, emergency post-storm restoration, dune creation and maintenance, and construction of boardwalks. These standards are reference at N.J.A.C. 7:7E-3.16, Dunes; N.J.A.C. 7:7E- 3.17, Overwash areas; N.J.A.C. 7:7E-3.19, Erosion hazard areas; N.J.A.C. 7:7E-3.22, Beaches; and N.J.A.C. 7:7E-7.11, Coastal engineering. In addition, N.J.A.C. 7:7E-3A.2, 3A.3 and 3A.4 are the standards for the coastal general permit for beach and dune maintenance activities, N.J.A.C. 7:7-7.6.
1. The standards applicable to routine beach maintenance, including debris removal and clean-up; mechanical sifting and raking; maintenance of access ways; removal of sand from street ends; boardwalk promenades and residential properties; repairs or reconstruction of existing gazebos and dune walkover structures, and limited sand transfers from the lower beach to he upper beach or alongshore are found at N.J.A.C. 7:7E-3A.2;
 2. The standards that apply to the restoration of all beaches that are impacted by coastal storms with a recurrence interval to or exceeding a five-year storm event are found at N.J.A.C. 7:7E-3A.3;
 3. The standards for dune creation and maintenance including the placement and/or repair of sand fencing, the planting and fertilization of appropriate dune vegetation, the maintenance and clearing of beach access pathways less than 8 feet in width; and the construction or repair of approved dune walkover structures are found at N.J.A.C. 7:7E- 3A.4; and 4. The standards for construction of boardwalks along tidal shorelines are found at N.J.A.C. 7:7E-3A.5.

AmerGen Response:

Not applicable because AmerGen has performed no routine beach maintenance, emergency post-storm beach restoration, dune creation or maintenance, or construction of boardwalks, and has no plan to do so as a result of license renewal.

7:7E-3A.2 Standards applicable to routine beach maintenance

- (a) Routine beach maintenance includes debris removal and clean-up; mechanical sifting and raking; maintenance of accessways; removal of sand from street ends, boardwalks/promenades and residential properties; the repair or reconstruction of existing boardwalks, gazebos and dune walkover structures; and limited sand transfers from the lower beach to the upper beach or alongshore (shore parallel). Sand transfers from the lower beach profile to the upper beach profile are specifically designed to restore berm width and elevation, to establish/enhance dunes and to repair dune scarps. Activities which preclude the development of a stable dune along the back beach are not considered to be routine beach maintenance activities, pursuant to this section. Specifically, the bulldozing of sand from the upper beach (berm) to the lower beach (beach face), for the purpose of increasing the berm width or flattening the beach profile, is not considered to be routine maintenance.
1. If the activities in (a) above are proposed to be conducted by a municipal or county agency on property owned by that governing body, then the municipal or county engineer must certify that the activities will be conducted in accordance with these standards. The appropriate municipal or county engineer is responsible for ensuring compliance with these requirements. If these activities are proposed to be conducted on privately owned property, then the property owner is responsible for ensuring that the activities will be conducted in accordance with these standards. If these activities are proposed to be conducted on State owned properties, then the DEP, Bureau of Construction and Engineering must certify that the activities will be conducted in accordance with these standards.
 2. All guidelines and specifications of this section must be incorporated into any contract documents or work orders related to proposed beach and dune activities, as described in this section. The Land Use Regulation Program is available to assist in the development of specific maintenance plans for oceanfront locations, upon request.
 3. In areas documented by the Department as habitat for threatened or endangered beach nesting shorebirds such as Piping Plovers (*Charadrius melodus*) and Least Terns (*Sterna albifrons*), no beach raking or other mechanical manipulation of the beach shall take place between April 1 and August 15.
 - i. The Department's Division of Fish and Wildlife shall develop a list of specific areas where this restriction shall apply, based on documented habitat during the most recent nesting season. The list of restricted areas shall be updated annually by the Division of Fish and Wildlife, at the end of each nesting season and be available upon request from the Department's Land Use Regulation Program at PO Box 439, Trenton, New Jersey 08625-0439 (609) 292-0060. The updated list shall be provided by the Department to each permittee prior to April 1 of each year.
 - ii. If a particular beach area is identified on the updated list as described in (a)3i above as habitat for threatened or endangered beach nesting shorebirds, regardless of the habitat classification of the previous nesting season, no beach raking or other mechanical manipulation of the beach shall take place between April 1 and August 15 in those areas.
 - iii. If a particular beach area is not identified on the updated list as described in (a)3i above, but is subsequently found to contain a nest of a threatened or endangered beach nesting shorebird, the Department shall notify the permittee and no beach raking or mechanical manipulation of the beach shall take place between April 1 and August 15 in those areas.
 - iv. The restrictions contained in (a)3 above may be waived if the Department's Division of Fish and Wildlife determines that the identified areas do not represent suitable threatened or endangered beach nesting shorebird habitat, due to beach erosion or other causes. Requests for such a waiver shall be made in writing to the Land Use Regulation Program, PO Box 439, Trenton, New Jersey, 08625-0439; and 4. Mechanical sifting and beach raking shall be limited to recreational beach areas only. For the purposes of this subsection, "recreational beach area" means all areas within 100 yards of a staffed lifeguard stand.

-
- (b) Projects involving the mechanical redistribution of sand from the lower beach profile to the upper beach profile, or alongshore, are acceptable, in accordance with the following standards:
1. The amount of sand transferred at any one time shall be limited to one foot scraping depth at the borrow zone. This borrow zone may not be rescraped until the sand volume from the previous scraping activities has been fully restored.
 2. The borrow zone shall be limited to the area between the low water line and the inland limit of the berm. It is strongly recommended that a program of beach profiling be utilized to monitor the condition of the beaches and to ensure compliance with the standards of this section.
 3. If the purpose of the sand transfers is to repair eroded dunes (dune scarps), all filled areas shall be stabilized with sand fencing and planted with beach grass in accordance with DEP and/or SCS standards. Fencing shall be in place within 30 days of the transfer operation, while the vegetative plantings may be installed during the appropriate seasonal planting period (October 15 through March 31, anytime the sand is not frozen).
 4. There shall be no disturbance to existing dune areas.
 5. In areas of documented habitat for threatened or endangered beach nesting shorebirds such as Piping Plovers (*Charadrius melodus*) and Least Terns (*Sterna albifrons*), no sand transfers shall take place between April 1 and August 15.
 - i. The Department's Division of Fish and Wildlife shall develop a list of specific areas where this restriction shall apply, based on documented habitat during the most recent nesting season. The list of restricted areas shall be updated annually by the Division of Fish and Wildlife, at the end of each nesting season and be available upon request from the Department's Land Use Regulation Program at PO Box 439, Trenton, New Jersey 08625-0439 (609) 292-0060. The updated list shall be provided by the Department to each permittee prior to April 1 of each year.
 - ii. If a particular beach area is identified on the updated list as described in (b)5i above as habitat for threatened or endangered beach nesting shorebirds, regardless of the habitat classification of the previous nesting season, no sand transfers shall take place between April 1 and August 15 in those areas.
 - iii. If a particular beach area is not identified on the updated list as described in (b)5i above, but is subsequently found to contain a nest of a threatened or endangered beach nesting shorebird, the Department shall notify the permittee and no sand transfers shall take place between April 1 and August 15 in those areas.
 - iv. The restrictions contained in (b)5 above may be waived if the Department's Division of Fish and Wildlife determines that the identified areas do not represent suitable threatened or endangered beach nesting shorebird habitat, due to beach erosion or other causes. Requests for such a waiver shall be made in writing to the Land Use Regulation Program, PO Box 439, Trenton, New Jersey, 08625-0439; and 6. Sand transfers to or from wetland areas that may exist on a beach are not authorized by this permit.
 7. Records of all sand transfer activities shall be maintained by the property owner, beach association, governmental agency or other authority conducting the activities, and shall be available for inspection by the Department, upon request. These records shall include, but not be limited to, dates of transfer, borrow area limits, fill area limits, estimates of the amount of sand transferred, the name of the person(s) supervising the transfer activities, and the engineering certification required (if appropriate) for all sand transfer activities.

AmerGen Response:

Not applicable because, although a small strip of beach is located on the eastern edge of Finninger Farm along an old bulkhead, AmerGen performs no routine beach maintenance.

7:7E-3A.3 Standards applicable to emergency post-storm beach restoration

- (a) This section on emergency post-storm beach restoration will apply to all beaches which are impacted by coastal storms with a recurrence interval equal to or exceeding a five-year storm event. Emergency post-storm beach restoration projects not specifically identified in this section may be authorized by the Department through an Emergency Permit authorization pursuant to N.J.A.C. 7:7-1.7 if the Department determines that there is an imminent threat to lives or property.
- (b) Beach restoration activities, as part of an emergency post-storm recovery, include: the placement of clean fill material with grain size compatible with (or larger than) the existing beach material; the bulldozing of sand from the lower beach profile to the upper beach profile; the alongshore transfer of sand on a beach; the placement of concrete or rubble; and the placement of sand filled geotextile bags or tubes. The placement of sand filled geotextile bags or tubes is preferred to the placement of concrete, rubble or other material.
- (c) The emergency post-storm beach restoration activities in (b) above should be designed and implemented as a means to restore the beaches to the pre-storm condition, or to restore the beaches to a level sufficient to provide protection from a storm event with a minimum recurrence interval of five years (five-year storm protection). For the purpose of this section, five-year storm protection equates to a minimum 30-foot wide berm at elevation +8 Mean Sea Level (NAD, 1983). Restoration beyond the pre-storm beach condition is encouraged by the Department, but will not be considered "emergency post-storm beach restoration," pursuant to this section.
- (d) The bulldozing of sand from the lower beach profile to the upper beach profile, as part of an emergency post-storm beach restoration plan, is acceptable, in accordance with the following standards: 1. Bulldozing is limited to the beach area landward of the low water line. Removal of material from below the low water line is considered dredging, and is not authorized pursuant to this section; and 2. The beach face cannot be graded to a slope steeper than 1:3.
- (e) The longshore transfer of sand from one beach area to another, as part of an emergency post-storm beach restoration plan, is acceptable, in accordance with the following standards:
 - 1. No disturbance to existing dune areas is permitted;
 - 2. Sand borrow areas shall not be bulldozed to a depth which exceeds one foot;
 - 3. The borrow areas may not be rescarped until full sand volume recovery has occurred; and
 - 4. An adequate supply of sand is available at the borrow area site, so that the relocation of this material will not decrease the level of protection adjacent to the borrow area.
- (f) The placement of sand filled geotextile bags or geotubes, as part of an emergency post-storm beach restoration plan, is acceptable, in accordance with the following standards:
 - 1. In areas where dunes are present, the geotextile bags or geotubes shall be placed along the toe of any scarped dune, or seaward of the dune toe, and not on the dune itself;
 - 2. In areas where dunes are not present, the geotextile bags or geotubes shall be placed at the landward limit of the beach and in no case be placed below the mean high water line;
 - 3. The geotextile bags or geotubes shall be tapered at the end of the project area, to minimize the impact to adjacent areas which are not protected by the geotextile bags or geotubes;
 - 4. The crest and seaward side of the geotubes shall be buried to achieve a gradual, uniform slope from the upper beach to the crest of the geotextile bag or geotube;
 - 5. The length of shoreline along which the geotextile bags or geotubes are installed shall not exceed a cumulative length of 500 feet;
 - 6. Fill material for the geotextile bags or geotubes shall be from an upland source, excluding the beach and dune; and 7. The geotextile bag or geotube shall be installed parallel to the shoreline.

- (g) The placement of sand, gravel, rubble, concrete, or other inert material, as part of an emergency post-storm beach restoration plan, is acceptable, in accordance with the following standards:
1. All material shall be non-toxic sand, gravel, concrete, rubble, or other inert material;
 2. The placement of concrete or rubble shall be temporary in nature, and is not to be used as permanent protection, unless it is part of a DEP approved, engineered design for permanent shore protection;
 3. All concrete and rubble placed on the beach shall be removed within 90 days, unless the placement is part of a Department approved, engineered design for permanent shore protection; and
 4. The use of automobiles, tires, wood debris, asphalt, appliances or other solid waste is prohibited.

AmerGen Response:

Not applicable because AmerGen has performed no emergency post-storm beach restoration and has no plans to do so as a result of license renewal.

7:7E-3A.4 Standards applicable to dune creation and maintenance

(Regulation text not reprinted)

AmerGen Response:

Not applicable because there are no dunes at OCGS and AmerGen has no plans to create dunes at the site as a result of license renewal.

7:7E-3A.5 Standards applicable to the construction of boardwalks

- (a) The construction of oceanfront or bayfront boardwalks should address a number of engineering concerns related to structural support, resistance to vertical and horizontal water and wind loads, and scouring. The construction of boardwalks along tidal shoreline is acceptable, in accordance with the following standards:
1. All timber support piles shall be a minimum of eight inches in diameter;
 2. Support piles should be driven to a depth of at least -10 feet (mean sea level), for all V-zone locations. In A-zones, the depth of penetration should be at least -five feet (mean sea level);
 3. The method for insertion of piles should be a pile driver or drop hammer;
 4. All support joists and timber connections should be anchored through the use of hurricane clips or metal plates; and 5. All metal fasteners, including but not limited to bolts, screws, plates, clips, anchors and connectors, shall be hot dipped galvanized.

AmerGen Response:

Not applicable because there are no boardwalks at OCGS and AmerGen has no plans to construct any as a result of license renewal.

7:7E-3B.1 Purpose and scope

- (a) This subchapter sets forth the standards for mitigation proposals pursuant to N.J.A.C. 7:7E-3.15 and 7:7E-3.27.
 - 1. Mitigation for the loss of tidal wetlands and intertidal and subtidal shallows shall comply with the Coastal Permit Program rules, N.J.A.C. 7:7, and the Coastal Zone Management rules, N.J.A.C. 7:7E, and include an appropriate buffer area; and
 - 2. Mitigation for the loss of freshwater wetlands shall comply with the Freshwater Wetlands Protection Act rules, N.J.A.C. 7:7A, Coastal Permit Program rules, N.J.A.C. 7:7, and the Coastal Zone Management rules, N.J.A.C. 7:7E.

AmerGen Response:

Not applicable because AmerGen is not proposing mitigation of tidal wetland, subtidal shallow, or wetland losses as a result of license renewal.

7:7E-3B.2 Tidal wetland and intertidal and subtidal shallows mitigation proposal requirements

- (a) All tidal wetland and intertidal and subtidal shallows mitigation proposals submitted to the Land Use Regulation Program shall include, but not be limited to:
 - 1. An introduction describing the wetland or intertidal and subtidal shallows mitigation proposal. The introduction shall include the following:
 - i. The amount, in acres, of:
 - (1) Wetlands to be created, enhanced, or restored, in accordance with N.J.A.C. 7:7E- 3.27 and the associated wetlands buffer area required by N.J.A.C. 7:7E-3.28; or
 - (2) The amount of intertidal and subtidal shallows to be created as required by N.J.A.C. 7:7E-3.15;
 - ii. The goals of the mitigation project in terms of either (a)1ii(1) or (2) below:
 - (1) For creation, restoration or enhancement of wetlands, the wetlands types, values, and functions, and a discussion of how the mitigation proposal will satisfy those goals. For example, the goal of the wetlands mitigation project is to establish a low marsh wetland complex dominated by *Spartina alterniflora* that is flowed twice daily by the tide; or
 - (2) For intertidal and subtidal shallows creation, the area, depth, and duration of tidal inundation;
 - iii. The reasons why the mitigation site is an appropriate site for meeting the goals in (a)1ii above, and the aspects of the site that will ensure the success of the mitigation project;
 - iv. A copy of the USGS quad map(s) showing the location of the permitted activity and showing the mitigation site with the State plane coordinates of the mitigation site. The accuracy of these coordinates shall be within 50 feet of the actual center point of the site. For linear mitigation projects 2,000 feet in length and longer, additional coordinates shall be provided at each 1,000 foot interval; and
 - v. The New Jersey Wetlands/Tidelands Map number(s) for the development and for the mitigation site, if the mitigation site is at a different location;
 - 2. A description (such as size, type, vegetation, hydrology, and wildlife use) of the wetlands or intertidal and subtidal shallows that are being destroyed or disturbed by the permitted activity;
 - 3. Photographs of the proposed mitigation site showing topography, vegetation, tidal streams and wetland features;
 - 4. The names and addresses of all current and proposed owner(s) of the mitigation site;
 - 5. The lot, block, municipality and county of the proposed mitigation site. This information shall also be visible on the front page of the proposal and on the site plan;
 - 6. A discussion relative to the proposed hydrology of the mitigation site. The discussion should focus on the sources of water for the mitigation project, provide seasonal high water table information as well as the projected elevation of final grade of the mitigation project in relation to mean sea level (MSL), along with slope percent;
 - 7. A projected water budget for the proposed mitigation site. The water budget should detail the sources of water for the mitigation project as well as the water losses. The projected water budget should document that an ample supply of water is available to create, enhance, or restore wetland conditions, as applicable. The water budget must contain sufficient data to show that the mitigation project will indefinitely in the future have sustained wetland hydrology, or for intertidal and subtidal shallows, that the mitigation project will have sustained tidal inundation. The water budget shall include the following regional information for the proposed and existing site conditions:

- i. The seasonal high water table;
 - ii. The tidal range (low, high and spring high tide) over the course of a month;
 - iii. For wetland creation, restoration or enhancement, the elevation of the existing reference wetland system in the vicinity of the project site, if applicable; and
 - iv. For wetland creation, restoration or enhancement, the salinity range of adjacent waters;
8. For wetland creation, restoration and enhancement, a detailed discussion relating to the created substrate of the proposed mitigation site, including a description of how the substrate of the site will be prepared, as well as a demonstration that the soil texture and pH are appropriate for the proposed wetland community;
 9. For wetland creation, restoration and enhancement, a landscape plan showing the proposed vegetative community on the proposed mitigation site, including the buffer area defined at N.J.A.C. 7:7E-3.28. The landscape plan shall include the following:
 - i. The species;
 - ii. The quantity and location of each species;
 - iii. The stock type (for example, plugs, potted, seed);
 - iv. The source of the plant material;
 - v. The proper time to plant; and
 - vi. Any appropriate substitutions as approved by the Department;
 10. For wetland creation, restoration and enhancement, a preventative maintenance plan detailing how invasive or noxious vegetation will be controlled, and how predation of the mitigation plantings will be prevented. The plan shall describe the measures to be taken if a problem with invasive or noxious plants or predation occurs during the construction or monitoring period. The installation of goose fences to control problems resulting from the presence of geese in the State is encouraged;
 11. A draft conservation restriction that meets the requirements of N.J.A.C. 7:7E- 3.27(h)6. A model conservation restriction is available from the Land Use Regulation Program, PO Box 439, Trenton, New Jersey 08625-0439, (609) 777-0454;
 12. A metes and bounds description of the proposed mitigation site. For wetland creation, restoration or enhancement, the metes and bounds description shall include the buffer area as defined at N.J.A.C. 7:7E-3.28;
 13. An estimate of the actual cost of carrying out the construction of the mitigation project. The cost estimate shall include the value of the land, site preparation costs, engineering costs, plantings costs, environmental consultant fees, attorney fees, construction costs, supervising construction fees and monitoring costs. The cost estimate of the project will be used when determining the amount of the financial assurance required;
 14. A site plan for the mitigation project which includes:
 - i. The lot, block , municipality and county of the proposed mitigation site; and
 - ii. Existing and proposed elevations and grades of the mitigation site, and off-site elevations and grades when the proposed elevations on the mitigation project site will create potentially unstable conditions on the adjoining parcel or create slopes greater than 15 percent. All existing and proposed elevations and grades must be shown in at least one foot intervals. For wetland creation, restoration or enhancement, only, the slope of the proposed mitigation site shall have a run to rise ratio no greater than 10 feet vertical to one foot horizontal (10:1) along a created buffer area as well

as along any berms that are intended to function as water control structures or berms created along a stream;

- iii. Pre- and post- construction plan views and cross sectional views of the mitigation site;
 - iv. For wetland creation, restoration or enhancement only, the buffer area required under N.J.A.C. 7:7E-3.28;
 - v. For wetland creation, restoration or enhancement only, a detail that shows, or a Statement indicating the soil amendments and the seed stabilization mix, if any, to be used on the mitigation site;
15. A construction schedule including projected dates of excavation, planting, fertilizing, as appropriate;
16. Certification demonstrating that the proposed mitigation will not adversely affect districts, buildings, structures, or archaeological sites that are listed in, or eligible for listing in, the National Register of Historic Places. If during construction of the mitigation site the mitigator encounters National Register of Historic Places listed or eligible historic districts, buildings, structures, or archaeological sites, the mitigator shall notify the Department immediately and proceed as directed by the Department;
17. A financial assurance that meets the requirements at N.J.A.C. 7:7E-3B.3; and
18. Any additional information the Department determines necessary to review an individual mitigation project.

AmerGen Response:

Not applicable because AmerGen is not proposing mitigation of tidal wetland, subtidal shallow, or wetland losses as a result of license renewal.

7:7E-3B.3 Financial assurance requirements

- (a) A letter of credit or other financial assurance is required prior to approval of the mitigation proposal by the Department, except if the mitigator is a government agency or an entity that is exempt from this requirement under Federal Law. The letter of credit or other financial assurance shall be obtained from a firm licensed to do business in New Jersey.**
- (b) The letter of credit or other financial assurance shall be in the amount sufficient for the Department to hire an independent contractor to complete and maintain the mitigation project should the mitigator default. The financial assurance shall be in the following amounts:**
 - 1. For wetland creation, restoration or enhancement, and for intertidal and subtidal shallows creation, a construction assurance, equal to 115 percent of the estimated cost of completing the mitigation; and**
 - 2. For wetland creation, restoration or enhancement, a maintenance assurance to ensure success of the mitigation through the completion of the monitoring period, equal to 115 percent of the estimated cost of maintaining and monitoring the mitigation project.**
- (c) The financial assurance will be reviewed annually by the Department and shall be adjusted to reflect current economic factors.**
- (d) The portion of the financial assurance required under (b)1 above, shall be released upon the Department's determination that the construction phase and planting phase, if any, of the mitigation project have been successfully completed in accordance with the mitigation proposal; and**
- (e) The portion of the financial assurance required under (b)2 above, shall be released upon the Department's finding that the mitigation project is successful in accordance with N.J.A.C. 7:7E-3B.5.**

AmerGen Response:

Not applicable because AmerGen is not proposing mitigation of tidal wetland, subtidal shallow, or wetland losses as a result of license renewal.

7:7E-3B.4 Department review of mitigation proposal

- (a) The Department shall, within 60 days after receiving a mitigation proposal, review the proposal for completeness and:
 - 1. Request any addition information; or
 - 2. Declare the mitigation proposal complete.
- (b) The Department shall approve a mitigation proposal only if it meets all of the applicable requirements of this subchapter.
- (c) Prior to the commencement of mitigation, the mitigator shall submit proof that the conservation restriction required at N.J.A.C. 7:7E-3B.2(a)11 was recorded with the County Clerk (or the Registrar of Deeds and Mortgages, if applicable).

AmerGen Response:

Not applicable because AmerGen is not proposing mitigation of tidal wetland, subtidal shallow, or wetland losses as a result of license renewal.

7:7E-3B.5 Post-construction monitoring of the mitigation site

- (a) All mitigation projects subject to this subchapter shall perform post-construction monitoring in accordance with (a)1 or 2 below.
 - 1. All tidal wetland mitigation sites shall demonstrate compliance with each postconstruction monitoring season specified in (b) 1, 2 and 3 below. Post-construction monitoring shall begin the first full growing season after the construction/planting of the mitigation project is completed. A full growing post-construction monitoring season, in general, is the period from the beginning of April through the beginning of October, depending upon the location of the site in the State.
 - 2. All intertidal and subtidal shallows mitigation sites shall demonstrate compliance with the post-construction monitoring standards at (c)1 and 2 below for a lunar month after construction of the mitigation site is completed. A lunar month is the period between two successive full moons.
- (b) For wetland mitigation projects, the post-construction monitoring required at (a)1 above shall meet the standards listed below for each full growing post-construction monitoring season. Failure to meet the standards for a given post-construction monitoring season described at (b)1, 2 or 3 below shall result in a remedial action by the mitigator. The Department, after consultation with the mitigator, shall determine the remedial actions necessary to correct the unsatisfactory condition. Remedial action may include, but not be limited to, regrading, replanting, or relocation of the mitigation site.
 - 1. For the first post-construction monitoring season to be considered successful, the post-construction monitoring report described at (d) below shall provide documentation demonstrating that the standards listed at 1i through iv below are satisfied. If one or more of the standards listed below are not satisfied, then a remedial action as described in (b) above will be required, and this full growing post-construction monitoring season shall be repeated.
 - i. Documentation through soil borings, demonstrating that the appropriate soil was used on the site as indicated in the mitigation approval;
 - ii. As-built plans, demonstrating that the site was graded and planted in accordance with the approved mitigation plans;
 - iii. Based on the approved water budget prepared in accordance with N.J.A.C. 7:7E- 3B.2(a)7, documentation demonstrating the mitigation site is a wetland;
 - iv. Documentation demonstrating that the percent coverage of the planted vegetation or targeted hydrophytes as detailed in the approved mitigation plan has been achieved.
 - 2. For the second post-construction monitoring season to be considered successful, the post-construction monitoring report described at (d) below shall provide documentation demonstrating that the standards listed at (b)2i and ii below are satisfied. If the standards at (b)2i and ii listed below are not satisfied, then a remedial action as described at (b) above will be required, and this full growing post-construction monitoring season shall be repeated.
 - i. Based on the approved water budget prepared in accordance with N.J.A.C. 7:7E- 3B.2(a)7, documentation demonstrating that the mitigation site continues to be a wetland;
 - ii. Documentation demonstrating that the percent coverage of the planted vegetation or targeted hydrophytes as detailed in the approved mitigation plan has been achieved.
 - 3. For the final post-construction monitoring season to be considered successful, the post-construction monitoring report described at (d) below shall provide documentation demonstrating that the standards listed at (b)3i through iv below are satisfied. If one or more of the standards listed below are not satisfied, then a remedial action as described at (b) above will be required, and this full growing post-construction monitoring season shall be repeated.

-
- i. Documentation demonstrating that the approved goals of the wetland mitigation project (including the required buffer area) prepared pursuant to N.J.A.C. 7:7E-3B.2(a) and the permit are satisfied. This documentation shall include information concerning invasive/noxious plant species and the percent coverage of these species on the site;
 - ii. Based on the approved water budget prepared in accordance with N.J.A.C. 7:7E- 3B.2(a)7, documentation demonstrating that the mitigation site is a wetland. The documentation shall include, when appropriate, monitoring well data, stream gauge data, photographs and field observation notes collected throughout the monitoring period;
 - iii. Documentation demonstrating that the percent coverage of the planted vegetation or targeted hydrophytes as detailed in the approved mitigation plan has been achieved;
 - iv. A field delineation of the wetlands at the wetland mitigation project site, based on techniques specified in the Federal Manual for Identifying and Delineation Jurisdictional Wetlands (1989) herein incorporated by reference. This manual is available from the Department's Office of Maps and Publications at (609) 777-1038 for a fee; and
 - v. A plan showing the flagged wetland delineation required at (b)3iv above. The wetland line shall include global positioning system data points.
- (c) For intertidal and subtidal shallows mitigation projects, the post-construction monitoring required at (a)2 above shall comply with (c)1 and 2 below. If one or more of the standards listed below are not satisfied, then the post-construction monitoring shall be repeated the following lunar month(s) until all of the standards listed below are satisfied. Failure to meet the standards for a given post-construction monitoring season described at (c)1 or 2 below shall result in a remedial action. The Department, after consultation with the mitigator, shall determine the remedial actions necessary to correct the unsatisfactory condition. Remediation may include, but not be limited to, regrading of the mitigation site. The mitigator shall submit:
1. As-built plans with soundings demonstrating that the site was graded according to the approved mitigation plans; and
 2. Documentation demonstrating that the mitigation site meets the definition of an intertidal subtidal shallow, that is it is permanently or twice daily submerged from the spring high tide to a depth of four feet below mean low water.
- (d) The post-construction monitoring reports required at (b) and (c) above shall be submitted to the Department by November 15 of each year and shall include five copies of the following:
1. A USGS quad map showing the location of the mitigation site; a county road map showing the location (including the lot and block) of the mitigation site; and a copy of an aerial photograph of the mitigation site. The point(s) of access to the mitigation site must be clearly indicated on all maps;
 2. A copy of the permit that required the mitigation;
 3. A brief description of the mitigation project;
 4. Photographs of the mitigation site with a location map indicating the location and direction of each photograph;
 5. For mitigation projects requiring the establishment of a vegetative community, an assessment of the planted vegetation and the species that are naturally colonizing the site. This assessment shall include data sheets from the sampling points which describe the vegetation present, the percent coverage of the vegetation, the results of the analysis of the soil borings and the location of the water table;
 6. Based on the approved water budget prepared in accordance with N.J.A.C. 7:7E- 3B.2(a)7, documentation demonstrating that the mitigation site is a wetland or intertidal or subtidal shallows. The documentation shall include, as appropriate, monitoring well data, stream gauge data, photographs and/or field observation notes collected throughout the post-construction monitoring period;

7. **Documentation, based on field data, that the approved goals of the mitigation project (including the buffer area, for wetland creation, restoration or enhancement only) prepared pursuant to N.J.A.C. 7:7E-3B.2(a), are satisfied;**
8. **A narrative evaluating the success/failure of the project in accordance with (b) and/or (c) above; and**
9. **In the event the mitigation monitoring period is a failure in accordance with (b) and/or (c) above, a narrative description of proposed actions that will permanently rectify the problems.**

AmerGen Response:

Not applicable because AmerGen is not proposing mitigation of tidal wetland, subtidal shallow, or wetland losses as a result of license renewal.

7:7E-3C.1 Purpose and Scope

- (a) **This subchapter sets forth the standards for conducting an Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment and for conducting an Endangered or Threatened Wildlife Species Habitat Evaluation. One or both must be employed by an applicant seeking to demonstrate compliance with or inapplicability of N.J.A.C. 7:7E-3.38 when the site contains or abuts areas mapped as endangered or threatened wildlife species habitat on the Landscape Maps. This subchapter also sets forth the standards for reporting the results of an Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment and an Endangered or Threatened Wildlife Species Habitat Evaluation.**

AmerGen Response:

Although there have been no documented cases of endangered species being on the OCGS site, as discussed in AmerGen's responses to NJAC 7:7E-3.38 and 7:7E-3.39, endangered or threatened species may be present at OCGS. AmerGen has had occasion in the past to demonstrate compliance with NJAC 7:7E-3.38 (e.g., Ref. A-36) and is doing so with this coastal zone certification.

- (b) **An Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment is required to demonstrate that endangered or threatened wildlife or plant species habitat as defined at N.J.A.C. 7:7E-3.38(a) would not, directly or through secondary impacts on the relevant site or in the surrounding area, be adversely affected by the proposed development. The standards for conducting an impact assessment pursuant to N.J.A.C. 7:7E-3.38(b), (d) and (e) are found at N.J.A.C. 7:7E-3C.2.**

AmerGen Response:

Compliance with N.J.A.C. 7:7E-3C.2 is discussed below.

- (c) **An Endangered or Threatened Wildlife Species Habitat Evaluation is required to demonstrate that a site does not contain suitable habitat, as defined at N.J.A.C. 7:7E-3.38(a), including sufficient buffer to ensure continued survival of the population of the species, pursuant to N.J.A.C. 7:7E-3.38(c). The standards for conducting an evaluation are found at N.J.A.C. 7:7E-3C.3.**

AmerGen Response:

Compliance with N.J.A.C. 7:7E-3C.3 is discussed below.

- (d) **The reporting requirements for habitat evaluations and impact assessments are found at N.J.A.C. 7:7E-3C.4.**

AmerGen Response:

Compliance with N.J.A.C. 7:7E-3C.4 is discussed below.

7:7E-3C.2 Standards for conducting Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessments

- (a) These standards shall be used by applicants who choose not to dispute the Department designation of the site as endangered or threatened wildlife species habitat. Applicants shall demonstrate compliance with N.J.A.C. 7:7E-3.38(b) by providing information required at this section and N.J.A.C. 7:7E-3C.4. The required information shall demonstrate that the proposed development will not negatively affect the population(s) or habitat of endangered or threatened wildlife species that resulted in identification of the site, or an area abutting the site, as endangered or threatened wildlife species habitat in accordance with N.J.A.C. 7:7E-3.38(a) and/or (d).

AmerGen Response:

AmerGen has not and is not disputing Department designation of habitat at OCGS. As discussed in the response to 7:7E-3.39, areas abutting the OCGS site are designated as habitat for the wood turtle, which is listed by the State of New Jersey as a threatened species. Additional information about other threatened or endangered species is provided in response to N.J.A.C. 7:7E-3.38(a), above.

- (b) These standards shall be used by applicants if an endangered or threatened plant species has been documented to be on the site or a portion of the site or an area abutting the site. Applicants shall demonstrate compliance with N.J.A.C. 7:7E-3.38(b) by providing information required at this section and N.J.A.C. 7:7E-3C.4. The required information shall demonstrate that the proposed development will not negatively affect the population(s) or habitat of endangered or threatened plant species documented to be on the site or a portion of the site or on an area abutting the site.

AmerGen Response:

No endangered or threatened species has been documented to be on the OCGS site. New Jersey Landscape Map 64 identifies property abutting the OCGS intake and discharge canals as critical habitat for the wood turtle (Ref. A-49). AmerGen and its parent corporation have no ownership in this property. Furthermore, AmerGen believes that the canals, 100 feet wide by 10 feet deep, are an effective barrier to terrestrial turtle movement onto AmerGen property. Finally, past (Ref. A-36) and ongoing surveys on OCGS property have not found a wood turtle on OCGS property, and AmerGen is unaware of any OCGS impacts on wood turtles. AmerGen concludes that OCGS has no impact on wood turtles onsite, due to their absence, and no impact on any population offsite.

- (c) Impact assessments shall be conducted for each endangered or threatened wildlife or plant species described in (a) and/or (b) above. The impact assessment shall consider the likely effects of the proposed development on the local populations of the particular species on or abutting the site. The impacts shall be assessed using accepted ecological principles and scientific literature on each species and both direct and indirect impacts of the proposed development shall be considered. This assessment shall be based on habitat requirements and life history of each species, and the manner in which the proposed development may alter habitat, including, but not limited to, vegetation, soils, hydrology, human disturbance, and effects on competitor, parasite, or predator species.

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve any development that may alter habitat of any of the threatened or endangered terrestrial species discussed in the responses to 7:7E-3.38 and 39. The proposed renewal of the OCGS

operating license does not involve alteration of current operations or disturbance of undeveloped areas of the OCGS site. Consequently, license renewal will not alter the habitat of such species. AmerGen is unaware of any OCGS impact on offsite habitats for endangered or threatened terrestrial species.

As discussed in the response to 7:7E-3.38, the NRC has consulted with NMFS regarding the impact of license renewal on three species of threatened or endangered sea turtles (endangered Kemp's ridley, green, and threatened loggerhead sea turtles) (Ref. A-46). NRC consultation with NMFS concerning the impact of ongoing operation has resulted in a biological opinion from NMFS which indicates that continued plant operation may adversely affect but is not likely to jeopardize the continued existence of the endangered or threatened sea turtles, and that no critical habitat has been designated in the action area; therefore, none will be affected.

7:7E-3C.3 Standards for conducting Endangered or Threatened Wildlife Species Habitat Evaluations

- (a) These standards shall be used by applicants who dispute the Department designation of the site as endangered or threatened wildlife species habitat, or dispute the boundary of that habitat. Applicants who dispute the Department's determination shall provide information that demonstrates that the habitat is not suitable for each of the endangered or threatened wildlife species that resulted in that resulted in identification of the site, a portion of the site, or an area abutting the site, as endangered or threatened wildlife species habitat in accordance with N.J.A.C. 7:7E-3.38(a) and/or (d).
- (b) Habitat evaluations for endangered or threatened wildlife species pursuant to N.J.A.C. 7:7E-3.38(c) shall be conducted for each wildlife species described in (a) above. This habitat evaluation shall:
1. Use scientific methodology appropriate for each species or species group;
 2. Examine specific attributes and characteristics of the site that limit or eliminate its suitability as habitat, including, but not limited to, an examination of vegetative cover, soils, hydrology, existing land use and any other factors that are used to determine suitability of a site for the species. The site's vegetative analysis shall include an on-site investigation and evaluation; and
 3. Include an examination of the area surrounding the site using aerial photographs and/or appropriate cover maps.
- (c) A survey for the endangered or threatened wildlife species that resulted in identification of the site, a portion of the site, or an area abutting the site, as endangered or threatened wildlife species habitat in accordance with N.J.A.C. 7:7E-3.38(a) and/or (d), will only be considered in the context of supplementing information on habitat suitability. If such a survey is conducted, it shall be conducted consistent with techniques established in the scientific literature.

AmerGen Response:

AmerGen has not and is not disputing a Department designation. However, if at some time in the future this became necessary, AmerGen would comply with the NJAC 7:7E-3C.3 standards.

7:7E-3C.4 Standards for reporting the results of impact assessments and habitat evaluations

- (a) All habitat evaluations and impact assessments submitted to the Department shall include:
1. An introduction describing the goals of the habitat evaluation and/or impact assessment;
 2. A copy of the USGS quad map(s) showing the location of the site, with the State plane coordinates of the site. The accuracy of these coordinates shall be within 50 feet of the actual center point of the site. For linear sites, 2,000 feet in length and longer, additional coordinates shall be provided at each 1,000 foot interval;
 3. The lot, block, municipality and county in which the site is located;
 4. For wildlife habitat evaluations and impacts assessments only, a map identifying the site, and the areas mapped as endangered or threatened wildlife species habitat on the Landscape Maps onsite and abutting the site, along with a list of the endangered or threatened species that resulted in the mapping of endangered or threatened species habitat;
 5. For impact assessments for plant species only, a map identifying the location of the species habitat on the site or abutting the site along with a list of the potential plant species from the Department's Natural Heritage Database;
 6. A description of the habitat requirements for each of these species identified at (a)4 and/or 5 above, including appropriate literature citations; and
 7. The names and qualifications of all investigators who performed habitat evaluations, species surveys, and/or impact assessments.
- (b) For wildlife habitat evaluations only, a narrative, including supporting documentation, including maps, photographs and field logs, which contains the following:
1. A description, for each species, of the findings of the habitat evaluation performed in accordance with N.J.A.C. 7:7E-3C.3;
 2. If a survey was conducted in accordance with N.J.A.C. 7:7E-3C. 3(b), literature citations for the methodology used and a description of how the methodology was applied to the survey, giving the following information: surveyor's name(s), dates and times surveys were performed, number of samples, and number of replications. This information shall be provided for each species surveyed.
 3. A comparison of the findings of the habitat evaluation with the known habitat requirements for each species, as provided at (a)6 above, and a description of the specific attributes and characteristics of the site that limit or eliminate the site's suitability as habitat;
- (c) For impact assessments only, a narrative, including supporting documentation, such as maps and photographs, which contains the following:
1. A description for each species, of how the proposed development will alter habitat, including vegetation, soils, hydrology, human disturbance, and effects on competitor, parasite, or predator species. The impact assessment shall describe the likely affects of the proposed development on the local populations of the particular species on or abutting the site and why the development would not directly or through secondary impacts adversely affect each endangered or threatened species habitat; and 2. Literature citations used to reach the conclusions in (c)1 above.

AmerGen Response:

AmerGen has recently completed two surveys (Refs. A-36 and A-69).

7:7E-4.1 Purpose and Scope

- (a) **General Water Areas** are all water areas which are located below either the spring high water line or the normal water level of non-tidal water that are subject to this subchapter and to Special Area rules.
- (b) **General Water Areas** are divided by volume and flushing rate into eight categories as described below:
 - 1. "Atlantic Ocean" includes the area of the Atlantic Ocean that extends out to the three geographical mile limit of the New Jersey territorial sea and is bounded by the boundaries of New York and Delaware (see Appendix, Figure 13c).
 - 2. "Lakes, ponds and reservoirs" are relatively small water bodies with no tidal influence or salinity. Many are groundwater fed, while others serve as surface aquifer recharge areas. Lakes that are the result of former mining operations are not included in this definition, but are defined at N.J.A.C. 7:7E-3.14, Wet Borrow Pits.
 - 3. "Large rivers" are waterways with watersheds greater than 1,000 square miles. Large Rivers are limited to the Delaware, Hudson and Raritan Rivers.
 - i. The Delaware River is a tidal river from the Bridge Street Bridge in Trenton to its mouth at Delaware Bay, defined as a line between Alder Cover, Lower Alloways Creek Township and the Delaware River Basin Commission-River and Bay Memorial at Liston Point, Delaware.
 - ii. The Hudson River is a tidal river from the New York State Line to its mouth at Upper New York Bay at the Morris Canal, Jersey City.
 - iii. The Raritan River is a tidal river from a point approximately 1.1 miles upstream from the Landing Lane Bridge between Piscataway and Franklin Townships to its mouth at Raritan Bay and the Arthur Kill.
 - 4. "Man-made harbors" are semi-enclosed or protected water areas which have been developed for boat mooring or docking.
 - 5. "Medium rivers, creeks and streams" are rivers, streams and creeks with a watershed of less than 1,000 square miles. This definition includes waterways such as the Hackensack, Passaic, Oldmans, Big Timber, Pennsauken, Navesink, Manasquan, Toms, Wading, Mullica, Great Egg, Maurice, Cohansey, Salem, and Rancocas (see Appendix, Figures 13c-e, incorporated herein by reference).
 - 6. "Open bays" are large, semi-confined estuaries with a wide unrestricted inlet to the ocean and with a major river mouth discharging directly into the upper portion. Open bays are limited to the Delaware Bay, Raritan Bay, Sandy Hook Bay and Upper New York Bay (see Appendix, Figure 13b, incorporated herein by reference).
 - 7. "Semi-enclosed and back bays" are a partially confined estuary with direct inlet connection and some inflow of freshwater. Semi-enclosed bays differ from back bays in depth, degree of restriction of inlet and level of freshwater flow.
 - 8. "Tidal guts" are the waterway connections between two estuarine bodies of water. Also known as thorofares or canals, tidal guts control the mix of salt and freshwater. Examples include the Arthur Kill and Kill Van Kull (see Appendix, Figures 13a-e, incorporated herein by reference).
- (c) N.J.A.C. 7:7E-4.2 through 4.20 set forth the requirements for specific types of development within General Water Areas as defined at (a) above. In many cases an area already identified as a Special Area will also fall within the definition of a General Area. In these cases, both General and Special Area rules apply. In case of conflict between General and Special Area rules, the more specific Special Area rules shall apply.

AmerGen Response:

The South Branch of Forked River and Oyster Creek meet the NJAC 7:7E-4.1(b)5 definition of “medium rivers, creeks, and streams” (South Branch of Forked River has a watershed of approximately 2.5 square miles and Oyster Creek has a watershed of approximately 7 square miles). Barnegat Bay meets the NJAC 7:7E-4.1(b)7 definition of “semi-enclosed and back bays” and is commonly referred to as a back bay.

7:7E-4.2 Aquaculture

- (a) Aquaculture is the use of permanently inundated water areas, whether saline or fresh, for the purposes of growing and harvesting plants or animals in a way to promote more rapid growth, reduce predation, and increase harvest rate. Oyster farming in Delaware Bay is a form of aquaculture.**
- (b) Aquaculture is encouraged in all General Water Areas as defined at N.J.A.C. 7:7E-4.1, provided:**
 - 1. It does not unreasonably conflict with resort or recreation uses;**
 - 2. It does not cause significant adverse off-site environmental impacts; and**
 - 3. It does not present a hazard to navigation. A hazard to navigation includes all potential impediments to navigation, including access to adjacent moorings, water areas and docks and piers.**
- (c) Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because AmerGen does not conduct aquaculture at OCGS and has no plans to do so as a result of license renewal.

7:7E-4.3 Boat Ramps

- (a) **Boat ramps are inclined planes, extending from the land into a water body for the purpose of launching a boat into the water until the water depth is sufficient to allow the boat to float. Boat ramps are most frequently constructed of asphalt, concrete or crushed shell.**

AmerGen Response:

AmerGen maintains a private boat ramp on the north shore of Oyster Creek.

- (b) **Boat ramps are conditionally acceptable provided:**

1. **There is a demonstrated need that cannot be met by existing facilities;**
2. **They cause minimal practicable disturbance to intertidal flats or subaqueous vegetation;**
3. **Boat ramps shall be constructed of environmentally acceptable material, such as concrete or oyster shells; and**
4. **Garbage cans are provided near the boat ramp.**

AmerGen Response:

The boat ramp at OCGS is constructed of metal plates. It is needed to launch boats for periodic biological and water quality sampling by OCGS environmental staff. The boat ramp does not cause significant disturbance to intertidal flats or subaqueous vegetation. A garbage can is provided at the ramp.

- (c) **Public use ramps shall have priority over restricted use and private ramps.**

AmerGen Response:

Not applicable because the location of the AmerGen boat ramp is not open to the public but the presence of the AmerGen ramp does not prevent location of a public ramp on other property in the area.

- (d) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-4.4 Docks and piers for cargo and commercial fisheries

- (a) **Docks and piers for cargo and passenger movement and commercial fisheries are structures supported on pilings driven into the bottom substrate or floating on the water surface, used for loading and unloading passengers or cargo, including fluids, connected to or associated with, a single industrial or manufacturing facility or to commercial fishing facilities.**
- (b) **Docks and piers for cargo and passenger movement and commercial fisheries are conditionally acceptable provided:**
 - 1. **The width and length of the dock or pier is limited to only what is necessary for the proposed use;**
 - 2. **The dock or pier will not pose a hazard to navigation. A hazard to navigation includes all potential impediments to navigation, including access to adjacent moorings, water areas and docks and piers; and**
 - 3. **The associated use of the adjacent land meets all applicable Coastal Zone Management rules.**
- (c) **The standards for port uses are found at N.J.A.C. 7:7E-7.9. The standards for the construction of a dock or pier composed of fill and retaining structures are found at N.J.A.C. 7:7E-4.10.**
- (d) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because AmerGen maintains a barge unloading facility for its own use, but the structure is composed of fill (see Response to NJAC 7:7E-4.10), is not on pilings and does not float.

7:7E-4.5 Recreational docks and piers

- (a) Recreational and fishing docks and piers are structures supported on pilings driven into the bottom substrate, or floating on the water surface or cantilevered over the water, which are used for recreational fishing or for the mooring of boats or jet skis used for recreation or fishing, except for commercial fishing, and house boats.
- (b) Recreational docks and piers, including jet ski ramps, and mooring piles, are conditionally acceptable provided:
 - 1. There is a demonstrated need that cannot be satisfied by existing facilities;
 - 2. The construction minimizes adverse environmental impact to the maximum extent feasible;
 - 3. The docks and piers and their associated mooring piles are located so as to not conflict with overhead transmission lines;
 - 4. There is minimum feasible interruption of natural water flow patterns;
 - 5. Space between horizontal planking is maximized and width of horizontal planking is minimized to the maximum extent practicable. Under normal circumstances, a minimum of 3/8 inch, 1/2 inch, 3/4 inch, or one inch space is to be provided for four inch, six inch, eight to 10 inch, or 12 inch plus wide planks, respectively.
 - 6. The width of the structure shall not exceed twice the clearance between the structure and the surface of the ground below or the water surface at mean high tide (measured from the bottom of the stringers), except for floating docks whose width shall not exceed eight feet. Under typical circumstances the maximum width of the structure shall be eight feet over water and six feet over wetlands and intertidal flats, except as noted at (b)6iii below. For the purposes of this section, an intertidal flat is a low lying strip of land along a shoreline located between spring high and spring low tides. The height of the structure over wetlands shall be a minimum of four feet regardless of width;
 - i. A minimum of eight feet of open water shall be provided between any docks if the combined width of the docks over the water exceeds eight feet;
 - ii. Construction and placement of the dock shall be a minimum of four feet from all property lines, for docks which are perpendicular to the adjacent bulkhead or shoreline; and
 - iii. In man-made lagoons only, the maximum width of the structure shall be eight feet over water and six feet over wetlands; The height of the structure over wetlands shall be a minimum of four feet;
 - 7. In man-made lagoons only, the structure extends no more than 20 percent of the width of the lagoon from bank to bank; and
 - 8. The proposed structure and associated mooring piles do not hinder navigation or access to adjacent water areas. A hazard to navigation will apply to all potential impediments to navigation, including access to adjacent moorings, water areas and docks and piers.
- (c) The construction of recreational docks and piers within areas designated by the Department as shellfish habitat must comply with the standards specified under the shellfish habitat rule, N.J.A.C. 7:7E-3.2.
- (d) The construction of recreational docks and piers within submerged vegetation areas must comply with the standards specified under the Submerged Vegetation rule, N.J.A.C. 7:7E-3.6.
- (e) For sites which have existing dock or pier structures exceeding eight feet in width over water areas and/or wetlands, which were constructed prior to September 1978 and for which the applicant proposes to increase the coverage over the water area or wetland by relocating or increasing the number or size of docks or piers, the existing oversized structures must be reduced to a maximum

of eight feet in width over water areas and six feet in width over wetlands and intertidal flats. All structures proposed as part of an expansion must comply with all of the applicable Coastal Zone Management rules.

- (f) **The construction of covered or enclosed structures such as gazebos or sheds located on or above the decking of recreational docks and piers is prohibited except on public piers owned and controlled by a public agency.**
- (g) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because there are no recreational or fishing docks or piers at the OCGS site.

7:7E-4.6 Maintenance Dredging

- (a) Maintenance dredging is the removal of accumulated sediment from previously authorized and legally dredged navigation and access channels, marinas, lagoons, canals or boat moorings for the purpose of maintaining a previously authorized water depth and width for safe navigation.
1. To be considered maintenance dredging:
 - i. The proposed dredge area must be limited to the same depth, length and width as the previous dredging operation; and
 - ii. For natural water areas, the area must have been either:
 - (1) Currently used for navigation or mooring of vessels requiring the proposed water depth; or
 - (2) Dredged within the last 10 years.

AmerGen Response:

Construction of the plant in the 1960's involved new dredging in the South Branch of the Forked River and Oyster Creek. In addition, OCGS owners re-dredged the South Branch of Forked River in 1984 and 1997 and Oyster Creek in 1978. Because this dredging was performed less frequently than every 10 years [NJAC 7:7E-4.6(a)1ii(2)], it does not meet the state definition of "maintenance dredging" unless it is for the purpose of maintaining navigation depth [NJAC 7:7E-4.6(a)1ii(1)]. AmerGen notes that the state determinations for the OCGS 1984 and 1997 dredging characterized the majority of the proposed dredging as "maintenance dredging," while some of it fell into the "new dredging" category.

- (b) Maintenance dredging is conditionally acceptable to the authorized depth, length and width within all General Water Areas to ensure that adequate water depth is available for safe navigation, provided:
1. An acceptable dredged material placement site, with sufficient capacity will be used. (see N.J.A.C. 7:7E-4.8 Dredged material disposal in water areas and N.J.A.C. 7:7E-7.12 Dredged material placement on land);
 2. Pre-dredging chemical and physical analysis of the dredged material and/or its elutriate may be required where the Department suspects contamination of sediments. Additional testing, such as bioaccumulation and bioassay testing of sediments, may also be required as needed to determine the acceptability of the proposed placement site for the dredged material. The results of these tests will be used to determine if contaminants may be resuspended at the dredging site and what methods may be needed to control their escape. The results will also be used to determine acceptability of the proposed dredged material placement method and site;
 3. Turbidity concentrations (that is, suspended sediments) and other water quality parameters at, downstream, and upstream of the dredging site, and slurry or decant water overflows shall meet applicable State Surface Water Quality Standards at N.J.A.C. 7:9B.

The Department may require the permittee to conduct biological, physical and chemical water quality monitoring before, during, and after dredging and disposal operations to ensure that water quality standards are not exceeded;

4. If predicted water quality parameters are likely to exceed State Surface Water Quality Standards, or if pre-dredging chemical analysis of dredged material or elutriate reveals significant contamination, the Department will work cooperatively with the applicant to fashion acceptable control measures and will impose seasonal restrictions under specific circumstances identified at (b)7 below;

5. For mechanical dredges such as clamshell bucket, dragline, grab, or ladders, deploying silt curtains at the dredging site may be required, if feasible based on site conditions. Where the use of silt curtains is infeasible, dredging using closed watertight buckets or lateral digging buckets may be required. The Department may decide not to allow mechanical dredging of highly contaminated sites even if turbidity control measures were planned;
6. For hydraulic dredges specific operational procedures designed to minimize water quality impacts, such as removal of cutter head, flushing of pipeline sections prior to disconnection, or limitations on depth of successive cuts may be required;
7. The Department may authorize dredging on a seasonally restricted basis only, in waterways characterized by the following:
 - i. Known spawning, wintering or nursery areas of shortnose sturgeon, winter flounder, Atlantic sturgeon, alewife, blueback herring, striped bass, white perch or blue crab;
 - ii. Water bodies downstream of known anadromous fish spawning sites under N.J.A.C. 7:7E-3.5 Finfish migratory pathways, where the predicted turbidity plume will encompass the entire cross-sectional area of the water body, thus forming a potential blockage to upstream migration;
 - iii. Areas of contaminated sediments with high levels of fecal coliform and/or streptococcus bacteria, and/or hazardous substances adjacent to (upstream or downstream) State approved shellfishing waters and public or private bathing beaches; or
 - iv. Areas within 1,000 meters or less of oyster beds as defined in N.J.A.C. 7:7E-3.2; and
8. Maintenance dredging side slopes shall not be steeper than 3:1 adjacent to wetlands to prevent undermining and/or sloughing of the wetlands.

AmerGen Response:

The state permit for past OCGS dredging specified protective measures (Ref. A-13) and AmerGen would conduct future dredging activities in accordance with requirements of state (and federal) permits..

- (c) Reprofiling, which is the movement of material from one area of a berth or channel to an adjacent, deeper location, is discouraged in all water areas except the New York-New Jersey Harbor Area as provided at (c)1 below.
 1. Reprofiling is conditionally acceptable in the New York-New Jersey Harbor Area north of Sandy Hook, excluding the Raritan Bay and its tributaries east of the Cheesequake Creek provided:
 - i. The applicant has demonstrated that there is no other available dredged material management alternative;
 - ii. The project involves the movement of less than 5,000 cubic yards of material;
 - iii. The depth of the material to be removed is limited to three feet;
 - iv. There exists a suitable adjacent deep water area with sufficient capacity to accommodate the relocated material within which the material will be stable and located so as not to interfere with adjacent navigation channels or berths; and
 - v. The reprofiling is performed by dragging a steel beam or pipe across the berth and/or channel bottom, thereby leveling accumulated sediment to a uniform, specified depth. Alternative procedures will be considered only under special instances where the use of a drag bar is impractical due to limited space in the project area.

AmerGen Response:

Not applicable because OCGS has not performed reprofiling and has no plans to do so as a result of license renewal.

- (d) Propwash dredging, which is the movement of sediment by resuspending accumulated material by scouring the bottom with boat propellers or specially designed equipment with propellers, is prohibited.**

AmerGen Response:

Not applicable because OCGS has not, and has no plans to, conduct propwash dredging at or in the vicinity of OCGS as a result of license renewal.

- (e) The Department has prepared a dredging technical manual, titled “The Management and Regulation of Dredging Activities and Dredged Material Disposal in New Jersey’s Tidal Waters,” October 1997, which provides guidance on dredged material sampling, testing, transporting, processing, management, and placement. The manual is available from the Department’s Office of Maps and Publications, PO Box 420, Trenton, New Jersey, 08625-0420, (609) 777-1038.**

AmerGen Response:

No action required. AmerGen notes that the most recent dredging permit (1997) referenced the manual.

- (f) Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-4.7 New Dredging

- (a) **New dredging is the removal of sediment that does not meet the definition of maintenance dredging at N.J.A.C. 7:7E-4.6.**

AmerGen Response:

Construction of the plant in the 1960's involved new dredging in the South Branch of the Forked River and Oyster Creek. In addition, OCGS owners re-dredged the South Branch of Forked River in 1984 and 1997 and Oyster Creek in 1978 (Ref. A-9, Section 2.2.2, page 2-18). Because this dredging is performed less frequently than every 10 years [NJAC 7:7E-4.6(a)1(ii)(2)], it does not meet the state definition of "maintenance dredging," unless it was for the purpose of maintaining navigation depth [NJAC 7:7E-4.6(a)1(ii)(1)]. State determinations for the OCGS 1984 and 1997 dredging characterized the majority of the proposed dredging as "maintenance dredging," while some of it fell into the "new dredging" category.

- (b) **New dredging is conditionally acceptable in all General Water Areas for boat moorings, navigation channels or anchorages provided:**
1. **There is a demonstrated need that cannot be satisfied by existing facilities;**
 2. **The facilities served by the new dredging satisfy the location requirements for Special Water's Edge Areas;**
 3. **The adjacent water areas are currently used for recreational boating, commercial fishing or marine commerce;**
 4. **The dredge area causes no significant disturbance to Special Water or Water's Edge Areas;**
 5. **The adverse environmental impacts are minimized to the maximum extent feasible;**
 6. **The dredge area is reduced to the minimum practical;**
 7. **The maximum depth of the newly dredged area shall not exceed that of the connecting access or navigation channel necessary for vessel passage to the bay or ocean;**
 8. **Dredging will have no adverse impacts on groundwater resources;**
 9. **No dredging shall occur within 10 feet of any wetlands. The proposed slope from this 10 foot buffer to the nearest edge of the dredged area shall not exceed three vertical to one horizontal; and**
 10. **Dredging shall be accomplished consistent with all of the following conditions, as appropriate to the dredging method:**
 - i. **An acceptable dredged material placement site with sufficient capacity will be used. (See N.J.A.C. 7:7E-4.8 Dredged material disposal in water areas, and N.J.A.C. 7:7E-7.12 Dredged material placement on land);**
 - ii. **Pre-dredging chemical and physical analysis of the dredged material and/or its elutriate may be required where the Department suspects contamination of sediments. Additional testing, such as bioaccumulation and bioassay testing of sediments, may also be required as needed to determine the acceptability of the proposed placement site for the dredged material. The results of these tests will be used to determine if contaminants may be resuspended at the dredging site and what methods may be needed to control their escape. The results will also be used to determine acceptability of the proposed dredged material placement method and site;**

- iii. **Turbidity concentrations (that is, suspended sediments) and other water quality parameters at, downstream, and upstream of the dredging site, and slurry water overflows shall meet applicable State Surface Water Quality Standards at N.J.A.C. 7:9B. The Department may require the permittee to conduct biological, physical and chemical water quality monitoring before, during, and after dredging and disposal operations to ensure that water quality standards are not exceeded;**
- iv. **If predicted water quality parameters are likely to exceed State Surface Water Quality Standards, or if pre-dredging chemical analysis of dredged material or elutriate reveals significant contamination, then the Department will work cooperatively with the applicant to fashion acceptable control measures and will impose seasonal restrictions under the specific circumstances identified at (b)11vii below;**
- v. **For new dredging using mechanical dredges such as clamshell bucket, dragline, grab, or ladders, deploying silt curtains at the dredging site may be required, if feasible based on site conditions. Where the use of silt curtains is infeasible, dredging using closed watertight buckets or lateral digging buckets may be required. The Department may decide not to allow mechanical dredging of highly contaminated sites even if turbidity control measures were planned;**
- vi. **For hydraulic dredges, specific operational procedures designed to minimize water quality impacts, such as removal of cutter head, flushing of pipeline sections prior to disconnection, or limitations on depth of successive cuts, may be required;**
- vii. **The Department may authorize dredging on a seasonally restricted basis only, in waterways characterized by the following:**
 - (1) **Known spawning, wintering or nursery areas of shortnose sturgeon , winter flounder, Atlantic sturgeon, alewife, blueback herring, striped bass or blue crab;**
 - (2) **Water bodies downstream of known anadromous fish spawning sites under N.J.A.C. 7:7E-3.5 Finfish migratory pathways, where the predicted turbidity plume will encompass the entire cross-sectional area of the water body, thus forming a potential blockage to upstream migration;**
 - (3) **Areas of contaminated sediments with high levels of fecal coliform and/or streptococcus bacteria, and/or hazardous substances adjacent to (upstream or downstream) State approved shellfishing waters and public or private bathing beaches; or**
 - (4) **Areas within 1,000 meters or less of oyster beds as defined in N.J.A.C. 7:7E-3.2; and**
- viii. **Side slopes shall not be steeper than 3:1 adjacent to wetlands to prevent undermining and/or sloughing of the wetlands.**

AmerGen Response:

The state has imposed on AmerGen the responsibility to monitor Forked River and Oyster Creek so that shoaling may be detected and dredged as needed to avoid disrupting navigation (Ref. A-8, page 2.5-9). This dredging has been performed in accordance with U. S. Army Corps of Engineers and New Jersey dredging permits using upland materials disposal. In addition, it is possible that conditions at the time that AmerGen might need to use its barge facility could necessitate re-dredging the route from the Oyster Creek mouth towards the Intercoastal Waterway for barge access. AmerGen would obtain and comply with the requisite permits for this activity, too.

- (c) **Propwash dredging, which is the movement of sediment by resuspending accumulated material by scouring the bottom with boat propellers or specially designed equipment with propellers is prohibited.**

AmerGen Response:

Not applicable because AmerGen has not, and has no plans to, conduct propwash dredging at or in the vicinity of OCGS as a result of license renewal.

- (d) New dredging or excavation to create new lagoons for residential development is prohibited in wetlands, N.J.A.C. 7:7E-3.27, wetlands buffer, N.J.A.C. 7:7E-3.28, endangered or threatened wildlife or vegetation species habitats, N.J.A.C. 7:7E-3.38, and discouraged elsewhere.**

AmerGen Response:

Not applicable because AmerGen did not, and has no plans to, dredge or excavate to create a new lagoon as a result of license renewal.

- (e) New dredging is conditionally acceptable to control siltation in lakes, ponds and reservoirs, provided that an acceptable sedimentation control plan is developed to address re-sedimentation of these water bodies.**

AmerGen Response:

Not applicable because AmerGen did not and has no plans to dredge in a lake, pond, or reservoir as a result of license renewal.

- (f) The Department has prepared a dredging technical manual, titled "The Management and Regulation of Dredging Activities and Dredged Material Disposal in New Jersey's Tidal Waters," October 1997, which provides guidance on dredged material sampling, testing, transporting, processing, management, and placement. The manual is available from the Department's Office of Maps and Publications, PO Box 420, Trenton, New Jersey, 08625-0420, (609) 777-1038.**

AmerGen Response:

No action required. AmerGen notes that the most recent dredging permit (1997) referenced the manual.

- (g) With the exception of N.J.A.C. 7:7E-4.7(b), (c), (d) and (e) above, new dredging is discouraged.**

AmerGen Response:

Not applicable. AmerGen anticipates no new dredging that does not fit into NJAC 7:7E-4.7 (b).

- (h) Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-4.8 Dredged material disposal

- (a) Dredged material disposal is the discharge of sediments removed during dredging operations.

AmerGen Response:

AmerGen has discharged sediment removed during dredging operations into an upland confined dredged materials disposal basin and may need to do so in the future.

- (b) The standards relevant to dredged material disposal in water areas are as follows:

1. Dredged material disposal is prohibited in tidal guts, man-made harbors, medium rivers, creeks and streams, and lakes, ponds and reservoirs. Dredged material disposal is discouraged in open bays, semi-enclosed and backbays where the water depth is less than six feet;
2. Disposal of dredged materials in the ocean and bays deeper than six feet is conditionally acceptable provided that there is no feasible beneficial use or upland placement site available and it is in conformance with the USEPA and US Army Corps of Engineers Guidelines (40 C.F.R. parts 220-228 and 230-232 and 33 CFR, parts 320-330 and 335-338) established under Section 404(b) of the Clean Water Act and the Evaluation of Dredged Material Proposed for Ocean Disposal Testing Manual, EPA-503/8-91/001, February 1991, and Evaluation of Dredged Material Proposed for Discharge in Inland and Near Coastal Waters Testing Manual, EPA-000/0-93/000, May 1993, as appropriate to the proposed disposal site;
3. Dredged material disposal in water areas shall conform with applicable State Surface Water Quality Standards at N.J.A.C. 7:9B;
4. Overboard disposal (also known as aquatic, open water, side casting, subaqueous, or wet) of uncontaminated sediments into unconfined disposal sites in existing anoxic dredge holes, shall comply with the following:
 - i. Data on water quality, benthic productivity and seasonal finfish use demonstrate that the unconfined disposal site has limited biological value;
 - ii. All subaqueous dredged material disposal shall utilize best management techniques such as submerged elbows or underwater diffusers and may be limited to a particular tidal cycle to further minimize impacts; and
 - iii. The hole shall not be filled higher than the depth of the surrounding waters.
5. Overboard disposal of sediments consisting of less than 90 percent sand shall be conditionally acceptable in unconfined disposal sites when shallow waters preclude removal to an upland or confined site. Such disposal shall comply with the following:
 - i. Shellfish habitats (as defined in N.J.A.C. 7:7E-3.2) are not within 1,000 meters;
 - ii. Disposal will not smother or cause condemnation or contamination of harvestable shellfish resources (as in N.J.A.C. 7:7E-3.2);
 - iii. Sediment characteristics of the dredged material and disposal site are similar; and
6. Uncontaminated dredged sediments with 75 percent sand or greater are generally encouraged for beach nourishment.

AmerGen Response:

Not applicable because AmerGen did not, and has no plans to, dispose of dredged material in open water areas.

- (c) **The standards for dredged material placement on land are found at N.J.A.C. 7:7E-7.12.**

AmerGen Response:

During plant construction and the three subsequent, periodic dredgings, dredged materials were placed at an onsite, upland dredged materials basin. If dredging becomes necessary during the term of the renewed license, then AmerGen would seek New Jersey and U. S. Army Corps of Engineers approval to do the same. AmerGen holds an NJPDES stormwater discharge permit and an NJPDES Discharge to Groundwater Permit for the dredged materials basin. In addition the Ocean County Soil Conservation District has certified the OCGS soil erosion and sediment control plan for the upland basin.

- (d) **The Department has prepared a dredging technical manual, titled “The Management and Regulation of Dredging Activities and Dredged Material Disposal in New Jersey’s Tidal Waters,” October 1997, which provides guidance on dredged material sampling, testing, transporting, processing, management, and placement. The manual is available from the Department’s Office of Maps and Publications, PO Box 420, Trenton, New Jersey, 08625-0420, (609) 777-1038.**

AmerGen Response:

No action required. AmerGen notes that the most recent dredging permit (1997) referenced the manual.

- (e) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-4.9 Solid waste or sludge dumping

- (a) The dumping of solid waste or sludge is the discharge of solid or semi-solid waste material from industrial or domestic sources or sewage treatment operations into a water area.**
- (b) The dumping of solid or semi-solid waste of any type in any General Water Area is prohibited.**
- (c) Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because AmerGen did not, and has no plans to, dispose of solid waste or sludge into a water area. AmerGen uses licensed carriers to transport OCGS wastes to licensed landfills.

7:7E-4.10 Filling

- (a) **Filling is the deposition of material including, but not limited to, sand, soil, earth, and dredged material, into water areas for the purpose of raising water bottom elevations to create land areas.**

AmerGen Response:

During construction of the plant, a barge unloading facility was constructed on Oyster Creek by installing sheet piling parallel to the shore and filling behind it.

- (b) **Filling is prohibited in lakes, ponds, reservoirs and open bay areas at greater than 18 feet as defined at N.J.A.C. 7:7E-4.1, unless the filling is consistent with the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.) and Freshwater Wetlands Protection Act rules, N.J.A.C. 7:7A.**

AmerGen Response:

Not applicable because AmerGen and previous OCGS owners have not filled in lakes, ponds, reservoirs, and open bay areas, and AmerGen has no plans to do so as a result of license renewal.

- (c) **Filling in a man-made lagoon as defined at N.J.A.C. 7:7E-1.8, is discouraged unless:**

1. **The filling complies with (d) below; or**
2. **In those areas where two existing lawful bulkheads are not more than 75 feet apart and no limit of fill line has been promulgated by the Department, the connecting bulkhead may not extend seaward of a straight line connecting the ends of the existing bulkheads. Compliance with the mitigation rule at N.J.A.C. 7:7E-1.6 shall not be required in such cases.**

AmerGen Response:

Not applicable because AmerGen and previous OCGS owners have not filled in lagoons and AmerGen has no plans to do so as a result of license renewal.

- (d) **Except as provided in (b) and (c) above, filling is discouraged in all other water areas. In cases where there is no alternative to filling, filling is conditionally acceptable provided:**

1. **The use that requires the fill is water dependent;**
2. **There is a demonstrated need that cannot be satisfied by existing facilities;**
3. **There is no feasible or practical alternative site on an existing Water's Edge;**
4. **The minimum practicable area is filled;**
5. **The adverse environmental impacts are minimized, for example, by compensating for the loss of aquatic habitat by creation of an area of equivalent or greater environmental value elsewhere in the same estuary;**
6. **Minimal feasible interference is caused to Special Areas; and**
7. **Pilings and columnar support or floating structures are unsuitable for engineering or environmental reasons.**

AmerGen Response:

OCGS filling was for the purpose of creating a barge mooring facility for delivery of large components during OCGS construction. AmerGen is maintaining the facility as an option for receiving large components or shipping large components upon OCGS decommissioning. Both of these uses are water dependent. In addition, OCGS has allowed Ocean County to use the facility in support of the creation of artificial reefs in the nearby Atlantic Ocean.

The OCGS barge mooring facility location minimizes overland travel and resultant interruption of traffic, interferences with overhead structures, and concern about overpass capacity. At the time of OCGS construction, and now, there is no nearby alternative for barge off- and on-loading.

AmerGen believes that removing the existing facility and creating a new one at an alternative site would increase coastal impacts and be impracticable.

The OCGS barge mooring facility size was designed to accommodate barge tie-up and offloading activity for large components.

Facility construction at the time of dredging Oyster Creek minimized overall construction impacts by having concurrent activity and providing a location and use for dredged material. AmerGen has no plans for additional construction at the facility.

The OCGS barge mooring facility is not an impediment to navigation or other special areas in the vicinity.

Use of pilings and columnar support would have increased environmental impacts by incurring impacts of that type of construction plus necessitating dredged material disposal elsewhere.

- (e) **Mitigation shall be required for the filling of tidal water areas at a ratio of one acre created to one acre lost in the same estuary. The mitigation standards for the filling of intertidal and subtidal shallows are found at N.J.A.C. 7:7E-3.15(g) and (h). Mitigation shall not be required for the following:**
1. **Filling in accordance with N.J.A.C. 7:7E-4.10(c);**
 2. **Beach nourishment in accordance with N.J.A.C. 7:7E-7.11(d); and**
 3. **Construction of a replacement bulkhead in accordance with N.J.A.C. 7:7E- 7.11(e)2i or ii.**

AmerGen Response:

Not applicable because the OCGS barge mooring facility was constructed prior to adoption of this standard and AmerGen does not plan to construct a replacement bulkhead as a result of license renewal.

- (f) **Filling of wetlands must comply with the Wetlands rule, N.J.A.C. 7:7E-3.27.**

AmerGen Response:

No action required. See response to NJAC 7:7E-3.27

- (g) **Filling using clean sediment of suitable particle size and composition is acceptable for beach nourishment projects provided it meets the standards of the Coastal Engineering rule, N.J.A.C. 7:7E-7.11(d)**

AmerGen Response:

Not applicable because AmerGen has not conducted and has no plans to conduct, beach nourishment as a result of license renewal.

- (h) **Standards for the removal of unauthorized fill are as follows:**

1. **For filling which took place prior to September 26, 1980 (the effective date of the Coastal Zone Management rules Statewide, or prior to September 28, 1978 for areas within the coastal area as defined by CAFRA (N.J.S.A. 13:19-4), removal shall be required only if the fill has resulted in ongoing significant adverse environmental impacts, such as the blocking of an otherwise viable tidal wetland or water body, and its removal will alleviate the adverse impacts.**
2. **For filling which took place subsequent to September 26, 1980 (or subsequent to September 28, 1978 for areas within the coastal area defined as defined by CAFRA (N.J.S.A. 13:19-4)) removal shall be required if the fill does not comply with the standards of (b), (c) or (d) above.**

AmerGen Response:

Not applicable because OCGS fill was created at the time of OCGS construction, circa 1966. This fill has not been shown to have significant ongoing environmental impacts. No filling has taken place since September 26, 1980, nor is any planned as a result of license renewal.

- (i) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-4.11 Mooring

- (a) **A boat mooring is a temporary or permanently fixed or floating anchored facility in a water body for the purpose of attaching a boat.**

AmerGen Response:

AmerGen installed and maintains a barge mooring facility on the south side of Oyster Creek for the purpose of offloading possible deliveries of large components or shipping large components during OCGS decommissioning.

- (b) **Temporary or permanent boat mooring areas are conditionally acceptable provided:**

- 1. There is a demonstrated need that cannot be satisfied by existing facilities;**
- 2. Adverse environmental impacts are minimized to the maximum extent practicable;**
- 3. The mooring area is adequately marked and is located so as not to hinder navigation. A hazard to navigation will apply to all potential impediments to navigation, including access to adjacent moorings, water areas, docks and piers.**

AmerGen Response:

The facility was constructed in accordance with state and U.S. Army Corps of Engineers permits and, being parallel to the shore, its location does not impede navigation. There is no alternative barge offloading facility sufficiently close to OCGS to avoid overland transportation problems for the size of structures or equipment that AmerGen could need.

- (c) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-4.12 Sand and gravel mining

- (a) Sand and gravel mining is the removal of sand or gravel from the water bottom substrate, usually by suction dredge, for the purpose of using the sand or gravel at another location.
- (b) Sand and gravel mining is discouraged in all water body types except as provided at (b)1 below.
 - 1. Sand and gravel mining is prohibited in lakes, ponds and reservoirs, man-made harbors and tidal guts as defined at N.J.A.C. 7:7E-4.1, unless the water body was created by the mining process, in which case the use is conditionally acceptable provided:
 - i. Direct and indirect impacts to Special areas are minimized;
 - ii. Turbidity and resuspension of toxic materials is controlled throughout the mining operation consistent with the State's Surface Water Quality Standards (N.J.A.C. 7:9B-4);
 - iii. There is an acceptable disposal site for the waste from washing operations;
 - iv. In rivers, creeks, and streams, the depth of water at the mining site is at least six feet below mean low water;
 - v. The mining will not increase shoreline erosion; and
 - vi. The mining will not create anoxic water conditions.
- (c) Sand and gravel mining for the purposes of beach nourishment is conditionally acceptable provided:
 - 1. Direct and indirect impacts to special areas and marine fish and fisheries are minimized;
 - 2. In rivers, creeks, and streams, the depth of water at the mining site is at least six feet below mean low water;
 - 3. The mining will not increase shoreline erosion;
 - 4. The mining will not create anoxic water conditions; and
 - 5. The beach nourishment project complies with the coastal engineering rule, N.J.A.C. 7:7E-7.11(d).
- (d) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because AmerGen did not, and has no plans to, conduct sand or gravel mining as a result of license renewal.

7:7E-4.13 Bridges

- (a) A bridge is any continuous structure spanning a water body, except for an overhead transmission line.**
- (b) Bridges are conditionally acceptable provided:**
 - 1. There is a demonstrated need that cannot be satisfied by existing facilities;**
 - 2. Pedestrian and bicycle use is provided for unless it is demonstrated to be inappropriate; and**
 - 3. Fishing catwalks and platforms are provided to the maximum extent practicable. This shall be taken into consideration during the design phase of all proposed bridge projects.**
- (c) Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because AmerGen did not, and has no plans to, construct a bridge as a result of license renewal.

7:7E-4.14 Submerged pipelines

- (a) Submerged pipelines (pipelines) are underwater pipelines which transmit liquids or gas, including crude oil, natural gas, water petroleum products or sewerage.**
- (b) Submerged pipelines are conditionally acceptable provided:**
 - 1. The pipelines are not sited within Special Areas, unless no prudent and feasible alternate route exists;**
 - 2. Directional drilling is used unless it is demonstrated that the use of directional drilling is not feasible;**
 - 3. The pipeline is buried to a sufficient depth to avoid exposure or hazard;**
 - 4. All trenches are backfilled to preconstruction depth with naturally occurring sediment; and**
 - 5. The proposed development has been designed to minimize impacts to the water area.**
- (c) Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because AmerGen did not, and has no plans to, construct a submerged pipeline as a result of license renewal.

7:7E-4.15 Overhead transmission lines

- (a) **Overhead transmission lines are wires hung between supporting pylons for transmission from the site of origin to the site of consumption. Overhead transmission lines include electrical, telecommunication and cable television lines.**
- (b) **Overhead transmission lines are prohibited over open bays, semi-enclosed and back bays, lakes, ponds and reservoirs as defined at N.J.A.C. 7:7E-4.1. Overhead transmission lines are discouraged over large rivers as defined at N.J.A.C. 7:7E-4.1.**
- (c) **Overhead transmission lines are conditionally acceptable over rivers, streams, creeks, and tidal guts as defined at N.J.A.C. 7:7E-4.1, provided:**
 - 1. **There is a demonstrated need that cannot be satisfied by existing facilities;**
 - 2. **There is no feasible alternative route that avoids crossing water bodies;**
 - 3. **The transmission line provides adequate vertical clearance for masts; and**
 - 4. **Visual impacts are minimized to the maximum extent practicable.**

AmerGen Response:

Not applicable because AmerGen owns and operates nuclear plants and owns no transmission lines. Existing transmission lines that connect to the OCGS substation are owned by FirstEnergy. Conectiv, a mid-Atlantic distribution company, has constructed a transmission line from OCGS to Egg Harbor. AmerGen is unaware of plans to construct additional lines as a result of license renewal. Indeed, an assessment done by the operator of electric transmission lines in New Jersey identifies transmission line routes that would have to be upgraded or replaced to import additional power to the New York metro area in the event of retirement of OCGS in 2009. The cost was expected to exceed \$50 million (Ref. A-41, pages 13 and 14). Because AmerGen does not and will not own any transmission lines connected to OCGS, AmerGen concludes that NJAC 7:7E-4.15 is inapplicable to the OCGS coastal zone certification.

7:7E-4.16 Dams and impoundments

- (a) **Dams and impoundments are structures that obstruct natural water flow patterns for the purpose of forming a contained volume of water. Impoundments include dikes with sluice gates and other structures to control the flow of water.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve construction of a dam or impoundment. During the construction of OCGS, Oyster Creek was dammed to create an emergency fire pond. During the term of the renewed license, OCGS will continue to maintain the fire pond and dam. No alterations to the dam are proposed as a result of license renewal, however.

- (b) **Except for medium rivers, creeks and stream as defined at N.J.A.C. 7:7E-4.1, the construction of dams and impoundments is prohibited. The construction of these structures is conditionally acceptable in medium rivers, creeks and streams as defined at N.J.A.C. 7:7E-4.1, provided:**

1. **The structures are essential for water supply purposes or for the creation of special wildlife habitats;**
2. **Adverse impacts are minimized; and**
3. **The structures will not adversely affect navigation routes.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve construction of a dam or impoundment. During the term of the renewed license, OCGS will continue to maintain the existing fire pond and dam on Oyster Creek. Oyster Creek is a medium river and is naturally navigable above the pond only to canoes and kayaks; the dam does not impede navigation.

- (c) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-4.17 Outfalls and intakes

- (a) **Outfalls and intakes are pipe openings that are located in water areas for the purpose of intake of water or discharge of effluent including sewage, stormwater and industrial effluents.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve any new construction of outfalls or intakes. OCGS has an existing intake and several outfalls which will continue to be maintained and used during the term of the renewed operating license.

- (b) **Outfalls and intakes are conditionally acceptable provided that the use associated with the intake or outfall meets applicable Coastal Zone Management rules.**

AmerGen Response:

The state has reviewed all OCGS outfalls for inclusion in the NJPDES permit program and has accounted for all intakes as part of the NJPDES water balance review, and NJPDES permitting is subject to Coastal Zone Management review. For these reasons, AmerGen concludes that OCGS outfalls and intakes meet applicable Coastal Zone Management rules.

- (c) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-4.18 Realignment of water areas

- (a) **Realignment of water areas means the physical alteration or relocation of the surface configuration of any water area. This does not include the rebulkheading of a previously bulkheaded water area or the bulkheading at or above the spring high water line.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve new realignment of water areas. During the construction of OCGS, a semi-circular canal was dredged between the South Branch of the Forked River and Oyster Creek and both streams were dredged to create the horseshoe-shaped cooling water system that consists of the lower reaches of the South Branch of the Forked River, the dredged canal, and the lower reaches of Oyster Creek. Water is withdrawn from Barnegat Bay via the intake canal (South Branch of Forked River and manmade intake canal), circulated through the plant's condensers, and returned to Barnegat Bay via the discharge canal (manmade discharge canal and Oyster Creek). As a result, the direction of flow of the volume of water the circulating water pumps draw into the plant at the OCGS intake (the South Branch of Forked River) was reversed.

- (b) **Realignment of naturally occurring water areas is discouraged. Discouraged uses can only be approved if it can be demonstrated that the proposed development is in the public interest and mitigation for the impact is provided.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve new realignment of water areas. The environmental impacts of the cooling water system design and realignment were assessed in the conceptual design phase of the project and approved by the regulatory agencies, including the appropriate NJ agencies, prior to construction. The operating parameters of OCGS will not change as a result of license renewal.

- (c) **Realignment of previously realigned water areas is conditionally acceptable, provided:**
- 1. It is demonstrated that no adverse environmental impacts (that is, water quality, flood hazard, species diversity reduction/alteration) will result; and**
 - 2. A net recreational/ecological benefit will demonstrably accrue.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve new realigned water areas.

- (d) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-4.19 Breakwaters

- (a) **Breakwaters, including, but not limited to, those constructed of concrete, rubble mound and timber, are structures designed to protect shoreline areas or boat moorings by intercepting waves and reducing the wave energy which would normally impact the adjacent shoreline areas or boat mooring areas. Typically, timber breakwaters are designed and utilized to protect boat moorings. In most cases concrete or rubble mound breakwaters are designed and utilized to protect shoreline areas which are subject to storm waves and associated erosion.**

AmerGen Response:

There is a timber breakwater along the Barnegat Bay shoreline on the north side of the Oyster Creek mouth, on what is known as Finninger Farm.

- (b) **Construction of breakwaters is conditionally acceptable provided:**

- 1. Timber, vinyl or plastic breakwaters shall be at least 18 inches above the bottom of the waterway and shall provide a minimum of three inch spacing between planks except as provided at (b)3 below. The individual plank width shall not exceed six inches; and**
- 2. For detached breakwaters which are not fixed directly to a dock or pier structure, marking with photocell lights and/or reflectors is required; and**
- 3. The construction of breakwater structures other than those which comply with (b)1 above shall be consistent with the acceptability conditions for Filling, N.J.A.C. 7:7E-4.10 and Structural Shore Protection N.J.A.C. 7:7E-7.11.**

AmerGen Response:

The construction of the OCGS breakwater pre-dates purchase of the land for OCGS and AmerGen has no details about its construction. AmerGen performs no maintenance on the breakwater and has no plans to replace it or to construct another breakwater elsewhere on the OCGS site as a result of license renewal.

- (c) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-4.20 Submerged cables

- (a) **Submerged cables (cables) are underwater telecommunication cables, and shall include all associated structures in the water such as repeaters.**
- (b) **Submerged cables, or portions thereof, which are not located in the Atlantic Ocean shall meet the following conditions:**
 - 1. **The cable shall not be sited within Special Areas, unless no prudent and feasible alternate route exists;**
 - 2. **Directional drilling for the installation of cables is encouraged over the use of trenching;**
 - 3. **The cable route minimizes areas where anchors are likely to foul the cable; and**
 - 4. **The alignment of the cable route is marked at the landfall. This provision does not apply to cables that are directionally drilled.**
- (c) **Submerged cables, or portions thereof, which are sited in the Atlantic Ocean shall meet the following conditions:**
 - 1. **Siting a cable in the Atlantic Ocean is discouraged unless the cable complies with the following:**
 - i. **If the cable is either sited within Surf clam areas, N.J.A.C. 7:7E-3.3, or sited within areas where Marine fish, as defined at N.J.A.C. 7:7E-8.2, are commercially harvested using mobile bottom-tending gear, no prudent and feasible land-based alternate route exists and the cable follows the shortest route to waters beyond the Surf clam areas and areas where Marine fish are commercially harvested using mobile bottom-tending gear; and**
 - ii. **If the cable is sited within Prime fishing areas, N.J.A.C. 7:7E-3.4, Shipwreck and artificial reef habitats, N.J.A.C. 7:7E-3.13, or Historic and archaeological resources, N.J.A.C. 7:7E-3.36, no prudent and feasible alternate route exists outside of these special areas and the cable follows the route with the least disturbance to these special areas;**
 - 2. **The submerged cable, shall be buried to a depth of at least 1.2 meters both in Surf clam areas, N.J.A.C. 7:7E-3.3, and in areas where Marine fish, as defined at N.J.A.C. 7:7E-8.2, are commercially harvested using mobile bottom-tending gear except where it is demonstrated that it is not practicable to bury the cable to 1.2 meters due to geologic or topographic features or crossing of existing in-service cables. Where it is demonstrated that achieving the depth of 1.2 meters is not practicable, the cable shall be buried as close as practicable to the above standard;**
 - 3. **Where a submerged cable will cross an existing in-service cable either within Surf clam areas, N.J.A.C. 7:7E-3.3, or within areas where Marine fish, as defined at N.J.A.C. 7:7E-8.2, are commercially harvested using mobile bottom-tending gear, the cable company shall minimize the impact of cable crossings on commercial fishing and minimize the risks to the proposed and existing cables, as follows:**
 - i. **The cable shall be buried to the depth of the existing cable or as close thereto as practicable at the crossing;**
 - ii. **The number of cable crossings shall be minimized;**
 - iii. **The location of the cable route shall be adjusted after consultation with the fishing interest groups identified in N.J.A.C. 7:7-4.2(a)3 in order to reduce the impact of cable crossings on commercial fishing, to the maximum extent practicable; and**
 - iv. **The permittee shall, to the maximum extent practicable, share information and otherwise cooperate with those responsible for any cables being crossed and with installers of subsequent cables crossing the subject cable so as to reduce the impacts of cable crossings on commercial fishing.**

4. Where a submerged cable will cross an existing out-of service cable either within Surf clam areas, N.J.A.C. 7:7E-3.3, or within areas where Marine fish, as defined at N.J.A.C. 7:7E-8.2, are commercially harvested using mobile bottom-tending gear, the cable company shall minimize the impact of cable crossings on commercial fishing and minimize the risks to the proposed and existing cables, as follows:
 - i. Where the out-of-service cable is buried less than 0.6 meter, the out-of-service cable shall be cut, and recovered for proper disposal for a distance of at least 500 meters on each side of the selected cable crossing. For surface laid out-of-service cables, the ends of the remaining out-of-service cable shall be re-laid flat on the seabed to minimize problems for other seabed users. For buried out-of-service cables, the ends of the remaining out-of-service cable shall be re-buried to the original depth;
 - ii. Where the out-of-service cable is buried between 0.6 and 1.2 meters, the out-of service cable shall, if practicable, be cut and recovered for proper disposal for a distance of at least 500 meters on each side of the selected cable crossing. The ends of the remaining out-of-service cable shall be re-buried as close as practicable to the original depth, and in no case to a depth of less that 0.6 meters. If the out-of-service cable can not be cut and recovered, the cable crossing shall comply with (c)3 above; and
 - iii. Where the out-of-service cable is buried more than 1.2 meters, the cable shall be laid over the out-of-service cable at the depth prescribed in (c)2 above.
5. Directional drilling for the submerged cable landing is encouraged over the use of trenching to minimize impacts to beaches, dunes, and shallow water areas .
6. The submerged cable route minimizes areas where anchors are likely to foul the submerged cable.
7. Prior to installation of the cable, the permittee shall obtain a financial assurance from a lender or insurer regulated and authorized by the New Jersey Department of Banking and Insurance to transact business in New Jersey. The financial assurance shall be in an amount sufficient for the Department to hire an independent contractor to remove the inactive cable should the permittee fail to do so. Letters of credit, surety bonds and insurance assuring that the Department could hire an independent contractor to remove an inactive cable shall be acceptable to satisfy the financial assurance requirement. The financial assurance shall be released upon the permittee's removal of the cable or upon the Department's determination that the cable may remain in place in accordance with (c)11 below.
8. After the submerged cable has been installed, a long-term inspection and maintenance plan, approved by the Department, shall be implemented both within Surf clam areas, N.J.A.C. 7:7E-3.3, and within areas where Marine fish, as defined at N.J.A.C. 7:7E-8.2, are commercially harvested using mobile bottom tending gear, to insure that the cable remains at the authorized depth and location. The plan shall provide for the following:
 - i. An inspection immediately following cable installation;
 - ii. An inspection 2 years after cable installation;
 - iii. An inspection every 5 years after the inspection required at 8ii above;
 - iv. An investigation within six months after the Department reports to the permittee that it has received information suggesting that the cable has been uncovered. If appropriate, such investigation shall include an inspection of the cable. The Department may require an inspection after reviewing the report submitted pursuant to (c)9 below; and
 - v . Reburial of the cable within 90 days, if practicable, and in no case later than 6 months after the permittee discovers that the cable has been uncovered. Reburial shall be to the depth prescribed in (c)2 above to the maximum extent practicable.
9. A report containing the results of the initial inspection required in 8i above shall be submitted by the permittee to the Department within six months following the inspection. The report shall identify all areas where inactive cable has been cut and all areas where the cable is not buried to a depth of

1.2 meters, and indicate the actual depth in those areas. The report shall also provide the installed route of the cable. All locations shall be reported using latitude and longitude coordinate pairs, in the WGS 84 (World Geodetic System 1984) datum, that were arrived at using the global positioning system (GPS). To reduce the impacts of fishing on cables by notifying the commercial fishing industry of the locations of areas where the cable is buried less than 1.2 meters deep, a copy of the report shall be submitted to the fishing interest groups identified in N.J.A.C. 7:7-4.2(a)3.

10. A report containing the results of inspection and maintenance of the submerged cable required in 8 above, if applicable in the reporting year, a discussion of storm events which could have affected the cable, and reported hits of the cable for the previous year shall be submitted by the permittee to the Department in January of each year. The report shall also indicate if and when the cable becomes out-of-service.
 11. Within two years of taking the cable out of service pursuant to Federal Communications Commission regulations, the submerged cable shall be removed both from Surf clam areas, N.J.A.C. 7:7E-3.3, and from areas where Marine fish, as defined at N.J.A.C. 7:7E-8.2, are commercially harvested using mobile bottom-tending gear. The Department may allow all or portions of the cable to remain in place if leaving the cable in place would not result in a long term adverse impact to the ocean and/or ocean resources, and the cable would not unreasonably interfere with fishing or other uses of the seabed. A permittee who seeks to leave an inactive cable in place shall submit a request, including the reasons and justification for leaving the cable in place. The Department shall solicit public input on the request, including input from the fishing interest groups identified in N.J.A.C. 7:7-4.2(a)3.
 12. If portions of the cable located either within Surf clam areas, N.J.A.C. 7:7E-3.3, or within areas where Marine fish, as defined at N.J.A.C. 7:7E-8.2, are commercially harvested using mobile bottom-tending gear, are not buried to a depth of 0.6 meters, the permittee shall provide a one-time monetary contribution to the Department's dedicated account for shellfish habitat mitigation. The amount of each mitigation contribution provided under this section shall be based on the length of cable that is not buried to a depth of 0.6 meters, based on the inspection required in (c)8i above. The contribution will be calculated at the rate of \$100 per meter of cable which is buried to a depth of less than 0.6 meters. Moneys in the Shellfish Habitat Mitigation account are to be administered by the Department's Bureau of Shellfisheries and utilized for shellfish habitat restoration, enhancement and related research projects.
- (d) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because AmerGen did not, and has no plans to, install a submerged cable as a result of license renewal.

7:7E-4.21 Artificial reefs

- (a) **Artificial Reefs are man-made structures intended to simulate the characteristics and functions of natural reefs created by placing hard structures on the sea-floor for the purpose of enhancing fish habitat and/or fisheries. In time, an artificial reef will attain many of the biological and ecological attributes of a natural reef. Artificial reefs do not include shore protection structures, pipelines, fish aggregating devices, and other structures not constructed for the sole purpose of fish habitat.**
- (b) **New reefs shall be sited in accordance with the following:**
 - 1. **The reef site shall not be located in the following special areas: surf clam areas (N.J.A.C. 7:7E-3.3), prime fishing areas (N.J.A.C. 7:7E-3.4), navigation channels (N.J.A.C. 7:7E-3.7), inlets (N.J.A.C. 7:7E-3.9), and Submerged infrastructure routes (N.J.A.C. 7:7E-3.12) and historic and archaeological resources (N.J.A.C. 7:7E-3.36);**
 - 2. **The reef site shall be located in the Atlantic Ocean;**
 - 3. **The reef site shall be located in a manner that minimizes impacts on commercial fishing operations;**
 - 4. **The reef site shall not be located within shipping lanes, and/or anchorages;**
 - 5. **The natural seafloor at the reef site shall have a firm substrate to minimize sinking of reef materials;**
 - 6. **The reef site shall not be located within an area environmentally influenced by dredge disposal sites, sewage outfalls, or other areas known to experience hypoxic events, contaminated waters or sediment that may impair the quality of fish habitat; and**
 - 7. **The reef site shall not be located in an area with currents that have the potential to cause material instability, scouring, or sanding over.**
- (c) **Construction of new or expanded artificial reefs is conditionally acceptable provided that at the time of deployment, and at all times after creation, the following conditions are met:**
 - 1. **The reef materials are of sufficient density so that it will not move outside of the approved reef boundary;**
 - 2. **The reef materials shall not float;**
 - 3. **The reef materials shall not pose a hazard to navigation;**
 - 4. **The reef materials shall not pose a threat to the marine environment;**
 - 5. **The reef materials shall not be toxic;**
 - 6. **The reef materials shall not be hazardous;**
 - 7. **The reef materials shall not be explosive;**
 - 8. **The reef materials shall not be radioactive;**
 - 9. **The following reef materials are acceptable for deployment, provided that (c)1 through 8 above are met:**
 - i. **Ships;**
 - ii. **Armored military vehicles;**
 - iii. **Manufactured reef habitats;**
 - iv. **Dredge rock;**

- v. **Concrete and steel rubble;**
 - vi. **Demolition material free of floating debris;**
 - vii. **Obsolete submarine telephone cable; and**
 - viii. **Miscellaneous reef materials that meet the conditions in (c)1 through 8 above;**
- 10. The reef material shall be deployed in the following manner:**
- i. **No materials shall be deposited until notification has been provided to the Department at least 72 hours in advance;**
 - ii. **Inspection by the Department prior to deployment, to ensure materials are not harmful to the marine environment, and will not pose a threat to human safety, and comply with the reef material conditions (c)1 through 8 above;**
 - iii. **Department personnel shall directly observe and oversee the deployment of any reef materials;**
 - iv. **To the extent practicable, deployment of reef materials shall not adversely impact the marine environment; and**
 - v. **The locations of artificial reef sites shall be recorded using a Global Positioning Satellite (GPS) system.**
- (d) An Artificial Reef Management Plan shall be submitted for each individual reef permit application and shall include the following:**
- 1. A description of the proposed site;**
 - 2. A mechanism for recording materials used in constructing the reef; and**
 - 3. A monitoring schedule to measure the stability, durability and biological attributes of reef materials and impacts to the marine environment. The schedule shall include submission of monitoring reports, including a listing of materials deployed in the previous year, to the Department every year during reef construction, and every five years thereafter.**
- (e) It shall be the responsibility of the reef-builder to provide the location of the artificial reef to the US Department of Commerce, NOAA, National Ocean Survey, 1315 East-West Highway, Silver Spring, MD 20910-3282, for inclusion on nautical charts.**
- (f) Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because AmerGen did not, and has no plans to, construct an artificial reef at OCGS as a result of license renewal. Exelon, AmerGen's parent company, has funded installation of an artificial reef near the mouth of Barnegat Inlet (Ref. A-21).

Subchapter 5 – Requirements for impervious cover and vegetative cover for general land areas and certain special areas

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that AmerGen does not need to demonstrate compliance with this subchapter (excerpt from state letter quoted below).

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-5.0 Subchapter 5. Requirements For impervious Cover And Vegetative Cover For General Land Areas And Certain Special Areas

This subchapter sets forth requirements for impervious cover and vegetative cover on sites in the CAFRA area, as defined at N.J.A.C. 7:7E-5.2. The applicant does not need to demonstrate compliance with this subchapter at this time, as the applicant is not proposing any new impervious structure. There have been informal discussions with regard for a CAFRA Permit for a new onsite parking area, and the need to demonstrate compliance with this subchapter, when the CAFRA Permit Application is submitted.

7:7E-6.1 Rule on location of linear development

- (a) A linear development as defined at N.J.A.C. 7:7E-1.8, shall comply with the specific location rules to determine the most acceptable route, to the maximum extent practicable. If part of the proposed alignment of a linear development is found to be unacceptable under the specific location rules, that alignment (perhaps not the least possible distance) may nonetheless be acceptable, provided the following conditions are met:
1. There is no prudent or feasible alternative alignment which would have less impact on sensitive areas and marine fish or fisheries as defined at N.J.A.C. 7:7E-8.2;
 2. There will be no permanent or long-term loss of unique or irreplaceable areas;
 3. Appropriate measures will be used to mitigate adverse environmental impacts to the maximum extent feasible, such as restoration of disturbed vegetation, habitats, and land and water features; and 4. The alignment is located on or in existing transportation corridors and alignments, to the maximum extent practicable.

AmerGen Response:

The OCGS site includes driveways and roads (connecting to and on both sides of Highway 9), sewerage pipe (connecting to the municipal line), water pipelines, and electric lines. These linear developments were constructed to appropriate standards and with required state authorizations. AmerGen has no plans for any new linear development as a result of license renewal.

7:7E-6.2 Basic Location Rule

- (a) A location may be acceptable for development under N.J.A.C. 7:7E-3, 4, 5, 5A, 5B, and 6, but the Department may reject or conditionally approve the proposed development of the location as reasonably necessary to:
1. Promote the public health, safety, and welfare;
 2. Protect public and private property, wildlife and marine fisheries; and
 3. Preserve, protect and enhance the natural environment.

AmerGen Response:

The applicant, New Jersey, and the Atomic Energy Commission considered the balance between development and protection of coastal resources in the 1960's and early 1970's to determine whether to approve OCGS construction and operation. AmerGen and NRC have performed balancing more recently to determine whether license renewal meets the requisite standards. NRC used the following criterion:

...whether or not the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy-planning decisionmakers would be unreasonable. (Ref. A-9, page xvi)

NRC has come to a draft conclusion that the answer to the question implied above is "no," as evidenced by the following:

...the preliminary recommendation of the NRC staff is that the Commission determine that the adverse environmental impacts of license renewal for OCGS are not so great that preserving the option of license renewal for energy-planning decisionmakers would be unreasonable. (Ref. A-9, page 9-7).

AmerGen offers the following analysis of the CAFRA basic location rule:

It is difficult to imagine anything more important to public health, safety, and welfare than electricity. We rely on electricity to safely process the food we eat, deliver the water we drink, keep us cool in the summer and warm in the winter, run the medical equipment that helps keep us healthy and fixes us when we're not, keep our toys going, and enable us to do our jobs. When we envision life without electricity the vision is poverty, subsistence living, illness, and premature death. With electricity we have a high per capita standard of living that seems to find ever more ways to use electricity productively. It is obvious why electrification is viewed as the greatest engineering achievement of the 20th century (Ref. A-34).

OCGS produces a lot of electricity, approximately 5 billion kilowatt-hours per year, which is enough to supply 600,000 homes (Ref. A-25). OCGS does this without compromising

public health, safety, and welfare through emissions that coal-fired or gas-fired alternatives would, as illustrated below. Indeed, OCGS emits no CO₂ and, thus, does not contribute to potential concerns about global warming.

Pollutant	Annual Emission (tons per year)		
	Coal-Fired Plant ^a	Gas-Fired Plant ^a	OCGS
Sulfur oxides	2,796	42	0
Nitrogen oxides	469	135	0
Particulates	89	24	0
Carbon monoxide	469	28	0

a. Source: Ref. A-9, pages 8-49 and 8-50 (coal) and 8-64 (gas).

OCGS also contributes to public health, safety, and welfare by providing jobs and input to the local and state economy. OCGS has 450 direct employees and as many as 150 contract and matrixed employees, generating more than \$52 million in direct and indirect annual labor income in Ocean County at wages that are approximately 11 percent higher than the county average. In addition, OCGS creates approximately 1 additional job in the county for every job at the plant and OCGS purchases approximately \$8 million worth of goods and services in the county per year. OCGS accounts for \$12 million in state and local property, sales, and income taxes annually. OCGS electricity sales amount to approximately \$200 million per year.

Emergency planning is part of OCGS's safety-in-depth program and plant personnel are trained and drilled continually in emergency preparedness and response. OCGS emergency response planning, training, and exercisings are integrated with the county's and the state's all-hazard emergency response plans. OCGS annually provides emergency preparedness training to personnel from state, local, and county government, hospital and emergency medical responders, law enforcement, firefighters, and OCGS (Ref. A-25). These efforts help to strengthen the response to all emergencies, not just nuclear emergencies.

OCGS employees make their own contributions to the public welfare. OCGS employees participate in a number of community and civic activities such as the bi-annual American Red Cross Blood Drive, a Thanksgiving food drive and an annual clothing drive. OCGS has the largest employee-run United Way campaign in Ocean County (employees have contributed about \$500,000 over the past five years). (Ref. A-35)

OCGS was constructed and operates in accordance with all state permits designed to protect public and private property, wildlife and fisheries, and the natural environment. As state requirements change to be more protective, AmerGen will continue to work with the state to ensure that OCGS meets the new standards.

7:7E-6.3 Secondary Impacts

- (a) **Secondary impacts are the effects of additional development likely to be constructed as a result of the approval of a particular proposal. Secondary impacts can also include traffic increases, increased recreational demand and any other offsite impacts generated by onsite activities which affect the site and surrounding region.**
- (b) **Coastal development that induces further development shall demonstrate, to the maximum extent practicable, that the secondary impacts of the development will satisfy the Coastal Zone Management rules. The Department may restrict coastal development from connecting to an approved infrastructure in order to prevent adverse impacts to special areas and to protect and preserve coastal resources.**
 - 1. **The level of detail and areas of emphasis of the secondary impact analysis are expected to vary depending upon the type of development. Minor projects may not even require such an analysis. Transportation and wastewater treatment systems are the principal types of development that require a secondary impact analysis, but major industrial, energy, commercial, residential, and other projects may also require a rigorous secondary impact analysis.**
 - 2. **Secondary impact analysis must include an analysis of the likely geographic extent of induced development, its relationship to the State Development and Redevelopment Plan, an assessment of likely induced point and non-point air and water quality impacts, and evaluation of the induced development in terms of all applicable Coastal Zone Management rules.**
 - 3. **Models for secondary impact analysis may be found in New Jersey Department of Community Affairs, Division of State and Regional Planning, Secondary Impacts of Regional Sewerage Systems (1975), and in USEPA, Manual for Evaluating Secondary Impacts of Wastewater Treatment Facilities (EPA-600/5-78-003, 1978).**
- (c) **See note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because NJAC 7:7E-6.3 is applicable to proposed new development and not to existing facilities such as OCGS. This is confirmed by the rationale for NJAC 7:7E-6.3, which states the following:

Further development stimulated by new development and the cumulative effects of coastal development, including development not directly managed by NJDEP may gradually adversely affect the coastal environment. The capacity of existing infrastructure does, however, limit the amount and geographic extent of possible additional development. Secondary impact analysis, particularly of proposed infrastructure, enables NJDEP to ascertain that the direct, short term effects, and the indirect or secondary effects of a proposed development will be consistent with the basic objectives of the Coastal Management Program. Secondary impact analysis enables NJDEP to evaluate likely cumulative impacts in the course of decision-making on specific projects. [emphasis added]

7:7E-7.1 Purpose and scope

Many types of development seek to locate in the coastal zone. The second stage in the screening process of the Coastal Zone Management rules involves analysis of appropriate uses of coastal resources. Use rules are rules and conditions applicable to particular kinds of development. Use rules do not preempt location rules which restrict development, unless specifically Stated. In general, conditions contained in the use rules must be satisfied in addition to the location rules (N.J.A.C. 7:7E-2 through 6), and the resource rules described in the following subchapter (N.J.A.C. 7:7E-8).

AmerGen Response:

No action required.

7:7E-7.2 Housing Use Rules

(Regulation text not reprinted)

AmerGen Response:

Not applicable because AmerGen is not using OCGS for housing and has no plans to use OCGS for housing during a renewal term of plant operation.

7:7E-7.3 Resort Recreational Use

(Regulation text not reprinted)

AmerGen Response:

Not applicable because AmerGen is not using OCGS for resort recreation and has no plans to do so during a renewal term of plant operation.

7:7E-7.3A Marina Development

(Regulation text not reprinted)

AmerGen Response:

Not applicable because AmerGen is not using OCGS as a marina and has no plans to do so during a renewal term of plant operation.

7:7E-7.4 Energy facility use rule

- (a) **Energy facilities include facilities, plants or operations for the production, conversion, exploration, development, distribution, extraction, processing, or storage of energy or fossil fuels. Energy facilities also include onshore support bases and marine terminals. Energy facilities do not include operations conducted by a retail dealer, such as a gas station, which is considered a commercial development.**

AmerGen Response:

OCGS is an energy facility because it produces electricity.

- (b) **Standards relevant to siting of new energy facilities, including all associated development activities, are as follows:**

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

- (c) **Coastal energy facilities construction and operation shall not directly or indirectly result in net loss of employment in the State for any single year.**

AmerGen Response:

OCGS has approximately 450 permanent employees and as many as 150 contract and matrixed employees, for a total direct employment of 600. Using an employment multiplier appropriate to Ocean County (2.7084), this means that the total direct and indirect employment attributable to OCGS is 1,625.

AmerGen is unaware of evidence that New Jersey has lost any employment as a result of OCGS construction or operation, much less employment of 600 or 1,625. The OCGS site was vacant land at the time of OCGS construction, so OCGS construction did not displace jobs. For each census decade since OCGS construction, New Jersey has reported an increase in employment (3,124,572 in 1970; 3,608,064 in 1980; 4,344,458 in 1990; and 4,755,379 in 2000)⁹ (Ref. A-62). In the same period of time, Ocean County has also reported increases in employment (61,083 in 1970; 103,417 in 1980; 153,073 in 1990; and 183,975 in 2000) (Ref. A-63).

Based on the number of jobs attributable to OCGS, the absolute number of jobs in New Jersey and Ocean County, the continued growth in the number of jobs in New Jersey and Ocean County, and the lack of information to the contrary, AmerGen concluded that OCGS has not resulted in net loss of employment in the state.

1. **Coastal energy facility construction and operation which results in loss of 200 or more person-years of employment in jobs in New Jersey directly or indirectly related to the State's coastal tourism industry in any single year is prohibited.**

⁹ Employment information is not available for 1960.

AmerGen Response:

The following discussion focuses on tourism in Ocean County because AmerGen concluded that if OCGS affected tourism, the affect would be most obvious in the area nearest to OCGS.

The presence of OCGS has not prevented rapid growth and development in Ocean County. From 1970 through 2004, Ocean County's population grew by 344,781 to 553,300 residents, outpacing the growth rate of New Jersey (165.4% vs. 21.3%). Traditionally a resort-tourist area, the County evolved into an increasing year-round population, including New Jersey's largest concentration of retiree communities. In 2004, Ocean County ranked number one in New Jersey in single-family residential building permits. (Ref. A-64)

From 1970 to 2000, Ocean County experienced growth in employment in most industry classifications (Ref. A-65). In tourism-related industries, Ocean County outpaced New Jersey, often by an order of magnitude. From 2000 to 2004, Ocean County growth surpassed the State of New Jersey in total employment, construction, retail trade, and other services. Ocean County growth was similar to the State of New Jersey for the arts/entertainment/recreation and accommodation/food services industry classifications (Ref. A-65). From 2000 to 2004, the County's payrolls increased by 12.3 percent compared with a decline of 1.6 percent for the State (Ref. A-64, page 2). From 1990 to 2005, Ocean County's unemployment rates have essentially mirrored those of the State of New Jersey (Ref. A-65).

Ocean County is one of the fastest growing counties in New Jersey. Over the last several decades, Ocean County has had a population influx because of its quality of life, availability of land, affordability, employment and other economic opportunities, and coastal location. Tourism has been and continues to be one of the leading industries in Ocean County, but as the population has increasingly become year-round, other industries, such as the healthcare industry, have grown as well.

Based on the continued strength and growth of Ocean County, AmerGen concludes that OCGS construction and operation have not resulted in the loss of 200 or more person-years of employment related to the County or State tourism industry.

2. Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

No action required.

(d) Standards relevant to Outer Continental Shelf (OCS) oil and gas exploration and development are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

(e) Standards relevant to onshore support bases are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

(f) Standards relevant to platform fabrication yards and module construction are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

(g) Standards relevant to repair and maintenance facilities are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

(h) Standards relevant to pipe coating yards are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

i. Standards relevant to pipelines and associated facilities are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

(j) Standards relevant to gas separation and dehydration facilities are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

(k) Standards relevant to gas compressor stations are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

(l) Standards relevant to gas pigging facility are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

(m) Standards relevant to gas processing plants are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

(n) Standards relevant to other gas-related facilities are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

(o) Standards relevant to oil refineries and petrochemical facilities are as follows:

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

- (p) **Standards relevant to storage of crude oil, gases and other potentially hazardous liquid substances are as follows:**

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

- (q) **Standards relevant to tanker terminals are as follows:**

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

- (r) **Standards relevant to electric generating stations are as follows:**

1. **New or expanded electric generating facilities (for base load, cycling, or peaking purposes) and related facilities are conditionally acceptable provided:**
 - i. **The proposed location and site design of the electric generating facility is the alternative which has the least practicable impacts to the coastal zone, based on a comparative evaluation of alternative sites within the coastal zone and inland.**
 - ii. **Fossil fuel (coal, oil or gas) and hydroelectric generating stations are discouraged in scenic or natural areas that are important to recreation and open space purposes.**
 - iii. **Nuclear generating stations shall be located in generally remote, rural, and low density areas, consistent with the criteria of 10 CFR 100 (United States Nuclear Regulatory Commission rules on siting nuclear generating stations) and/or any other related Federal regulations. In addition, the nuclear generating facility shall be located in an area where the appropriate low population zone and population center distance are likely to be maintained around the nuclear generating facility, through techniques such as land use controls or buffer zones.**
 - iv. **The construction and operation of a nuclear generating station shall not be approved unless the proposed method for disposal of the spent fuel to be produced by the facility will be safe, conforms to standards established by the United States Nuclear Regulatory Commission, and will effectively remove danger to life and the environment from the radioactive waste material. This finding is required under present State law (N.J.S.A. 13:19-11) and will be made consistent with judicial decisions (see Public Interest Research Group v. State of New Jersey, 152 N.J. Super. 191 (App.Div., certif. Den., 75 N.J. 538 (1977)) and Federal law.**
 - v. **The construction and operation of a nuclear generating station shall not be approved unless DEP finds that the proposed method for disposal of the spent fuel to be produced by the facility will be safe, conforms to standards established by the United States Nuclear Regulatory Commission, and will effectively remove danger to life and the environment from the radioactive waste material. This finding is required under present State law (N.J.S.A. 13:19-11) and will be made consistent with judicial decisions (see Public Interest Research Group v. State of New Jersey, 152 N.J. Super. 191 (App.Div. 1977)) and Federal law.**

AmerGen Response:

Not applicable because OCGS is not a new or expanded facility and AmerGen has no plans for OCGS expansion as a result of license renewal. AmerGen notes, however, that OCGS meets NRC siting criteria. AmerGen also agrees that the proposed method for disposal of spent fuel from OCGS must be safe, conform to standards established by NRC, and effectively remove danger to life and the environment from the radioactive waste material.

2. **Conversion or modification of existing generating facilities for purposes of fuel efficiency, cost reduction, or national interest is conditionally acceptable provided it meets applicable State and Federal laws and standards.**

AmerGen Response:

AmerGen frequently makes modifications to OCGS due to operational considerations, (e.g., construction of dry fuel storage), changed regulatory requirements, (e.g., construction of security upgrades), or to enhance safe and reliable plant operations. AmerGen expects that these activities will continue throughout the remainder of OCGS operations but that, as in the past, all OCGS modifications will meet Federal, State, and local regulatory requirements.

3. **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No response required.

- (s) **Standards relevant to liquefied natural gas (LNG) facilities are as follows: 1. New marine terminals and associated facilities that receive, store, and vaporize liquefied natural gas for transmission by pipeline are discouraged in the coastal zone unless a clear and precise justification for such facilities exists in the national interest; the proposed facility is located and constructed so as to neither unduly endanger human life and property, nor otherwise impair the public health, safety and welfare, as required by N.J.S.A. 13:19-10f; and such facilities comply with the Coastal Zone Management rules.**
- i. **LNG facilities shall be sited and operated in accordance with the standards set forth in the Natural Gas Act of 1938, 15U.S.C. 717-717z, the Natural Gas Policy Act of 1978, 15 U.S.C. 3301-3432, the Outer Continental Shelf Lands Act, 43 U.S.C. 1331 et seq., the Energy Policy Act of 1992, P.L. 102-486, 106 Stat. 2776, October 24, 1992, and the National Environmental Policy Act, 42 U.S.C. 4321 et seq., which set forth standards for siting, design, installation, inspection, testing, construction, operation, transportation of gas, replacement, and maintenance of facilities.**
- ii. **In determining the acceptability of proposed LNG facilities the Department will consider siting criteria including but not limited to:**
- (1) **The risks inherent in tankering LNG along New Jersey's waterways;**
- (2) **The risks inherent in transferring LNG onshore; and**
- (3) **The compatibility of the facility with surrounding land uses, population densities, and concentrations of commercial or industrial activity.**
- iii. **New LNG facilities that liquefy, store and vaporize LNG to serve demand during peak periods shall be located in generally remote, rural, and low-density areas where land use controls and/or buffer zones are likely to be maintained.**

2. Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-7.4 Energy facility use rule

Energy facilities include facilities, plants or operations for the production, conversion, exploration, development, distribution, extraction, processing, or storage of energy or fossil fuels. Energy facilities also include onshore support bases and marine terminals. Energy facilities do not include operations conducted by a retail dealer, such as a gas station, which is considered a commercial development.

Criterion (b) of this rule restricts the siting of new energy facilities, including all associated development activities in some Special Areas. As such, this criterion is not applicable.

Criterion (c) requires that coastal energy facilities construction and operation shall not directly or indirectly result in net loss of employment in the State for any single year. Further, Coastal energy facility construction and operation which results in loss of 200 or more person-years of employment in jobs in New Jersey directly or indirectly related to the State's coastal tourism industry in any single year is prohibited. The applicant needs to address this criterion.

Criteria (d) through (q) and (s) are not applicable.

Criterion (r) discusses standards relevant to electric generating stations including the siting of the various types of electric facilities. The one criterion applicable states: "The construction and operation of a nuclear generating station shall not be approved unless the proposed method for disposal of the spent fuel to be produced by the facility will be safe, conforms to standards established by the United States Nuclear Regulatory Commission, and will effectively remove danger to life and the environment from the radioactive waste material. This finding is required under present State law (N.J.S.A. 13:19-11) and will be made consistent with judicial decisions (see Public Interest Research Group v. State of New Jersey, 152 N.J. Super. 191 (App.Div.,certif. Den., 75 N.J. 538 (1977)) and Federal law. The applicant needs to address this criterion."

AmerGen Response:

See responses to 7:7E-7.4(c) and (r), above.

7:7E-7.5 Transportation Use rule

(a) Standards relevant to roads are as follows: 1. New road construction must be consistent with the rule on location of linear development at N.J.A.C. 7:7E-6.1, and shall be limited to situations where:

- i. A clear need exists, taking into account the alternatives of upgrading existing roads and of using public transportation to meet the need;
- ii. Provision is made to include construction of bicycle and foot paths, except where these would not be feasible;
- iii. Provision is made to include, where appropriate, catwalks and parking access to nearby water bodies.
- iv. Provision is made for coordinated construction of public transportation rights-of way and facilities, such as bus lanes, rail lines, and related transit stop or station facilities and parking, except where such construction would not be feasible;
- v. Visual and physical access to the coastal waters is maintained, to the maximum extent practicable; and
- vi. Induced development in conflict with coastal rules would not be expected to result.

2. Rationale: See the note at the beginning of this Chapter.

(b) Standards relevant to public transportation are as follows:

1. New and improved public transportation facilities, including bus, rail, air, boat travel, people mover systems and related parking facilities, are encouraged.
2. Development of existing rights-of-way which would preclude either their use for public transportation or public recreation trails is discouraged.
3. Rationale: See the note at the beginning of this Chapter.

(c) Standards relevant to bicycle and foot paths are as follows:

1. The construction of internal bicycle paths, foot paths and sidewalks in residential, commercial, and industrial developments is required to the maximum extent practicable.
2. Linear bicycle and foot paths are encouraged along the edges of all water bodies, and from the water body to the nearest public road, provided they would not disturb Special Areas or subject the user to danger.
3. Existing bicycle and foot paths shall be continued around development when it is not practical to pass through development.
4. Rationale: See the note at the beginning of this Chapter.

(d) Standards relevant to parking facilities are as follows:

1. Parking facility standards apply to all of the following:
 - i. Any parking facility of which any part is within the area subject to the Waterfront Development Act (N.J.S.A. 12:5-1 et seq.);
 - ii. Any parking facility and related access, of which any part of the facility or related access is located in the coastal zone; or

2. **Parking lots, garages and large paved areas are conditionally acceptable, provided that they will not interfere with existing or planned mass transit services, the extent of paved surfaces is minimized, and landscaping with indigenous species is maximized.**

3. **Rationale:**

AmerGen Response:

Not applicable because the rationale for NJAC 7:7E-7.5(a) states the following:

This policy is based on two assignments: (i) that the coastal zone is for the most part adequately served already by the existing road network, and (ii) that further capital investment in transportation facilities for the coastal region should emphasize those kinds of facilities which would minimize environmental damage and energy use. Consequently, new road construction should be undertaken only where the burden of proving need is met after less damaging and more fuel efficient alternatives have been considered. In addition, further investment in road construction should include coordinated investment in low-damage, highly fuel-efficient modes wherever possible.

Between the clear language of the rule and rationale it is clear that the rule applies to public roads as part of the public transportation system. OCGS has no public roads and AmerGen has no plans to construct any as a result of license renewal.

7:7E-7.6 Public facility use rule

- (a) Public facilities include a broad range of public works for production, transfer, transmission, and recovery of water, sewerage and other utilities. The presence of an adequate infrastructure makes possible future development and responds to the needs created by present development.**
- (b) Solid waste facility means any system, site, equipment or building which is utilized for the storage, collection, processing, transfer, transportation, separation, recycling, recovering or disposal of solid waste, but shall not include a recycling center, a regulated medical waste collection facility authorized pursuant to N.J.A.C. 7:26-3A.39, or an intermodal container facility authorized pursuant to N.J.A.C. 7:26-3.6.**
 - 1. Solid waste facilities are conditionally acceptable provided:**
 - i. Solid waste conservation techniques such as recycling, resource and energy recovery, and volume reduction are explored and proved infeasible before a new or expanded sanitary landfill, preferably at a regional scale, is deemed acceptable;**
 - ii. The solid waste facility is not located in a coastal wetland as provided at N.J.A.C. 7:7-2.2(b); and**
 - iii. The solid waste facility complies with the Solid and hazardous waste rule at N.J.A.C. 7:7E-8.22.**
 - 2. Rationale: See the note at the beginning of this Chapter.**
- (c) Wastewater treatment facilities are conditionally acceptable provided:**
 - 1. The wastewater treatment facility, including sewer lines, is consistent with an approved Water Quality Management (208) Plan;**
 - 2. The secondary impacts associated with the facility are consistent with the Coastal Zone Management rules; and**
 - 3. The facility shall provide for multiple use of the site, including open space and recreation use, to the maximum extent feasible.**
 - 4. Rationale: See the note at the beginning of this Chapter.**
- (d) New or expanded public facilities other than those listed at (b) and (c) above are conditionally acceptable provided:**
 - 1. The public facility would serve a demonstrated need that cannot be met by an existing public facility at the site or region;**
 - 2. Alternate technologies, including conservation, are an impractical or infeasible approach to meeting all or part of the need for the public facility; and**
 - 3. The public facility would not generate significant secondary impacts inconsistent with the Coastal Zone Management rules.**

AmerGen Response:

Not applicable because AmerGen is not using OCGS as a public facility and has no plans to do so as a result of license renewal.

7:7E-7.7 Industry Use rule

(Regulation text not reprinted)

AmerGen Response:

No action required. June 1, 2006 letter from state indicates that this criterion is not applicable (excerpt from state letter quoted below).

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-7.4 Energy facility use rule

This Rule includes electric power production. However, the Division has determined that this rule is not applicable as it mainly concerns siting of facilities.

7:7E-7.8 Mining Use rule

- (a) New or expanded mining operations on land, and directly related development, for the extraction and/or processing of construction sand, gravel, ilmenite, glauconite, and other minerals are conditionally acceptable, provided that the following conditions are met (mining is otherwise exempted from the General Land Areas rule, but shall comply with the Special Areas, and General Water Area rules):
1. The location of mining operations, such as pits, plants, pipelines, and access roads, causes minimal practicable disturbance to significant wildlife habitats, such as wetlands and stands of mature vegetation;
 2. The location of new or expanded mining operations is generally contiguous with or adjacent to sites of existing mining operations, or probable locations of mineral resources on nearby sites, in order to concentrate and not scatter the location of mineral extraction areas within a region, recognizing that mineral resources occur only in certain limited areas;
 3. Buffer areas are provided in accordance with N.J.A.C. 7:7E-8.13, using existing vegetation and/or new vegetation and landscaping, to provide maximum feasible screening of new on-land extractive activities and related processing from roads, water bodies, marshes and recreation areas. The Buffers and Compatibility of Uses rule (N.J.A.C. 7:7E-8.13) provides guidance related to buffer treatment. A minimum buffer area of 500 feet will be required to existing residential development;
 4. The mine development and reclamation plan, including the timetable, phasing, and activities of the new or expanded mining operations, has been designed with explicit and adequate consideration of the ultimate reclamation, restoration, and reuse of the site and use of its surrounding region, once the mineral resource is depleted;
 5. The mineral extraction areas shall be reclaimed, contoured and replanted to ensure slope stability, control erosion, afford adequate drainage, provide as natural an appearance as possible, and increase the recreation potential of the restored site within two years of the termination of mining operations;
 6. The mining operations control and minimize to the maximum extent practicable adverse impacts from noise and dust, surface and groundwater pollution, and disposal of spoils and waste materials and conform to all applicable Federal, State, and local regulations and standards;
 7. The mineral extraction operation will not have a substantial or long-lasting adverse impact on coastal resources, including local economies, after the initial adverse impact of removal of vegetation, habitat, and soils, and not including the long-term irretrievable impact of use of the non-renewable mineral resource; and 8. The mine development and reclamation plan minimizes the area and time of disruption of agricultural operations and provides for storage and restoration of all Agricultural Class I, II, and III soils, so that there will be no net loss in the area covered by these soils whenever feasible. The placement of soils may be acceptable to an alternate location if a need is demonstrated, there is no net loss in the area covered by these soils and the placement is consistent with all other coastal rules.
- (b) The proposed mining, extension of existing mining or associated mining activities in freshwater wetlands or freshwater wetlands transition areas is subject to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.) In addition, proposed mining extension of existing mining or associated mining activities within the 100-year floodplain is subject to the Flood Hazard Control Act (N.J.S.A. 58:16A-50 et seq.).
- (c) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because AmerGen does not use OCGS as a mining operation and has no plans to do so as a result of license renewal.

7:7E-7.9 Port Use rule

(Rest of regulation not reprinted)

AmerGen Response:

This regulation is not applicable to OCGS certification because there is no port associated with OCGS, there are no ports in the OCGS vicinity, and AmerGen has no plans to use OCGS as a port as a result of license renewal.

7:7E-7.10 Commercial facility use rule

(Rest of regulation not reprinted)

AmerGen Response:

This regulation is not applicable to OCGS certification because OCGS is not a commercial facility and AmerGen has no plans to use OCGS as a commercial facility as a result of license renewal.

7:7E-7.11 Coastal engineering

(a) Coastal engineering includes a variety of structural and non-structural measures to manage water areas and the shoreline for natural effects of erosion, storms, and sediment and sand movement. Beach nourishment, sand fences, pedestrian control on dunes, stabilization of dunes, dune restoration projects, dredged material disposal and the construction of retaining structures such as bulkheads, gabions, revetments and seawalls are all examples of coastal engineering.

1. The standards relevant to shore protection priorities in (b) below do not apply to water dependent uses within existing ports.

AmerGen Response:

Various coastal engineering practices were used in constructing OCGS, including use of impervious surfaces and rip rap on canal sides to minimize erosion. OCGS dredging and dredged material disposition involve coastal engineering, as would repair of the barge mooring facility and canal sides if this became necessary.

(b) Standards relevant to shore protection priorities are as follows:

1. Non-structural solutions to shoreline erosion problems are preferred over structural solutions. Vegetative shore protection measures have been proven effective, and are preferred at shoreline sites in which they are feasible. Feasibility is dependent on the following factors: shoreline geometry; shoreline slope; sediment type; boat traffic; and wind and extent of exposed land/water surface (fetch). The infeasibility and impracticability of a non-structural solution must be demonstrated before structural solutions may be deemed acceptable.
2. Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

OCGS intake and discharge canal-side stabilization is a combination of structural protection on the steep slopes and vegetative covering at the top of the bank. The barge facility structure serves the dual purpose of providing erosion protection and depth for barge mooring.

(c) Standards relevant to dune management are as follows:

1. Dune restoration, creation and maintenance projects as non-structural shore protection measures, including sand fencing, revegetation, additions of non-toxic appropriately sized material, control of pedestrian and vehicular traffic, are encouraged. These projects shall comply with N.J.A.C. 7:7E-3A, Standards for Beach and Dune Activities.
2. Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because there are no dunes on or near the OCGS site.

(d) Standards relevant to beach nourishment are as follows:

1. Beach nourishment projects, such as non-structural shore protection measures, are encouraged, provided that: i. The particle size and type of the fill material is compatible with the existing beach material to ensure that the new material will not be removed to a greater extent than the existing material would be by normal tidal fluctuations;

-
- ii. The elevation, width, slope and form of the proposed beach nourishment projects are compatible with the characteristics of the existing beach;
 - iii. The sediment deposition will not cause unacceptable shoaling in downdrift inlets and navigation channels; and iv. Public access to the nourished beach is provided in cases where public funds are used to complete the project.
2. Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because OCGS does not perform beach nourishment and has no plans to do so as a result of license renewal

(e) Standards relevant to structural shore protection are as follows:

- 1. The construction of new shore protection structures or expansion or fortification of existing shore protection structures, including, but not limited to, jetties, groins, seawalls, bulkheads, gabions and other retaining structures to retard longshore transport and/or to prevent tidal waters from reaching erodible material is acceptable only if it meets all of the following five conditions:
 - i. The structure is essential to protect water dependent uses or heavily used public recreation beach areas in danger from tidal waters or erosion, or the structure is essential to protect existing structures and infrastructure in developed shorefront areas in danger from erosion, or the structure is essential to mitigate, through, for example, the construction of a retained earthen berm, the projected erosion in an erosion hazard area along a headland and provide erosion protection for a development that is otherwise acceptable under the Coastal Zone Management rules;
 - ii. The structure will not cause significant adverse impacts on local shoreline sand supply;
 - iii. The structure will not create net adverse shoreline sand movement downdrift, including erosion or shoaling;
 - iv. The structure will cause minimum feasible adverse impact to living marine and estuarine resources;
 - v. The structure is consistent with the State's Shore Protection Master Plan;
 - vi. If the proposed project requires filling of a water area it must be consistent with the General Water Area rule for Filling (N.J.A.C. 7:7E-4.10) and all other relevant coastal rules.
- 2. Maintenance or construction of an existing bulkhead is conditionally acceptable provided that it meets (e)2i, ii or iii below. All measurements shall be made from the waterward face of the original bulkhead alignment of the existing bulkhead to the waterward face of the replacement bulkhead.
 - i. The replacement bulkhead is located within 18 inches outshore of the existing bulkhead, except in accordance with (e)2ii or iii below;
 - ii. The replacement bulkhead is located no more than 24 inches outshore of the existing bulkhead when the replacement bulkhead is constructed of a corrugated material, and the replacement bulkhead is located as close as possible to the face of the existing bulkhead; or
 - iii. Maintenance or reconstruction of an existing bulkhead which does not meet (e)2i or ii above shall be considered new construction, unless it can be demonstrated that the existing bulkhead cannot physically accommodate a replacement in accordance with (e)2i or ii above. In such case, the replacement bulkhead shall be as close as physically possible to the original bulkhead alignment.
- 3. Stone rip-rap and sloped concrete and gabion revetments which allow for growth of vegetation are the preferred form of retaining structures.

4. **Public access, including parking where appropriate, must be provided to publicly funded shore protection structures and to waterfront land created by public projects, unless public access would create a safety hazard to users. Physical barriers or local regulations which unreasonably interfere with access to, along or across a structure are prohibited.**
5. **The construction of bulkheads subject to wave runup forces (V-Zones) must be designed and certified by a professional engineer to withstand the forces of wave runup, and must include a splash pad on the landward side. The splash pad must have a minimum width of 10 feet, and may be constructed of concrete, asphalt or other erosion resistant material. If a cobblestone or similar splash pad is utilized, appropriate subbase and filter cloth must be incorporated into the design. A provision for the use of rip-rap along the seaward toe of the bulkhead structure may be required on a case-by-case basis, as a means to limit the scour potential.**
6. **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

AmerGen has no plans to construct shoreline structural protection as a result of license renewal but would comply with this standard if it became necessary. AmerGen notes that there is an existing wooden bulkhead on the Barnegat Bay shoreline of the Finninger Farm area, but AmerGen has not maintained and has no plans to maintain this structure.

7:7E-7.12 Dredged material placement on land

- (a) **Dredged material placement is the disposal or beneficial use of sediments removed during dredging operations. Beneficial uses of dredged material include, but are not limited to, fill, topsoil, bricks and lightweight aggregate. This rule applies to the placement of dredged material landward of the spring high water line. The standards for dredged material disposal in Water Areas are found at N.J.A.C. 7:7E- 4.8.**

AmerGen Response:

See response to NJAC 7:7E-4.8.

- (b) **Dredged material placement on land is conditionally acceptable provided that the use is protective of human health, groundwater quality, and surface water quality, and manages ecological risks. Testing of the dredged material may be required as needed to determine the acceptability of the placement of the material on a particular site.**

AmerGen Response:

AmerGen maintains an upland site for placement that is protective and approved by the state and county. OCGS has complied and will comply with federal and state requirements for testing during a renewal term of plant operation.

- (c) **Dredged material disposal is prohibited on wetlands unless the disposal satisfies the criteria found at N.J.A.C. 7:7E-3.27.**

AmerGen Response:

Placement of dredged material on wetlands during OCGS construction predated NJAC 7:7E-3.27. Between the time of 1984 dredging and the 1997 dredging, a freshwater wetland formed in the dewatering basin. In 1997, OCGS had to obtain a special permit from the NJDEP due to the impact on this wetland. Such a permit is likely to be required for future dredging projects.

- (d) **The use of dredged material of appropriate quality and particle size for purposes such as restoring landscape, enhancing farming areas, capping and remediating landfills and brownfields, beach protection, creating marshes, capping contaminated dredged material disposal areas, and making new wildlife habitats is encouraged.**

AmerGen Response:

AmerGen is unaware of any such opportunities for OCGS dredged material, but would consider them if possible.

- (e) **Effects associated with the transfer of the dredged materials from the dredging site to the disposal site shall be minimized to the maximum extent feasible.**

AmerGen Response:

OCGS uses hydraulic dredging, with a temporary pipeline to transfer material to the disposal site. Placement, use, and removal of the pipeline are performed in accordance with federal and state permit requirements.

- (f) **Dredged material disposal in wet and dry borrow pits is conditionally acceptable (see N.J.A.C. 7:7E-3.14, and 3.35).**

AmerGen Response:

Not applicable because AmerGen did not, and has no plans to, dispose of dredged material in wet or dry borrow pits as a result of license renewal.

- (g) **If pre-dredging sediment analysis indicates contamination, then special precautions shall be imposed including but not necessarily limited to increasing retention time of water in the disposal site or rehandling basin through weir and dike design modifications, use of coagulants, ground water monitoring, or measures to prevent biological uptake by colonizing plants.**

AmerGen Response:

AmerGen and the State monitor radioactivity levels at the disposal site.

- (h) **All potential releases of water from confined (diked) disposal sites and rehandling basins shall meet existing State Surface Water Quality Standards (N.J.A.C. 7:9B) and State Groundwater Quality Standards (N.J.A.C. 7:9).**

AmerGen Response:

Any discharges would be regulated by a Waterfront Development Permit/Water Quality Certification, the OCGS NJPDES Discharge to Groundwater Permit, and the OCGS NJPDES Stormwater General Permit.

- (i) **The Department has prepared a dredging technical manual, titled "The Management and Regulation of Dredging Activities and Dredged Material Disposal in New Jersey's Tidal Waters," October 1997, which provides guidance on dredged material sampling, testing, transporting, processing, management, and placement. The manual is available from the Department's Office of Maps and Publications, PO Box 420, Trenton, New Jersey, 08625-0420, (609) 777-1038.**

AmerGen Response:

AmerGen has the manual (Ref. A-73).

Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

No action required

7:7E-7.13 National defense facilities use rule

- (a) A national defense facility is any building, group of buildings, marine terminal, or land area owned or operated by a defense agency (Army, Navy, Air Force, Marines, Coast Guard) and used for training, research, material support, or any other defense related use.
- (b) National defense facilities are conditionally acceptable provided the development meets either (b)1 or 2 below:
 - 1. The proposed facility is consistent with all relevant Coastal Zone Management rules; or
 - 2. The proposed facility is coastally dependent, will be constructed and operated with maximum possible consistency with Coastal Zone Management rules, and will result in minimal feasible degradation of the natural environment.
- (c) The construction of new facilities or expansion of existing facilities on land not owned by a defense agency is discouraged, unless it can be shown that the facility cannot feasibly be accommodated on an existing base.
- (d) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because AmerGen does not and has no plans to use OCGS as a national defense facility as a result of license renewal.

7:7E-7.14 High Rise Structures

- (a) High-rise structures are structures which are more than six stories or more than 60 feet in height as measured from existing preconstruction ground level.
- (b) The standards for high-rise structures are as follows:
 - 1. High-rise structures are encouraged to locate in an urban area of existing high density, high-rise and/or intense settlements;
 - 2. High-rise structures within the view of coastal waters shall be separated from coastal waters by at least one public road or an equivalent area (at least 50 feet) physically and visually open to the public except as provided by N.J.A.C. 7:7E-3.48;
 - 3. The longest lateral dimension of any high-rise structure must be oriented perpendicular to the beach or coastal waters, except for a high-rise structure that is located in the Redevelopment Zone of the City of Long Branch and authorized pursuant to the Long Branch Redevelopment Zone Permit at N.J.A.C. 7:7-7.4.
 - 4. The proposed structure must not block the view of dunes, beaches, horizons, skylines, rivers, inlets, bays, or oceans that are currently enjoyed from existing residential structures, public roads or pathways, to the maximum extent practicable;
 - 5. High-rise structures outside of the Hudson River waterfront special area as defined by N.J.A.C. 7:7E-3.48 shall not overshadow the dry sand beach between 10:00 A.M. and 4:00 P.M. between June 1 and September 20, and shall not overshadow waterfront parks year round;
 - 6. The proposed structure must be in character with the surrounding transitional heights and residential densities, or be in character with a municipal comprehensive development scheme requiring an increase in height and density which is consistent with all applicable Coastal Zone Management rules;
 - 7. The proposed structure must not have an adverse impact on air quality, traffic, and existing infrastructure; and
 - 8. The proposed structure must be architecturally designed so as to not cause deflation of the beach and dune system or other coastal environmental waterward of the structure.
- (c) The high-rise structures rule shall not apply to the following types of development:
 - 1. Development in Atlantic City on existing ocean piers which meets the standards at N.J.A.C. 7:7E-3.49(c) or pedestrian bridges which meet the standards at N.J.A.C. 7:7E-3.49(i)1; or
 - 2. Utility structures that have a demonstrated need.
- (d) Rationale: See the note in the beginning of this Chapter.

AmerGen Response:

Not applicable because the rationale indicates that the focus is on residential development, and OCGS is not a residential development. AmerGen also notes the NJAC 7:7E-7.14(c)(2) exception for utility structures that have a demonstrated need. OCGS could be considered a utility structure but it was constructed pursuant to a New Jersey Certification of Public Convenience and Necessity and, as such, has a demonstrated need that would make the rule inapplicable by its own terms.

7:7E-8.1 Purpose and scope

- (a) In addition to satisfying the location and use rules, a proposed development must satisfy the requirements of this subchapter. This subchapter contains the standards the Department utilizes to analyze the proposed development in terms of its effects on various resources of the built and natural environment of the coastal zone, both at the proposed site as well as in its surrounding region.**

AmerGen Response:

No action required.

7:7E-8.2 Marine Fish and Fisheries

- (a) Marine fish are marine and estuarine animals other than marine mammals and birds. Marine fisheries means:
1. One or more stocks of marine fish which can be treated as a unit for the purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational and economic characteristics; and
 2. The catching, taking or harvesting of marine fish.
- (b) Any activity that would adversely impact on the natural functioning of marine fish, including the reproductive, spawning and migratory patterns or species abundance or diversity of marine fish, is discouraged. In addition, any activity that would adversely impact any New Jersey based marine fisheries or access thereto is discouraged, unless it complies with (c) below.
- (c) The following coastal activities are conditionally acceptable provided that the activity complies with the appropriate general water area rule(s) at N.J.A.C 7:7E-4;
1. Construction of submerged cables and pipelines;
 2. Sand and gravel mining to obtain material for beach nourishment, provided:
 - i. The beach nourishment project is in the public interest;
 - ii. There are no alternative borrow sites that would result in less impact to marine fish and fisheries;
 - iii. Any alteration of existing bathymetry within Prime Fishing areas, as defined at N.J.A.C. 7:7E-3.4, does not reduce the high fishery productivity of these areas; and iv. Measures are implemented to minimize and compensate for impacts to marine fish and fisheries; and
 3. The establishment of Aquaculture Development Zones in accordance with N.J.S.A. 4:27-1 et seq. and any regulations developed and adopted pursuant thereto.
- (d) Rational: See the note at the beginning of this Chapter.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-8.2 Marine Fish and Fisheries

Under this Rule, the key section is 7:7E-8.2(b), which States: "Any activity that would adversely impact on the natural functioning of marine fish, including the reproductive, spawning and migratory patterns or species abundance or diversity of marine fish, is discouraged." Marine fish are marine and estuarine animals other than marine mammals and birds.

The applicant is presently undertaking impingement and entrainment studies for the Section 316(b) regulations for Phase II facilities where Section 316(b) is incorporated into a NJPDES Permit. The applicant will likely utilize the data collected from these studies to attempt to demonstrate compliance with this Rule. If the applicant does utilize the data, then the data should represent a minimum of one year of data taken during an average weather year.

Under an agreement with the Department's Division of Water Quality for the NJPDES Permit, the applicant is assessing impingement and/or entrainment effects to 11 species of fish and invertebrates. Those species are: Atlantic menhaden (*Brevoortia tyrannus*), Atlantic silversides (*Menidia menidia*), Bay anchovy (*Anchoa mitchilli*), Blue crab (*Callinectes sp.*), Blueback herring (*Alosa aestivalis*), grass shrimp (*Palaemonetes sp.*), northern pipefish (*Syngnathus fuscus*), sand shrimp (*Crangon sp.*), and winter flounder (*Pseudopleuronectes americana*). The Division accepts this list, as these species are probably the most valuable in terms of forage species and recreational/commercial value and deserve this recognition.

The applicant has requested guidance as to whether it is necessary to conduct fisheries studies in Barnegat Bay similar to the ones previously conducted by Ichthyological Associates (IA) and Ecological Associates (EA) to aid in demonstrating compliance with this Rule and the Finfish Migratory Pathways Rule. As Stated above, the applicant is currently conducting impingement and entrainment studies for compliance with the Section 316(b) regulations for Phase II facilities. In the event that the applicant chooses to offset losses to the marine and estuarine species through a mitigation/habitat enhancement program, such a program will likely include restoration of the some of historic estuarine and freshwater wetlands on Finninger's Farm and other locations. Should this habitat enhancement occur, the extent of the heated plume emanating from OCGS may change given the likelihood of tidal inundation to a portion of Finninger's Farm.

Since it is likely the heated effluent plume will change, either through cooling towers, a habitat enhancement program, or cessation of electric generation, this Division prefers the applicant commit to conducting studies associated with either the cooling tower or habitat enhancement scenario it would be operating under in the future. Any such study requirements would be a requirement of the NJPDES permit and a federal Consistency determination.

AmerGen Response:

Jersey Central Power and Light and GPU, the previous owners of OCGS, evaluated marine fish populations and marine fish habitat of Barnegat Bay from 1965 to 1986, including nine years of intake screen impingement sampling (1976 to 1985). The owners used these data to demonstrate that OCGS was in compliance with the Clean Water Act 316(a) and (b) rules that were in effect in the 1970s and 1980s. The New Jersey Department of Environmental Protection (NJDEP) performed an analysis of the OCGS data (Ref. A-27) in order to independently assess the impact of OCGS operation on the populations in Barnegat Bay. NJDEP concluded that there was an acceptable level of impact such that the continued operation of OCGS would not adversely impact the long-term protection of balanced, indigenous populations of fish, shellfish, and other wildlife in Barnegat Bay and that granting a 316(a) variance would not adversely affect these populations in the Bay. In addition NJDEP concluded that:

- Plant-related losses at OCGS do not adversely impact spawning and nursery functions of the selected representative important species
- Plant-related losses at OCGS do not significantly increase the abundance of nuisance species
- Plant-related losses at OCGS do not adversely affect the estuarine food web of Barnegat Bay
- Plant-related losses at OCGS do not adversely impact beneficial uses of Barnegat Bay

In 1994, with the issuance of the NJPDES permit, the NJDEP granted a 316(a) variance based upon data collected between 1975 and 1985. For that permit, the NJDEP was required to evaluate the impact of the OCGS on marine fish and fisheries to ensure that the continued operation of the facility would "...assure the

protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife..." in and on the receiving water body.

In the July 2005 Draft NJPDES Permit Renewal (Ref. A-61, Fact Sheet, Section 8.A.2.b, page 8 of 32), the NJDEP proposed to renew the 316(a) variance. In order to make that proposal, the NJDEP was required to evaluate the impact of the OCGS on marine fish and fisheries to ensure that the continued operation of the facility would "...assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife..." in and on the receiving water body. This proposed extension of the variance was based on the data collected between 1975 and 1985, the 1989 conclusions that NJDEP decided were still valid, and the NJDEP conclusion in the draft permit that "...the facility's operations have not changed appreciably since the time that the existing permit was issued..."

EPA revised its Clean Water Act 316(b) rules in 2004 with the issuance of the Phase II facility regulations which focus on reducing impingement mortality and entrainment instead of the historic focus on impacts to populations. In September 2006, AmerGen completed one year of impingement and entrainment data collection at OCGS as a preliminary step to demonstrating compliance with the CWA Section 316(b) regulations for Phase II facilities. These data were obtained between September 2005 and September 2006, during a year of average temperatures (monthly mean temperatures at Atlantic City for the first 10 months of 2006 all fell within the range of mean monthly temperatures between 1958 and 2005 in Atlantic City).

For the purposes of the CZMA certification, AmerGen compared the Phase II impingement and entrainment data to the historic data for selected marine organisms. Based on this comparison, with few exceptions, the species collected in 2005 – 2006 are the same as those collected historically. The ranking of species currently impinged at OCGS are generally within the range of variability exhibited by the ranked historic impingement data and the numbers impinged in 2006 are within the range of the historic impingement numbers. Further, 6 of the 10 most commonly collected species in 1976 were among the 10 most commonly collected species in 2006. In other words, the fish and shellfish species most frequently impinged in 2006 tend to be the species that were most frequently impinged between 1975 and 1985. (Ref. A-75)

AmerGen also looked at recent and historic entrainment data for winter flounder, summer flounder, American eel, Bay anchovy, weakfish, northern pipefish, northern puffer and Atlantic silverside. The 2006 catches are generally higher than catches in many past years for nearly every species evaluated, suggesting that 2006 was a strong year-class for many species. The species composition of the entrained organisms is comparable among the years. Entrainment and impingement rates are density dependent – if there are lots of fish in the water it is reflected in high numbers; fewer fish in the water result in lower rates. Recent

evidence of this phenomenon includes the decline in abundance of winter flounder along the Mid-Atlantic region (Ref A-77) which is reflected in the relatively low numbers of winter flounder in the 2006 OCGS samples, and the increase in regional abundance of the Atlantic croaker (Ref. A-78) which is reflected in relatively high numbers collected at OCGS in 2006.

AmerGen has three data sets to compare: historic impingement and entrainment data, historic marine fisheries population data, and current impingement and entrainment data. Because of the demonstrated relationship between historic impingement and entrainment data and historic population data, AmerGen has assumed that the same relationship would be found to exist if there were recent data on populations in Barnegat Bay. Therefore, AmerGen expects that the consistency between historic and current impingement and entrainment data is representative of the consistency between historic and current populations. Because the recent data are within the range of variability exhibited in the historic fish and invertebrate collections, because the species diversity is similar between the two collection periods, and because OCGS operations have not changed, it is reasonable to conclude that the operation of OCGS continues to not adversely impact the natural functioning of marine fish in Barnegat Bay, including the reproductive, spawning, and migratory patterns, or species abundance or diversity.

OCGS has a positive impact on the New Jersey recreational fishery. Kennish and Lutz (Ref. A-19) summarized three studies on recreational fishery. All three surveys reported the highest percentage of bank fishermen along Oyster Creek. Bank fishermen prefer to fish along Oyster Creek. The thermal discharges extend the fishing season and overall fishing effort.

AmerGen concludes that OCGS is in compliance with this regulation.

AmerGen is working to finalize a renewal of the OCGS NJPDES permit and is pursuing habitat restoration as an alternative way to meet EPA Phase II requirements. If the renewed NJPDES permit requires a mitigation /habitat enhancement program to offset losses to the marine and estuarine species, AmerGen anticipates that such a program would include restoration on Finninger Farm and possibly at other Bay locations and that such restoration would (1) further mitigate the small thermal plume at the mouth of Oyster Creek by changing the tidal inundation of the creek mouth, and (2) provide nursery habitat for some marine species that spawn in the Bay, enhancing the reproductive habitat for those species.

Note: There is no Section 7:7E-8.3

7:7E-8.4 Water Quality

- (a) As required by Section 307(f) of the Federal Coastal Zone Management Act (P.L. 92-583), Federal, State and local water quality requirements established under the Clean Water Act (33 U.S.C. fu 1251) shall be the water resource standards of the coastal management program. These requirements include not only the minimum requirements imposed under the Clean Water Act but also the additional requirements adopted by States, localities, and interState agencies pursuant to Section 510 of the Clean Water Act and such statutes as the New Jersey Water Pollution Control Act. In the Delaware River Basin, the requirements include the prevailing "Basin Regulations-Water Quality" adopted by the Delaware River Basin Commission as part of its Comprehensive Plan. In the waters under the jurisdiction of the InterState Sanitation Commission in the New Jersey-New York metropolitan area, the requirements include the InterState Sanitation Commission's Water Quality Regulations. Department rules related to water pollution control and applicable throughout the entire coastal zone include, for example, the Surface Water Quality Standards (N.J.A.C. 7:9-4), the rules concerning Wastewater Discharge Requirements (N.J.A.C. 7:9-5), the Ground-Water Quality Standards (N.J.A.C. 7:9-6), and the Regulations Concerning the New Jersey Pollutant Discharge Elimination System (N.J.A.C. 7:14A).

AmerGen Response:

No action required.

- (b) Coastal development which would violate the Federal Clean Water Act, or State laws, rules and regulations enacted or promulgated pursuant thereto, is prohibited. In accordance with N.J.A.C. 7:15 concerning the Water Quality Management Planning and Implementation process, coastal development that is inconsistent with an approved Water Quality Management (208) Plan under the New Jersey Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., is prohibited.

AmerGen Response:

OCGS is in compliance with the Federal Clean Water Act and the New Jersey Pollution Control Act, having obtained and adhered to NJPDES permits (e.g., Ref. A-53) and dredging permits (e.g., Refs. A-13 and A-14). AmerGen contact with the state indicated that 208 planning was performed by the county, and Ocean County referred AmerGen to county sewer service mapping. OCGS is within the service area (Ref. A-60) and is connected to the municipal sewage treatment system. As a result, AmerGen concludes that it is compliant with 208 planning requirements.

- (c) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-8.4 Water Quality

The applicant's successful attainment, acceptance, and compliance with a Final NJPDES Permit will allow the applicant to meet this Rule. The applicant should submit a copy of the permit and a copy of an acceptance form/Statement with regard to the Final NJPDES Permit and its conditions.

AmerGen Response:

As discussed above, OCGS is in compliance with its current NJPDES permit, and has applied for renewal of that permit. A copy of the OCGS NJPDES permit is provided as Ref. A-53. Ref. A-58 includes the AmerGen affidavit accepting the terms and conditions of the current permit.

7:7E-8.5 Surface water use

- (a) **Surface water is water in lakes, ponds, streams, rivers, bogs, wetlands, bays, and ocean that is visible on land.**

AmerGen Response:

During the operation of OCGS cooling water is withdrawn from Barnegat Bay via the intake canal (South Branch of Forked River and manmade intake canal), circulated through the plant's condensers, and returned to Barnegat Bay via the discharge canal (manmade discharge canal and Oyster Creek).

- (b) **Coastal development shall demonstrate that the anticipated surface water demand of the facility will not exceed the capacity, including phased planned increases, of the local potable water supply system or reserve capacity, and that construction of the facility will not cause unacceptable surface water disturbances, such as drawdown, bottom scour, or alteration of flow patterns.**

1. **Coastal development shall conform with all applicable Department and, in the Delaware River Area, Delaware River Basin Commission requirements for surface water diversions.**

AmerGen Response:

Water withdrawal from Barnegat Bay via the intake canal (South Branch of Forked River and manmade intake canal) results in reversal of the direction of the flow of the South Branch of Forked River. The environmental impacts associated with this design were reviewed and approved by the State of New Jersey before construction began.

OCGS discharges heated water to Barnegat Bay via Oyster Creek. In summer, some fish species avoid the thermal discharge while others are attracted to it. Some individuals of warm water species have been known to over-winter in the elevated temperature water rather than migrating to warmer waters of the South Atlantic. In accordance with the current NJPDES permit, OCGS utilizes dilution pumps to ameliorate the temperature difference between the plant discharge and the ambient waters. In summer, when water temperature at the Route 9 bridge (4 feet below the surface) exceeds 87°F, a dilution pump moves water directly from Forked River to the thermal discharge into Oyster Creek. A second dilution pump is put into operation if the temperature still exceeds 87°F after two hours of single dilution pump operation. When the intake temperature is less than 60 °F, two dilution pumps are put into operation. Between December and March, to avoid cold shock to warm water fish, OCGS does not initiate routine plant shutdowns. OCGS also does not initiate routine plant shutdowns between June and September, to avoid exceeding thermal and intake-velocity limits. In addition, changes up or down in the OCGS power level are accomplished gradually so that fish in the discharge canal do not experience severe thermal shock. OCGS will continue to operate in this way to minimize the environmental effects of plant operation during a renewal term of plant operation.

At times, when a gradual change was not possible, OCGS has experienced fish kills – most often from cold shock, and usually involving few fish relative to the size of Barnegat Bay populations. A study commissioned by NJDEP (Ref. A-27) concluded that the overall impacts of thermal shock due to the operation of OCGS are small and localized. It found that heat- and cold-shock mortalities are generally limited to Oyster Creek, and

that while losses due to cold shock can be high, the losses constitute a small percentage of the fish population in Barnegat Bay. The report further concluded that adverse impacts to Oyster Creek do not indicate unacceptable, long-term population and ecosystem level impacts.

The July 2005 draft NJPDES permit renewal (Ref. A-61, Fact Sheet, Section 8.A.2.b, page 8 of 32) proposed to renew the Section 316(a) variance for the OCGS thermal discharge. This proposal was based in part upon Versar's conclusion that the "...operation of the Station did not appear to produce unacceptable, substantial long-term population and ecosystem level impacts, and such operation assures the protection and propagation of a balanced, indigenous population of fish, shellfish, and wildlife in and on the receiving waters."

AmerGen has no plans to alter OCGS surface water use as a result of license renewal.

(c) **Rationale:** See the note at the beginning of this Chapter.

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7: 7E-8.5 Surface water use

Surface water is water in lakes, ponds, streams, rivers, bogs, wetlands, bays, and ocean that is visible on land. Coastal development shall demonstrate that the anticipated surface water demand of the facility will not exceed the capacity, including phased planned increases, of the local potable water supply system or reserve capacity, and that construction of the facility will not cause unacceptable surface water disturbances, such as drawdown, bottom scour, or alteration of flow patterns.

The Division understands the facility was sited and constructed prior to the effective date of these Rules, and there has been an alteration of the flow patterns in Forked River, Oyster Creek, and adjacent Barnegat Bay. However, one alteration of flow pattern, the heated effluent discharge from the facility, needs to be discussed by the applicant to ascertain if it is acceptable. The applicant should address present day impacts of the heated discharge on the biota of the adjacent waterways and include methods the applicant intends to utilize to eliminate or ameliorate those impacts.

AmerGen Response:

See AmerGen's response to NJAC 7:7E-8.5(b).

7:7E-8.6 Groundwater Use

- (a) **Groundwater is all water within the soil and subsurface strata that is not at the surface of the land. It includes water that is within the earth that supplies wells and springs.**

AmerGen Response:

OCGS withdraws groundwater for potable domestic and makeup use (Ref. A-44, page 3-6).

- (b) **Coastal development shall demonstrate, to the maximum extent practicable, that the anticipated groundwater withdrawal demand of the development, alone and in conjunction with other groundwater diversions proposed or existing in the region, will not cause salinity intrusions into the groundwaters of the zone, will not degrade groundwater quality, will not significantly lower the water table or piezometric surface, or significantly decrease the base flow of adjacent water sources. Groundwater withdrawals shall not exceed the aquifer's safe yield.**
1. **Coastal development shall conform with all applicable Department and, in the Delaware River Basin, Delaware River Basin Commission requirements for groundwater withdrawal and water diversion rights.**

AmerGen Response:

OCGS has two active, permitted wells used for potable domestic and makeup use. Average annual usage is approximately 14 gpm (Ref. A-44, page 3-6). OCGS has used groundwater for these purposes for more than 30 years and is aware of no salinity intrusion as a result or issues about baseflow, lowered water table, or aquifer safe yield.

At the time of construction, there was concern about the potential for salinity intrusion as a result of intake and discharge canal interception of freshwater. Measurements taken from observation wells showed no indication of salt water intrusion (Ref. A-8, page 2.5-21).

AmerGen has no plans, as a result of license renewal, that would alter OCGS groundwater impacts and AmerGen is aware of no groundwater diversions in the region that would result in a significant cumulative impact.

- c) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-8.6 Groundwater Use

Groundwater is all water within the soil and subsurface strata that is not at the surface of the land. It includes water that is within the earth that supplies wells and springs. Coastal development shall demonstrate, to the maximum extent practicable, that the anticipated groundwater withdrawal demand of the development, alone and in conjunction with other groundwater diversions proposed or existing in the region, will not cause salinity intrusions into the groundwaters of the zone, will not degrade groundwater quality, will not significantly lower the water table or piezometric surface, or significantly

decrease the base flow of adjacent water sources. Groundwater withdrawals shall not exceed the aquifer's safe yield.

The applicant needs to demonstrate compliance with this Rule.

AmerGen Response:

See response to NJAC 7:7E8.6(b)(1).

7:7E-8.7 Stormwater management

If a project or activity meets the definition of “major development” at N.J.A.C. 7:8- 1.2, then the project or activity shall comply with the Stormwater Management rules at N.J.A.C. 7:8.

AmerGen Response:

OCGS stormwater discharges are regulated by the NJPDES Discharge to Surface Water Permit.

7:7E-8.8 Vegetation

- (a) **Vegetation is the plant life or total plant cover that is found on a specific area, whether indigenous or introduced by humans.**

AmerGen Response:

The OCGS site has vegetative cover.

- (b) **Coastal development shall preserve, to the maximum extent practicable, existing vegetation within a development site. Coastal development shall plant new vegetation, particularly appropriate coastal species native to New Jersey to the maximum extent practicable.**

AmerGen Response:

AmerGen is proposing no development, as a result of license renewal, that would alter existing vegetative cover.

- (c) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-8.9 (Reserved)

7:7E-8.10 Air quality

- (a) **The protection of air resources refers to the protection from air contaminants that injure human health, welfare or property, and the attainment and maintenance of State and Federal air quality goals and the prevention of degradation of current levels of air quality.**

AmerGen Response:

OCGS produces 640MW of electricity without significant emission of air pollutants as defined in 40 CFR 50. Operation of OCGS avoids the need for operation of fossil fuel burning generating plants and the attendant release of pollutants to the atmosphere.

- (b) **Coastal development shall conform to all applicable State and Federal regulations, standards and guidelines and be consistent with the strategies of New Jersey's State Implementation Plan (SIP). See N.J.A.C. 7:27 and New Jersey SIP for ozone, particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, lead, and visibility.**

AmerGen Response:

The pollutants identified in this regulation are emitted by OCGS only from sources which are operated intermittently. Each source has a certificate to operate and the allowable emissions are based on hours of operation or fuel usage. Except for the Auxiliary Boiler, emissions are not required to be measured. All sources are authorized by NJDEP for operation and operate within the limits of their respective certificates.

- (c) **Coastal development shall be located and designed to take full advantage of existing or planned mass transportation infrastructures and shall be managed to promote mass transportation services, in accordance with the Traffic rule, N.J.A.C. 7:7E-8.14.**

AmerGen Response:

The proposed renewal of the OCGS operating license does not involve selection of a site for a new facility.

- (d) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-8.10 Air quality

The protection of air resources refers to the protection from air contaminants that injure human health, welfare or property, and the attainment and maintenance of State and Federal air quality goals and the prevention of degradation of current levels of air quality. Coastal development shall conform to all applicable State and Federal regulations, standards and guidelines and be consistent with the strategies of New Jersey's State Implementation Plan (SIP). See N.J.A.C. 7:27 and New Jersey SIP for ozone, particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, lead, and visibility. Coastal development shall be located and designed to take full advantage of existing or planned mass transportation infrastructures and shall be managed to promote mass transportation services, in accordance with the Traffic rule, N.J.A.C. 7:7B-8.14.

The applicant should demonstrate its degree of compliance utilizing the data collected from the applicant's and the BNE's nearby monitoring stations.

AmerGen Response:

The air samplers utilized by OCGS and BNE monitor the emissions of radionuclides to the air to verify compliance with NRC requirements. Compliance with the certificates for the various sources is based on hours of operation or fuel usage. The level of emissions does not justify monitoring. All sources operate within the limits of their respective certificates.

7:7E-8.11 Public Access to the Waterfront

- (a) **Public access to the waterfront is the ability of all members of the community at large to pass physically and visually to, from and along the ocean shore and other waterfronts.**
- (b) **Coastal development adjacent to all coastal waters, including both natural and developed waterfront areas, shall provide permanent perpendicular and linear access to the waterfront to the maximum extent practicable, including both visual and physical access. Development that limits public access and the diversity of the waterfront experiences is discouraged.**
 - 1. **All development adjacent to water shall, to the maximum extent practicable, provide, within its site boundary, a linear waterfront strip accessible to the public. If there is a linear waterfront accessway on either side of the site and the continuation of which is not feasible within the boundaries of the site, a pathway around the site connecting to the adjacent parts, or potential parts of the waterfront path system in adjacent parcels shall be provided.**
 - 2. **Municipalities that do not currently provide, or have active plans to provide, access to the water will not be eligible for Green Acres or Shore Protection funding.**
 - 3. **Public access must be clearly marked, provide parking where appropriate, be designed to encourage the public to take advantage of the waterfront setting, and must be barrier free where practicable.**
 - 4. **A fee for access, including parking where appropriate, to or use of publicly owned waterfront facilities shall be no greater than that which is required to operate and maintain the facility and must not discriminate between residents and non-residents except that municipalities may set a fee schedule that charges up to twice as much to nonresidents for use of marinas and boat launching facilities for which local funds provided 50 percent or more of the costs.**
 - 5. **All establishments, including marinas and beach clubs, which control access to tidal waters shall comply with the Law Against Discrimination, N.J.S.A. 10:5-1 et seq.**
 - 6. **Public access, including parking where appropriate, shall be provided to publicly funded shore protection structures, beaches nourished with public funds and to waterfronts created by public projects unless such access would create a safety hazard to the user. Physical barriers or local regulations which unreasonably interfere with access to, along or across a structure or beach are prohibited.**
 - 7. **Development located within the Hudson River Waterfront Special Area shall comply with the additional requirements of the Hudson River Waterfront rule, N.J.A.C. 7:7E-3.48.**
 - 8. **Development along Raritan Bay within Monmouth County shall be consistent with the Bayshore Waterfront Access Plan (Monmouth County Planning Board and the Trust for Public Land for NJDEP, 1987).**
 - 9. **Development within the Atlantic City Special Area shall comply with the additional requirements of the Atlantic City rule at N.J.A.C. 7:7E-3.49.**
 - 10. **Development elsewhere in the coastal zone shall conform with any adopted municipal, county or regional waterfront access plan, provided the plan is consistent with the Coastal Zone Management rules.**
 - 11. **The Department may require some or all of the public access portion of a site to be dedicated for public use through measures such as a conservation restriction.**
 - 12. **Development adjacent to coastal waters shall provide fishing access within the provision of public access wherever feasible and warranted.**
 - 13. **Development adjacent to coastal waters shall provide barrier free access within the provisions of public access wherever feasible and warranted by the characteristics of the access area.**

-
14. For developments which reduce existing on-street parking that is used by the public for access to the waterfront, mitigation for the loss of these public parking areas is required at a minimum of 1:1 within the proposed development site or other location within 250 feet of the proposed project site.
- (c) At sites proposed for the construction of single family or duplex residential dwellings, which are not part of a larger development, public access to the waterfront is not required as a condition of the coastal permit.
- (d) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

AmerGen and the State have had informal discussions about providing public open space with access to Oyster Creek for fishing, crabbing, birding, and nature walks. AmerGen has committed to providing public open space at the Finninger Farm if the OCGS license is renewed.

Related Comment from NJDEP Letter Dated June 1, 2006 to T. Rausch

7:7E-8.11 Public Access to the Waterfront

This Rule calls for coastal development adjacent to all coastal waters, including both natural and developed waterfront areas, shall provide permanent perpendicular and linear access to the waterfront to the maximum extent practicable, including both visual and physical access. Development that limits public access and the diversity of the waterfront experiences is discouraged.

The Division has had informal discussions with the applicant on this Rule. While the Division recognizes the need to prohibit access to the waterfront from Route 9 to the west for security reasons, the Division recognizes a unique opportunity to provide public access to the east of Route 9 on the Finninger's Farm portion of the site. Indeed, public access to both Forked River, Oyster Creek, and Barnegat Bay could provide areas for fishing, crabbing, birding, and nature walks. In addition, these public access areas could provide an outdoor classroom for elementary and high school students. The Division expects to continue the dialogue with AmerGen to develop a public access plan prior to the submittal of the forthcoming request for federal consistency determination.

AmerGen Response:

See AmerGen response to NJAC 7:7E-8.11, above.

7:7E-8.12 Scenic Resources and Design

- (a) Scenic resources include the views of the natural and/or built landscape.
- (b) Large-scale elements of building and site design are defined as the elements that compose the developed landscape such as size, geometry, massing, height and bulk structures.
- (c) New coastal development that is visually compatible with its surroundings in terms of building and site design, and enhances scenic resources is encouraged. New coastal development that is not visually compatible with existing scenic resources in terms of large-scale elements of building and site design is discouraged.
- (d) In all areas, except the Northern Waterfront region, the Delaware River Region and Atlantic City, new coastal development adjacent to a bay or ocean or bayfront or oceanfront, beach, dune or boardwalk and higher than 15 feet in height measured from the existing grade of the site or boardwalk shall:
 - 1. Provide an open view corridor perpendicular to the water's edge in the amount of 30 percent of the frontage along the waterfront where an open view currently exists; and
 - 2. Be separated from either the beach, dune, boardwalk, or waterfront, whichever is further inland, by a distance of equal to two times the height of the structure. However, exceptions may be made for infill sites within existing commercial areas along a public boardwalk where the proposed use is commercial and where the set-back requirement is visually incompatible with the existing character of the area.
- (e) Rationale: See the note at the beginning of this Chapter.

AmerGen Response:

Not applicable because AmerGen has no plans to construct new coastal development as a result of license renewal.

7:7E-8.13 Buffers and Compatibility of Uses

- (a) **Buffers are natural or man-made areas, structures, or objects that serve to separate distinct uses or areas. Compatibility of uses is the ability for uses to exist together without aesthetic or functional conflicts.**

AmerGen Response:

The OCGS site includes a buffer between the heavily developed part of the site and the public road that passes through the site, Highway 9. The buffer, a vegetated area, forms a visual screen between the plant and highway traffic and the residential area of Forked River beach.

- (b) **Development shall be compatible with adjacent land uses to the maximum extent practicable.**
1. **Development that is likely to adversely affect adjacent areas, particularly Special Areas N.J.A.C. 7:7E-3, or residential or recreation uses, is prohibited unless the impact is mitigated by an adequate buffer. The purpose, width and type of the required buffer shall vary depending upon the type and degree of impact and the type of adjacent area to be affected by the development, and shall be determined on a case-by-case basis.**
 2. **The standards for wetland buffers are found at N.J.A.C. 7:7E-3.28.**
 3. **The following apply to buffer treatment:**
 - i. **All buffer areas shall be planted with appropriate vegetative species, either through primary planting or supplemental planting. This landscaping shall include use of mixed, native vegetative species, with sufficient size and density to create a solid visual screen within five years from the date of planting.**
 - ii. **Buffer areas which are forested may require supplemental vegetative plantings to ensure that acceptable visual and physical separation is achieved.**
 - iii. **Buffer areas which are non-forested will require dense vegetative plantings with mixed evergreen and deciduous trees and shrubs. Evergreens must be at least eight feet tall at time of planting; deciduous trees must be at least three inches caliper, balled and burlapped; shrubs must be at least three to four feet in height.**

AmerGen Response:

The OCGS buffer is comprised of field, pine-oak woodland, and scrub and forested wetland vegetation. The vegetation is native, with pitch pine, black cherry, sassafras, eastern red cedar, and scrub oak prevalent.

- (c) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-8.14 Traffic

- (a) **Traffic is the movement of vehicles, pedestrians or ships along a route.**

AmerGen Response:

US Highway 9 crosses the OCGS site.

- (b) **Coastal development shall be designed, located and operated in a manner to cause the least possible disturbance to traffic systems.**
1. **Alternative means of transportation, that is, public and private mass transportation facilities and services, shall be considered and, where feasible, incorporated into the design and management of a proposed development, to reduce the number of individual vehicle trips generated as a result of the facility. Examples of alternative means of transportation include: van pooling, staggered working hours and installation of ancillary public transportation facilities such as bus shelters.**

AmerGen Response:

New Jersey Transit offers mass transit to and from the intersection of Highway 9 and Lacey Road in Forked River (Ref. A-59). AmerGen has no information on OCGS employees' use of the service.

- (c) **When the level of service of traffic systems is disturbed by approved development, the necessary design modifications or funding contribution toward an area wide traffic improvement shall be prepared and implemented in conjunction with the coastal development, the satisfaction of the New Jersey Department of Transportation and any regional agencies.**

AmerGen Response:

Limited level-of-service (LOS) data are available for the section of US Highway 9 from the OCGS vicinity north to its intersection with New Jersey Highway 166 in Beachwood. Along this section, traffic is below capacity overall (LOS of A, B, or C), although some intersections at some times of the day are operating above capacity (LOS F). No additional traffic is expected as a result of license renewal.

- (d) **Any development that causes a location on a roadway to operate in excess of capacity Level D is discouraged. A developer shall undertake mitigation or other corrective measures as may be necessary so that the traffic levels at any affected intersection remain at capacity Level D or better. A developer may, by incorporating design modification or by contributing to the cost of traffic improvements, be able to address traffic problems resulting from the development, in which case development would be conditionally acceptable. Determinations of traffic levels which will be generated will be made by the New Jersey Department of Transportation.**

AmerGen Response:

No additional traffic is expected as a result of license renewal.

- (e) **Coastal development located in municipalities which border the Atlantic Ocean, except as excluded under (e) 1, 2 or 3 below, shall provide sufficient on-site and/or offsite parking for its own use at a ration of two spaces per residential unit. In general, on street parking spaces along public roads cannot be credited as part of off-site parking provided for a project. All off-site parking facilities must be located either in areas within reasonable walking distance to the development or areas identified by any local or regional transportation plans as suitable locations. All off-site parking facilities must also comply with N.J.A.C. 7:7E-7.5(d), the parking facility rule, where applicable.**

1. **The non-oceanfront portions of the following municipalities which border the Atlantic Ocean are excluded from the parking requirement at (e) above:**
 - i. **Neptune Township, Monmouth County: Those portions of this municipality which are west of State Highway 71;**
 - ii. **Brick, Dover and Berkeley Townships, Ocean County: Those portions of these municipalities which are not located between Barnegat Bay and the Atlantic Ocean;**
 - iii. **Upper Township, Cape May County: Those portions of this municipality which are not located between Whale Creek and the Atlantic Ocean and/or Strathmere Bay and the Atlantic Ocean; and**
 - iv. **Lower Township, Cape May County: Those portions of this municipality which are not between Lower Thorofare and the Atlantic Ocean and/or Jarvis Sound and the Atlantic Ocean;**
2. **The department shall reduce the parking requirement for developments restricted to senior citizen housing that is, restricted to persons at least 62 years of age or those persons meeting the definition of "senior citizen tenant" pursuant to the Senior Citizens and Disabled Protected Tenancy Act, N.J.S.A. 2A:18-61, upon documentation that the parking needs of the development are less than two spaces per unit; or**
3. **Nursing homes and assisted living facilities are excluded from the parking requirement at (e) above.**

AmerGen Response:

Not applicable because the OCGS location does not border the Atlantic Ocean.

- (f) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

7:7E-8.15 (Reserved)

7:7E-8.16 (Reserved)

7:7E-8.17 (Reserved)

7:7E-8.18 (Reserved)

7:7E-8.19 (Reserved)

7:7E-8.20 (Reserved)

7:7E-8.21 Subsurface sewage disposal systems

- (a) Subsurface sewage disposal system means a system for disposal of sanitary sewage into the ground which is designed and constructed to treat sanitary sewage in a manner that will retain most of the settleable solids in a septic tank and to discharge the liquid effluent to a disposal field.**
- (b) Acceptability conditions for subsurface sewage disposal systems are as follows:**
 - 1. Construction of the subsurface sewage disposal system is acceptable provided it meets all the provisions of the standards for Individual Subsurface Sewage Disposal Systems (N.J.A.C. 7:9A) and receives approval from the appropriate administrative authority;**
 - 2. For areas subject to tidal flooding, the bottom elevation of the disposal bed must be at or above the 10 year flood elevation as determined by the Federal Emergency Management Agency Flood Insurance Study Reports;**
 - 3. Construction of subsurface sewage disposal systems must comply with all applicable standards of the National Flood Insurance Program Regulations (44 CFR 60) prepared by the Federal Emergency Management Agency (FEMA).**
- (c) Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

Not applicable because AmerGen does not use and has no plans to use a subsurface sewage disposal system at OCGS as a result of license renewal.

7:7E-8.22 Solid and hazardous waste

- (a) **Solid waste means any garbage, refuse, sludge or other waste material, including solid, liquid, semi-solid or contained gaseous material. A material is a solid waste if it is "disposed of" by being discharged, deposited, injected, dumped, spilled, leaked or placed into or on any land or water so that such material or any constituent thereof may enter the environment or be emitted into the air or discharged into ground or surface waters. Solid waste becomes a hazardous waste when it exhibits any of the characteristics which are specified in the Federal Regulations on Identification and Listing of Hazardous Waste (40 C.F.R. 261). The general characteristics of hazardous waste include, but are not limited to, characteristics of ignitability, characteristics of corrosivity, characteristics of reactivity and characteristics of toxicity.**
1. **Solid waste shall not include the following:**
- i. **Source separated food waste collected by livestock producers approved by the State's Department of Agriculture who collect, prepare and feed such wastes to livestock on their own farms, or recyclable materials that are exempt from regulation pursuant to N.J.A.C. 7:26A;**
 - ii. **Materials approved for beneficial use or categorically approved for beneficial use pursuant to N.J.A.C. 7:26;**
 - iii. **Spent sulfuric acid which is used to produce virgin sulfuric acid, provided at least 75 percent of the amount accumulated is recycled in one year;**

AmerGen Response:

OCGS operations generate solid and hazardous waste.

- (b) **Coastal development shall conform with all applicable State and Federal regulations, standards and guidelines for the handling and disposal of solid and hazardous wastes, including the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., the Solid Waste Management rules, N.J.A.C. 7:26, the Recycling rules, N.J.A.C. 7:26A, and the Hazardous Waste rules, N.J.A.C. 7:26G.**

AmerGen Response:

OCGS is in compliance with state solid and hazardous waste requirements. OCGS has a conditional exemption for storage and treatment of low-level mixed waste (low-level radioactive waste that also meets the state definition of "hazardous" waste), uses offsite treatment and disposal services, and disposes of no solid or hazardous waste onsite.

- (b) **Rationale: See the note at the beginning of this Chapter.**

AmerGen Response:

No action required.

REFERENCES

- A-1 New Jersey Department of Environmental Protection. 2004. Coastal Management Program. Available at <http://www.nj.gov/dep/cmp>. Accessed July 18, 2006.
- A-2 New Jersey Department of Environmental Protection. 2004. Coastal Management Program; Federal Consistency. Available at <http://www.nj.gov/dep/cmp>, click on <Federal Consistency> button. Accessed July 18, 2006.
- A-3 New Jersey Department of Environmental Protection. 2004. Land Use Regulation Program. Available at <http://www.nj.gov/dep/landuse/coast.html>. Accessed July 18, 2006.
- A-4 New Jersey Department of Environmental Protection. 2004. CAFRA Boundary Line. Available at <http://www.State.nj.us/dep/landuse/caframap.html>. Accessed July 18, 2006.
- A-5 U.S. Fish and Wildlife Service, 1963. Distribution of Shellfish Resources in Relation to the New Jersey Intercoastal Waterway -- Manasquan Inlet to Little Egg Harbor. Boston, MA. January.
- A-6 Joseph, J. W. 1986. Inventory of New Jersey's Estuarine Shellfish Resources. U.S. Department of Commerce National Oceanic and Atmospheric Administration National Marine Fisheries Service. December 12.
- A-7 Barnegat Bay National Estuary Program (Scientific and Technical Advisory Committee), The Barnegat Bay Estuary Program Characterization Report, January 2001. Available at http://www.bbep.org/char_rep.htm. Accessed July 19, 2006.
- A-8 Jersey Central Power & Light Company, Oyster Creek Nuclear Generating Station Environmental Report, Amendment 2, November 17, 1972.
- A-9 U. S. Nuclear Regulatory Commission. 2006. Generic Environmental Impact Statement for License Renewal of Nuclear Plants; Supplement 28; Regarding Oyster Creek Nuclear Generating Station; Draft Report for Comment, NUREG-1437, Supplement 28, June. Available at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437/supplement28/index.html>. Accessed August 14, 2006.
- A-10 National Park Service. No Date. U. S. Department of Interior, New Jersey Pinelands; National Reserve. Available at <http://www.nps.gov/pine>. Accessed July 25, 2006.
- A-11 New Jersey Pinelands Commission. No Date. Available at <http://www.state.nj.us/pinelands/>. Accessed July 25, 2006.
- A-12 Anonymous. No Date. PowerPoint presentation available at <http://serendip.brynmawr.edu/local/scisoc/environment/seniorsem03/Pinelands.pdf>. Accessed July 25, 2006.
- A-13 State of New Jersey Permit No. 1512-93-0052.3, .4. and .5. Permit to dredge. February 4, 1997.

- A-14 Department of the Army, Corps of Engineers, Permit Number CENAP-OP-R-199701765-39. September 30, 1997.
- A-15 Atomic Energy Commission. 1974. Final Environmental Statement Related to Operation of Oyster Creek Nuclear Generating Station, United States Atomic Energy Commission, Washington, DC. Docket No. 50-219, December.
- A-16 Joseph, J. W. 1987. Inventory of New Jersey's Estuarine Shellfish Resources. U.S. Department of Commerce National Oceanic and Atmospheric Administration National Marine Fisheries Service. Project No. 3-405-R. December 9.
- A-17 Celestino, M.P. 2003. Shellfish Stock Assessment of Little Egg Harbor Bay. New Jersey Department of Environmental Protection. May 15.
- A-18 Jersey Central Power and Light Company. 1978. Oyster Creek and Forked River Nuclear Generating Stations 316(a) and (b) Demonstration.
- A-19 Kennish, M.J. and R.A. Lutz, eds. 1984. Lecture Notes on Coastal and Estuarine Studies; Ecology of Barnegat Bay, New Jersey. Springer-Verlag, New York.
- A-20 FEMA Floodzone Map for Lacey Township, Ocean County, NJ, July 25, 2005. Provided by Birdsall Engineering, Inc.
- A-21 AmerGen. No Date. AmerGen/Exelon Sponsors Artificial Reef Installation in Barnegat Bay. Available at <http://www.oystercreeklr.com/2006-06-13%20%20Artificial%20Reef%20Press%20Release.pdf>. Accessed August 1, 2006.
- A-22 Kinsey. 1979. Letter, Kinsey (New Jersey Department of Environmental Protection) to Finfrock (Jersey Central Power & Light Company). NPDES Permit Renewal Application No. NJ0005550. October 22.
- A-23 U.S. Fish and Wildlife Service . 2004. Edwin B. Forsythe National Wildlife Refuge. September. Available at <http://www.fws.gov/northeast/forsythe/>. Accessed July 28, 2006.
- A-24 Larson, E., 2001. "A Day in the Life of Lacey Township." Asbury Park Press. December 20, 2001. Available at <http://www.injersey.com/day/story/0,2379,482252,00.html>. Access July 28, 2006.
- A-25 AmerGen. 2004. Oyster Creek Generating Station; Clean, Safe, Reliable. February. Available at <http://www.oystercreeklr.com/OCLR%20-%20Info%20Binder%20-%20Tab%2003%20-%20Economic%20Benefits%20Study%20Summary.pdf>. Accessed July 28, 2006.
- A-26 Deleted.
- A-27 Versar, Inc. 1989. Technical Review and Evaluation of Thermal Effects Studies and Cooling Water Intake Structure Demonstration of Impact for the Oyster Creek Nuclear Generating Station. Revised Final Report. Prepared for New Jersey Department of Environmental Protection, Division of Water Resources. May.

- A-28 Kennish, M. J., ed., Barnegat Bay-Little Egg Harbor, New Jersey: Estuary and Watershed Assessment. Journal of Coastal Research Special Issue 32, *State of the Estuary and Watershed: An Overview*. 2001.
- A-29 Zampella, R. A., et al., 2004. The Essential Character of the Oyster Creek Watershed. April. Pinelands Commission. Available at <http://www.nj.gov/pinelands/infor/broch/OysterCreekReport.pdf>. Accessed August 16, 2006.
- A-30 Barnegat Bay National Estuary Program. 2005. State of the Bay Technical Report. Available at http://www.bbep.org/downloads/state_of_bay_tech.pdf. Accessed on October 26, 2006.
- A-31 Moore, K. 2006. "Nitrogen Level Feeds Growth of Threats to Ecosystem," Asbury Park Press, July 1. Available at http://savebarnegatbay.org/news_194.shtml. Accessed on July 22, 2006.
- A-32 Deleted.
- A-33 Deleted.
- A-34 National Academy of Engineering, 2006. Greatest Engineering Achievements of the 20th Century. Available at <http://www.greatachievements.org/>. Accessed August 6, 2006.
- A-35 Exelon, 2006. Oyster Creek Generating Station. Available at http://www.exeloncorp.com/ourcompanies/powergen/nuclear/oyster_creek_generating_station.htm. Accessed August 6, 2006.
- A-36 EcoSciences, Inc., 2004. Threatened and Endangered Species Habitat Impact Assessment for Oyster Creek Generating Station National Security Upgrades; Township of Lacey; Ocean County, New Jersey. Prepared for AmerGen Energy Co., LLC. July 7.
- A-37 Katz, B., and R. Puentes. 2006. Prosperity at Risk: Toward a Competitive New Jersey. May. The Brookings Institute. Available at <http://www.njfuture.org/Media///Docs/brookings%20smaller.pdf>. Accessed August 4, 2006.
- A-38 Deleted
- A-39 Energy Information Administration. 2004. Existing Generating Units in the United States by State, Company, and Plant, 2004. U. S. Department of Energy. Available at <http://www.eia.doe.gov/cneaf/electricity/page/capacity/newunits2004.xls>. Accessed August 4, 2006.
- A-40 New Jersey Ocean Atlas, New Jersey Department of Environmental Protection. May 16, 2006. Available at http://www.nj.gov/dep/cmp/ocean_atlas_map.pdf. Accessed August 10, 2006.
- A-41 PJM. Assessment of Transmission Requirements in New Jersey Including PSE&G Retirements and Potential Retirement in 2009 of Oyster Creek. Available at

-
- <http://www.pjm.com/planning/project-queues/gen-retirements/final-oyster-creek-analysis-slides-nj-bpu-requested-analysis.pdf>. Accessed August 11, 2006.
- A-42 Rutgers. 2006. Barnegat Bay – Little Egg Harbor Submerged Aquatic Vegetation Mapping. Available at <http://deathstar.rutgers.edu/projects/runj/sav/index.htm>. Accessed June 6, 2006
- A-43 Ocean County Soil Conservation District. 2005. Soil Erosion and Sedimentation Control Certification; Upland Dredge Site. SCD # 1302. July 19, 2005.
- A-44 AmerGen. No Date. Applicant's Environmental Report – Operating License Renewal Stage; Oyster Creek Generating Station. (submitted to NRC 7/22/2005).
- A-45 National Marine Fisheries Service. 2005. Letter, Kurkul (NMFS) to Kuo (NRC), re: Oyster Creek nuclear Generating Station, September 22, with enclosed Biological Opinion.
- A-46 National Marine Fisheries Service. 2006. Endangered Species Act Section 7 Consultation Biological Opinion Regarding Proposed Renewal of an Operating License for the Creek Nuclear Generating Station on the Forked River and Oyster Creek, Barnegat Bay. November 22.
- A-47 Wildlife Habitat Council. 2005. Site Assessment and Wildlife Management Opportunities Report for Exelon Corporation's Oyster Creek Generating Station. September.
- A-48 Ocean County Department of Planning. 2005. Major Federal and State Land Holdings in Ocean County. December. Available at <http://www.planning.co.ocean.nj.us/databook/68STLAND.pdf>. Accessed September 7, 2006.
- A-49 New Jersey Division of Fish & Wildlife. No Date. New Jersey Landscape Project Map Book, Map 64. Available at <http://www.nj.gov/dep/fgw/ensp/pdf/mapbook/64.pdf>. Accessed September 7, 2006.
- A-50 Jersey Central Power & Light Co. Boundary Map of Former Finninger Farm. May 14, 1982.
- A-51 Google Earth. Annotated Aerial Image of OCGS Barge Mooring Facility. September 9, 2006.
- A-52 New Jersey Department of Environmental Protection. 2002. List of State Flood Hazard Area Delineations. May 15. Available at <http://www.state.nj.us/dep/landuse/7-13-7.pdf>. Accessed September 9, 2006.
- A-53 New Jersey Department of Environmental Protection. Pollutant Discharge Elimination System Permit Number NJ0005550. Effective December 1, 1994. With fact sheet.
- A-54 U. S. Nuclear Regulatory Commission. 1996. Generic Environmental Impact Statement for License Renewal of Nuclear Plants. NUREG-1437. May. Available at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437/>. Accessed September 10, 2006.

- A-55 New Jersey Department of Environmental Protection, Division of Parks and Forestry, State Forest Service. No Date. New Jersey's Big Trees.
- A-56 Anonymous. No Date. Lacey Township, Ocean County, New Jersey Township History. Available at <http://www.laceytownship.org/content/18/95/default.aspx>. Accessed September 29, 2006.
- A-57 National Cooperative Soil Survey. 1995. Non-Irrigated Capability Class Rating for Ocean County New Jersey. National Resource Conservation Service, U.S. Department of Agriculture. Available at <http://websoilsurvey.nrcs.usda.gov>. Accessed July 27, 2006.
- A-58 Levin, S. 2000. Letter, Levin (GPU Nuclear Inc) to New Jersey Department of Environmental Protection. Application for Transfer of Ownership and of a Permit. April 25.
- A-59 New Jersey Transit. Bus Schedule, Lakewood to Atlantic City. Effective January 28, 2006. Available at <http://www.njtransit.com/pdf/bus/T0559.pdf>. Accessed September 30, 2006.
- A-60 Lacey Township, Ocean County, New Jersey. 1989. Ocean County Water Quality Management Plan; Wastewater Management Plan.
- A-61 Tompkins, H.B. 2005. Letter Tompkins (State of New Jersey, Department of Environmental Protection) to Brown (AmerGen). Draft Surface Water Renewal Permit Action. Includes public notice, fact sheet, and draft NJPDES permit. July 19.
- A-62 Bureau of Economic Analysis. No Date. Table CA25 – Total full-time and part-time employment – New Jersey. U. S. Department of Commerce. Available at <http://www.bea.gov/beat/regional/spi/>. Accessed October 4, 2006.
- A-63 Bureau of Economic Analysis. No Date. Table CA25 – Total full-time and part-time employment – Ocean County, New Jersey. U. S. Department of Commerce. Available at <http://www.bea.gov/beat/regional/spi/>. Accessed October 4, 2006.
- A-64 New Jersey Department of Labor Workforce Development. 2005. Central Regional Community Fact Book. Ocean County Edition. Division of Labor Market and Demographic Research. Available at <http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi12/ocfct.pdf>. Accessed June 12, 2006.
- A-65 TTNUS. 2006. Ocean County Demographic and Economic Growth Report Calculation Package. June 13, 2006.
- A-66 Energy Information Administration. 2004. State Energy Profiles 2002. January. (Excerpt). U. S. Department of Energy. Available online at http://tonto.eia.doe.gov/ftproot/electricity/stateprofiles/02st_profiles/062902.pdf. Accessed October 4, 2006.
- A-67 Energy Information Administration. 2004. State Energy Data 2002: Consumption, Table 7 Energy Consumption Estimates by Source, Selected Years, 1960 – 2002, New Jersey. U. S. Department of Energy. Available at

-
- http://www.eia.doe.gov/emeu/states/sep_use/total/pdf/use_nj.pdf. Accessed October 5, 2006.
- A-68 Burea of Freshwater Fisheries. 2005. Draft Appendix C, Locations of Anadromous American Shad and River Herring During Their Spawning Period in New Jersey's Freshwaters Including Known Migratory Impediments and Fish Ladders. New Jersey Department of Environmental Protection Division of Fish and Wildlife. March 2005. (Excerpt from draft state report on anadromous fish transmitted by email Boriek to Moore). March
- A-69 EcolSciences, Inc., 2006. Threatened and Endangered Species Habitat Impact Assessment for Oyster Creek Generating Station; Township of Lacey; Ocean County, New Jersey. Prepared for Amergen Energy Co., LLC. August 15.
- A-70 National Marine Fisheries Service. No date. What is essential fish habitat? Office of Habitat Conservation, Habitat Protection Division. Available at http://www.nmfs.noaa.gov/habitat/habitatprotection/efh/index_a.htm. Accessed October 6, 2006.
- A-71 National Marine Fisheries Service. No date. EFH for the Mid-Atlantic. Available at <http://www.nmfs.noaa.gov/habitat/habitatprotection/profile/midatlanticcouncil.htm>. Accessed October 6, 2006.
- A-72 National Oceanic and Atmospheric Association. No date. Summary of Essential Fish Habitat Designations, Barnegat Bay, New Jersey. Available at <http://www.nero.noaa.gov/hcd/nj1html>. Accessed October 6, 2006.
- A-73 State of New Jersey Department of Environmental Protection. The Management and Regulation of Dredging Activities and Dredged Material Disposal in New Jersey's Tidal Waters. October 1997. Available online at <http://www.njstatelib.org/digit/r588/r5881997.html>. Accessed October 20, 2006.
- A-74 U. S. Nuclear Regulatory Commission. NRC Regulatory Issue Summary 2006-12; Endorsement of Nuclear Energy Institute Guidance "Enhancements to Emergency Preparedness Programs for Hostile Action." July 19, 2006.
- A-75. TtNUS. 2006. Analysis of Current and Historic Fish Data for the Purpose of Determining Similarity of Species Composition and Numbers of Fish Impinged and Entrained at OCGS, 1975 – 1985 and 2005 – 2006. November 22.
- A-76. USDA. 1989. Soil Survey of Ocean County, New Jersey. Sheet Number 45.
- A-77. Atlantic States Marine Fisheries Commission (ASMFC). 2005. Atlantic States Marine Fisheries Commission News Release, February 10, 2005: ASMFC Approves Winter Flounder Amendment 1.
- A-78. Atlantic States Marine Fisheries Commission (ASMFC). 2005. Atlantic Croaker Stock Assessment and Peer Review Reports. November