AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Mirant Canal, LLC

is authorized to discharge from the facility located at:

Mirant Canal Station
9 Freezer Road
Sandwich, Massachusetts 02563

to receiving waters named the **Cape Cod Canal to Atlantic Ocean**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on the first day of the calendar month following 60 days after signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on June 23, 1989.

This permit consists of: 21 pages of Part I including Sections A-C with Effluent Limitations, Monitoring Requirements, and State Permit Conditions and Part II Requirements containing General Conditions and Definitions.

Signed this 1st day of August, 2008

/s/ SIGNATURE ON FILE

Stephen S. Perkins, Director Office of Ecosystem Protection Environmental Protection Agency (EPA) Boston, MA	Glenn Haas, Director Division of Watershed Management Massachusetts Department of Environmental Protection (MassDEP)

Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The term "Regional Administrator" means the Regional Administrator of Region I of the U.S. Environmental Protection Agency (EPA) and the term "Commissioner" means the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) or their designees.

2. During the period beginning on the effective date and lasting through expiration, the Permittee is authorized to discharge from **outfall serial number: 001**: non-contact condenser cooling water, treated station effluent (internal outfalls 010, 011 and 012), and stormwater. Such discharges shall be limited and monitored by the Permittee as specified below:

Effluent Characteristic	Discharge Limitations			Monitoring Requirements	
	Average Monthly	Maximum Daily	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow Rate (million gallons per day)	Report	518	---	Continuous	Recorder or Pump capacity curve and operational hours
Total Residual Oxidants (mg/l)	---	0.1	0.2[1]	1 sample per Unit during each chlorination event	Grab
Whole Effluent Toxicity (WET)	Report	Report		Quarterly	24-Hour Composite
pH (standard units)	≥6.5 and ≤8.5			Weekly	Grab, report maximum and minimum values
Temperature (^{o}F)	---		107	Continuous	Recorder
Temperature Rise (ΔT)[2]	---	33		Continuous	Calculation

[1] A TRO limit of 0.2 mg/L shall not be exceeded at any time (instantaneous maximum). This limit only applies to the extent that the Permittee utilizes once-through cooling water.

[2] ΔT equals the discharge temperature(°F) minus the inlet temperature (°F).

a. Effluent samples shall be taken within the last 10 feet of the 750-foot open discharge flume prior to discharging through the diffuser to the Cape Cod Canal.

b. Chlorination may be conducted for no more than two hours per day for each condenser unit and simultaneous multi-unit chlorination is permitted. If the daily sampling and applicator checks disclose any unresolved abnormality with the applicators or feed rates, all subsequent dosing of chlorine is prohibited until the abnormality is corrected.

c. The water temperature in the upper 15 ft of the water column above the discharge diffuser shall not exceed 86°F at any time. The Permittee shall measure and record the temperature of the water 15 feet below the water surface, directly above the discharge diffuser, during slack tide, once per week from July 1 through September 30 and during the generation of electricity, for the duration of the permit. This information shall be submitted to the EPA and MassDEP annually along with the annual Heat Load Report.

d. The Permittee shall use the procedures and protocols contained in Attachment A to this permit when conducting the WET testing. If there is any discharge of metal cleaning wastes during each sampling quarter, the WET samples shall be collected at times when metal cleaning waste is being discharged. The Permittee is required to report the results of chronic (and modified acute) WET tests on a quarterly basis. Reports shall include documentation of waste streams discharged during sample collection. If after eight consecutive sampling periods (two years), no test shows a LC_{50} < 100 % and a C-NOEC < 20%, the Permittee may request a reduction in toxicity testing. A variance from the above WET testing schedule may be allowed upon written approval by EPA with concurrence from MassDEP.

e. During the period beginning on the effective date and and lasting through expiration, the Permittee shall submit monthly **TRO Monitoring Reports** providing the data for all samples collected and analyzed for the previous month.

f. If the Permittee installs and operates cooling tower technology to meet the requirements of Part I.A.13.g of this permit, cooling tower blowdown shall be limited and monitored by the Permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow Rate (million gallons per day)	Report	Report	Continuous when in use	Recorder or Pump capacity curve and operational hours
Free Available Chlorine (mg/l)	0.2[1]	0.5	Daily	Grab
The 126 priority pollutants (mg/l) contained in chemicals added for cooling tower maintenance (except Cr and Zn)[2]	No detectable amount	No detectable amount	Yearly	Composite
Total Recoverable Chromium (mg/L)	0.2	0.2	2/month	Composite
Total Recoverable Zinc (mg/L)	1.0	1.0	2/month	Composite

[1] This limit is the average of analyses made over a single period of chlorine release (<2 hours); not an average monthly limit.

[2] The Permittee may demonstrate through engineering calculations that each of the 126 priority pollutants in 40 C.F.R. Part 423.15(j)(1) is not detectable in the final discharge by the analytical methods in 40 C.F.R. part 136.

3. During the period beginning on the effective date and lasting through expiration, the Permittee is authorized to discharge from **outfall serial number: 002**: intake screen washwater and condenser cooling water. Such discharges shall be limited and monitored by the Permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow Rate (million gallons per day)	2.5	4.4	Continuous	Recorder or Pump capacity curve and operational hours
pH (standard units)	≥6.5 and ≤8.5		Weekly	Grab, report monthly range
Temperature (^{o}F)	---	90	Continuous	Recorder
Temperature Rise (ΔT)[1]	---	33	Continuous	Calculation

[1]ΔT equals the discharge temperature(^{o}F) minus the inlet temperature (^{o}F).

a. Temperature and pH shall be monitored at the Cape Cod Canal end of the outfall 002 discharge flume within 2 feet of the water surface when condenser cooling water is discharging.

b. There shall be no condenser water discharge at this location during times the screen wash is in operation until upgrades are made to the fish return system as required by Part 1.A.13.e of this permit.

c. There shall be no condenser water discharge at this location during the chlorination of any Unit condensers.

d. The outfall 002 discharge flume shall provide sufficient water depth to return impinged organisms to the Cape Cod Canal with minimal stress.

e. Upon completion of the upgrades to the fish return system as required by Part I.A.13.e. of this permit, the Permittee shall monitor and report average monthly and maximum daily flows for the discharges composed solely of intake screen washwater.

4. During the period beginning on the effective date and lasting through expiration, the Permittee is authorized to discharge from internal **outfall serial number: 010**: Unit 1 floor drains (*consisting of vacuum and pump seal water, fuel heater room discharges, and boiler leaks*). Such discharges shall be limited and monitored by the Permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow Rate (million gallons per day)	0.072	0.144	Continuous when in use	Recorder or Pump capacity curve and operational hours
Total Suspended Solids (mg/l)	30	100	Daily	Composite
Oil and Grease (mg/l)	10.0	15.0	Daily	Grab

a. Effluent samples shall be taken from the discharge side of the oil/water separator prior to mixing with other streams and prior to discharging into the final effluent flume.

5. During the period beginning on the effective date and lasting through expiration, the Permittee is authorized to discharge from internal **outfall serial number: 011**: metal cleaning waste streams (*consisting of air preheater wash, boiler fireside wash, precipitator wash, boiler chemical cleaning, stack and breach wash, equipment cleaning and feedwater heater chemical cleaning, metal cleaning sludge dewatering filtrate*). Such discharges shall be limited and monitored by the Permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow Rate (million gallons per day)	Report	Report	Continuous	Recorder or Pump capacity curve and operational hours
Total Copper (mg/l)	1.0	1.0	Daily	Composite
Total Iron (mg/l)	1.0	1.0	Daily	Composite
Total Mercury (mg/L)	Report	Report	Daily	Composite
Total Suspended Solids (mg/l)	30	100	Daily	Composite
Oil and Grease (mg/l)	10.0	15.0	Daily	Grab

a. Effluent samples shall be taken from the spigot on the discharge line of one of the two waste neutralization tanks prior to discharging into the final effluent flume for each day metal cleaning wastes are discharged.

b. Low volume or fly ash wastewater shall not be combined with metal cleaning wastewater prior to discharge to the final effluent flume.

c. The Permittee shall undertake reasonable best efforts to obtain and to use bulk caustic manufactured using a mercury-free process.

d. The total average monthly combined flow from outfall locations 011 and 012 shall not exceed 0.32 MGD and the total maximum daily combined flow from outfall locations 011 and 012 shall not exceed 0.52 MGD.

6. During the period beginning on the effective date of the permit and lasting through

expiration, the Permittee is authorized to discharge from internal **outfall serial number 012:** ash sluice wastewater and low volume waste streams (*consisting of floor drains, water treatment wastes (demineralizer and condensate polisher), boiler blowdown, laboratory wastewater, and boiler seal water*). Such discharges shall be limited and monitored by the Permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow Rate (million gallons per day)	Report	Report	Continuous	Recorder or Pump capacity curve and operational hours
Total Suspended Solids (mg/l)	30	100	Twice per Month	Composite
Oil and Grease (mg/l)	15.0	15.0	Twice per Month	Grab

a. Effluent samples shall be taken from either the spigot on the discharge line of one of the two waste neutralization tanks or directly from one of the waste ponds, prior to discharging into the final effluent flume.

b. The total average monthly combined flow from outfall locations 011 and 012 shall not exceed 0.32 MGD and the total maximum daily combined flow from outfall locations 011 and 012 shall not exceed 0.52 MGD.

7. During the period beginning on the effective date and lasting through expiration, the Permittee shall submit three annual **Heat Load Reports** providing the following information:

a. Hourly average intake and discharge temperatures over the past year (January 1st to December 31st).

b. Net heat load (in BTUs) each hour over the past year (January 1st to December 31st). Net heat load means the total actual waste heat to the Cape Cod Canal and shall be calculated as follows: $Q = C_p m(\Delta T)$

Where Q = Heat Load, BTU/Hour
C_p = Heat Capacity (Specific Heat) of water with salinity

of seawater = 0.94 BTU/pound°F
m = mass of water (discharged)
= flow rate x density of seawater
= flow rate, gallons per hour (gph) x 8.55 pounds/gallon
ΔT = discharge - intake temperature, °F

c. Amount of water discharged each hour over the past year (January 1st to December 31st).

d. This data shall be presented in electronic form, able to be read by a spreadsheet program such as Excel or Lotus 123, in tabular form as demonstrated below:

Date (MM/DD/YY HH:MM)[1]	Intake Temperature (°F)	Discharge Temperature[2] (°F)	Total Discharge Flow (gph)	Hourly Heat Load (BTU)
10/22/01 0:00				
10/22/01 1:00				
10/22/01 2:00				
⇓				
10/22/01 23:00				

[1] Use of military format is recommended for documenting hours (0:00-23:00).
[2] Temperature shall be measured at the end of the discharge flume.

e. The annual Heat Load report shall be submitted by February 28th and shall contain all data outlined above from January through December of the previous year.

f. The annual Heat Load Report is not required if a closed-cycle cooling system for both electrical generating Units 1 and 2 is in operation to achieve the standard specified in Part I.A13.g of this permit.

8. The Permittee shall submit to the Regional Administrator by January 7, 2009, **the information required by 40 C.F.R. §§ 122.21(r)(2) and (3)** which includes:

i. Source Water Physical Data
ii. Cooling Water Intake Structure Data

9. Biological Monitoring - Sampling and Reporting Requirements

a. During operation of Canal Station, the Permittee shall conduct biological studies using methods described below. The Permittee shall begin monitoring 30 days after the effective date of this permit.

b. Ichthyoplankton (fish eggs and larvae): Occurrence and Abundance of Species Entrained

i. Entrainment monitoring shall be conducted weekly during the months of March through August, and twice per month during September through February.

ii. Three entrainment samples shall be collected each sampling week (once on Monday morning at 8:00 am, once on Wednesday afternoon at 2:00 pm, and once on Friday night at 8:00 pm) for each separate cooling water intake structure. Both of the cooling water circulating pumps for each operating unit must be operated continuously during the sample period.

iii. Entrainment samples shall be collected from a representative location within the intake structure.

iv. Sampling shall be conducted using a 0.333-mm mesh, 60-cm diameter plankton net. Each sample shall represent approximately 100 m^3 of water. Exact filtration volume shall be determined using a digital flow meter mounted in the mouth of the net and recorded for each event. After each sample, the nets shall be washed down and the sample transferred from the cod end to a jar containing sufficient formalin to produce a 5 to 10% solution.

v. In the laboratory, all fish eggs and larvae shall be identified to the lowest practical taxa. Subsampling with a plankton splitter shall be used if the count of eggs and larvae in a sample is greater than 400 organisms so that a minimum of 200 eggs and larvae will be present in any subsample.

vi. Ichthyoplankton counts shall be converted to densities per 100 m^3 based on the flow through the sampling net and the data shall be presented in the annual Biological Monitoring Report. Estimates of total numbers based on Station flow rates shall also be provided. Entrainment losses shall be converted from weekly estimates of density per unit volume, to monthly and yearly loss estimates based on design plant flow. In addition, loss

estimates should be converted to adult equivalents for species in which regionally specific larval survival rates are available.

c. Finfish: Occurrence and Abundance of Species Impinged

i. Impingement monitoring shall be conducted weekly during the months of March through August, and twice per month during September through February. Sampling shall be completed on the same day as entrainment monitoring, if possible.

ii. Three impingement samples shall be collected each sampling week (once on Monday morning at 8:00 am, once on Wednesday afternoon at 2:00 pm, and once on Friday night at 8:00 pm) for each screen within the two separate cooling water intake structures. Sampling shall only be conducted for each intake structure when both pumps are operating continuously during the sampling period.

iii. Sampling shall be conducted using 3/8-inch (9.5 mm) stainless steel baskets placed in the screenwash return sluiceways. Each collection shall cover a period of at least two hours following an initial cleansing screenwash and the exact time period shall be recorded. The trash racks shall also be cleaned during each sampling period and its contents examined for any fish, mammals, reptiles or invertebrates.

iv. All fish will be immediately examined for initial condition (live, dead, injured). Any fish that is alive or injured at the time of collection shall be placed in a 20-gallon holding tank supplied with continuously running ambient seawater. Latent survival shall be determined after 48 hours.

v. All fish shall be identified, counted, and measured (to the nearest mm total length) and the data shall be presented in the annual Biological Monitoring Report. In large collections, 25 individuals per species will be measured and the remainder counted. Twenty-four hour and monthly totals shall be extrapolated and reported.

vi. Impingement estimation shall be conducted using the number of fish impinged in a 24 hour period. The number of fish by species shall be counted and based upon the sampling interval, a 24 hour estimate shall be calculated. Monthly totals shall be calculated from 24 hour estimates and annual impingement rates shall be extrapolated from monthly estimates.

d. The Permittee shall inspect and remove sediment build-up on the face of the Unit 2 intake sill to return the sill to its original design capability. After this has been completed and for the duration of the permit, the Permittee shall evaluate and

report the number of impinged organisms for each individual intake structure separately.

e. This biological monitoring shall be conducted for the duration of this permit unless authorization to discontinue or modify portions of the sampling program is granted by the Regional Administrator and the Commissioner.

f. A **Biological Monitoring Report** shall be submitted annually by February 28th . Each annual report shall provide and summarize the previous year's information in narrative. The report shall also include graphical representations, where appropriate and all quality control procedures.

i. The annual report conclusions will indicate the trends of the various parameters analyzed and identify any anomalies that appear in the annual historical data comparison. These differences will be explained, if possible. The Permittee will make recommendations for any remediation considered necessary or for any programs to better understand the anomaly.

ii. The annual report will provide the status of the present monitoring programs, the expected effort in the ensuing six months, and an alert to EPA and the State of any anomalies or patterns that may be evident in the data collection.

g. The Station is required to submit a written explanation if any aspect of the biological monitoring program is not conducted. The report shall be submitted as part of the Discharge Monitoring Report for the month the sampling was not done. The explanation for not monitoring must include all specific sampling activities that did not take place, along with the justification for suspending the identified sampling. This information also must be included in the annual Biological Monitoring Report.

10. Within 30 days of the effective date of this permit, the Permittee shall submit to EPA and MassDEP a copy of its **Marine Mammals Monitoring Program and Response Protocol**. The program shall include reporting requirements for any sightings of marine turtles and whales, seals or other marine mammals, in the vicinity of Mirant Canal Station and its cooling water intake structures.

a. The Permittee shall implement the Marine Mammals Monitoring Program and Response Protocol for the duration of this permit.

b. All sightings of marine mammals and sea turtles in the vicinity of Mirant Canal Station and its cooling water intake structures shall be reported in the annual Biological Monitoring Report.

11. Discharge Related Mortality

a. From the paved walkway, the Permittee shall visually inspect the shoreline areas adjacent to the discharge canal (Outfall 001) to the limits of Mirant Canal's property for any sign of environmental stress and/or fish mortality at least once daily, for the duration of the permit. A fish shall be considered dead if it exhibits a loss of equilibrium.

b. In the event of fish mortalities in the discharge or thermal plume, the Permittee shall make a reasonable attempt to collect a representative sample of the dead fish

from the receiving waters or from the shoreline within four hours after the fish mortalities have been observed and hold them up to one week for review by the Division of Marine Fisheries, while also complying with all the monitoring and reporting requirements in this permit.

c. If the Permittee observes 25 or more dead fish within any 24 hour period, the Permittee shall:

i. Report to the Regional Administrator and the Commissioner within 24 hours by telephone as required by Part II of this permit. A written confirmation report shall be provided within five business days. These oral and written reports shall include the following information:

(1) Characterization of fish killed: All dead fish shall be enumerated and recorded by species. Report the species, size ranges, and approximate number of organisms involved in the incident. In addition, from a representative sample of 25% of each fish species killed, up to a maximum of 25 total fish specimens from each species, shall be sampled as follows:

(a) Length: The dead fish shall be measured to the nearest centimeter total length.

(2) The time and date of the occurrence.

(3) The operational mode of the specific facility system that was in operation that may have caused the occurrence.

(4) The opinion of the Permittee as to the reason the incident occurred.

(5) The remedial action that the Permittee recommends to reduce or

eliminate this type of incident.

ii. Immediately collect a water sample of the discharge to be analyzed for Total Residual Oxidants (TRO). Suspend all unit chlorination operations immediately after collection of water samples for TRO.

iii. Immediately initiate a separate hourly record showing: (1) the discharge temperature; (2) the dissolved oxygen levels at the intake structures and at the discharge; (3) the number of dead fish observed by species; and (4) the Total Residual Oxidants (TRO) level of the discharge. The record shall also contain as much of this data that is available from up to 24 hours prior to the event, in order to provide information as to the possible causes of the fish mortality event.

iv. If at the end of the 24 hour period from the initial observation, fish mortalities do not exceed 25 or more dead fish within any 24 hour period from the areas near the shoreline discharge locations, the Permittee will cease special monitoring and return to normal station operation (including unit chlorination).

12. Unusual Impingement Event

a. The Permittee shall rotate and visually inspect the intake screens of the cooling water intake structures for Units 1 and 2 at least every eight hours that the unit circulation pumps are operated, for the duration of the permit.

b. If the Permittee observes on the cooling water intake screens, or estimates, based on temporally-limited observations, 40 or more dead fish within any 8 hour period, the Permittee shall:

i. Initiate continuous screen washes until the impingement rate decreases to less than five fish per hour.

ii. Report to the Regional Administrator and the Commissioner within 24 hours by telephone as required by Part II of this permit. A written confirmation report shall be provided within five business days. These oral and written reports shall include the following information:

(1) All dead fish shall be enumerated and recorded by species. Report the species, size ranges, and approximate number of organisms involved in the incident. In addition, from a representative sample of 25% of each fish species killed, up to a maximum of 25 total fish specimens from each species, shall be measured to the nearest

centimeter total length.

(2) The time and date of the occurrence.

(3) The operational mode of the specific system that may have caused the occurrence.

(4) The opinion of the Permittee as to the reason the incident occurred.

(5) The remedial action that the Permittee recommends to reduce or eliminate this type of incident.

13. Cooling Water Intake Structure Requirements to Minimize Adverse Impacts from Impingement and Entrainment

a. The Permittee shall maintain the Unit 2 intake sill as designed to minimize impingement by periodically removing sediment build-up. The date of each cleaning shall be included in the annual Biological Monitoring Report.

b. The Permittee shall equip all traveling intake screens with fish holding buckets to hold collected organisms in at least 2 inches of water while they are lifted to the fish return system.

c. The Permittee shall ensure that a low pressure (< 30 psi) screen spray wash is in operation as part of each screenwash system in a manner such that most organisms are not exposed to high pressure screen spray. The low pressure spray shall be engineered to deliver aquatic organisms from the fish holding buckets to the return trough, with minimal stress.

d. During chlorination, each screen shall:
   1) be continuously rotated to reduce the amount of time impinged organisms are subjected to high levels of chlorine; and
   2) either use an alternative water source that is not chlorinated for screen washing or dechlorinate the screen wash water.

e. The Permittee shall reconfigure the fish return system such that, once returned to the Cape Cod Canal, the fish are transported away from any intake structure based on the tidal flow in the Cape Cod Canal. The fish return trough shall be engineered to provide the return of aquatic organisms to the Cape Cod Canal always at sufficient depth for fish locomotion, with minimal stress, including during all periods of low tide level. There shall be no vertical drop of fish from the end of the fish return trough to the surface of the Cape Cod Canal.

f. After completion of the reconfigured fish return system and for the duration of the permit, the Permittee shall operate all screens continuously when the corresponding circulating water pumps are in operation.

g. The design, location, construction and capacity of the Permittee's CWIS shall reflect the best technology available (BTA) for minimizing the adverse environmental impacts of entrainment due to the CWIS. In order to satisfy this BTA standard, the Permittee shall reduce current levels of entrainment of marine organisms through the facility's CWISs to an extent comparable to what would be achieved by the use of closed-cycle cooling for all electrical generating units, with the closed-cycle cooling system optimized to maximize cooling water intake flow reductions to the extent practicable in light of site-specific constraints (e.g., restrictions on chloride discharges). The Permittee shall fulfill this BTA requirement by either of the methods specified in paragraph13.g.i or paragraph 13.g.ii below.

i. The Permittee shall utilize a closed-cycle cooling system for electrical generating Units 1 and 2 to achieve the standard specified in paragraph 13.g above; or

ii. The Permittee shall utilize another method of achieving the standard specified in paragraph 13.g above. In quantifying the entrainment reduction performance of a technological alternative to closed-cycle cooling, the percentage of entrainment reduction achieved shall be reduced by any increase in impingement mortality that results from use of the alternative method.

iii. If the Permittee utilizes a method of entrainment reduction under paragraphs I.A.13.g.i - ii, above, that would achieve the same level of impingement mortality reduction as the steps required by paragraphs I.A.13.a - f, above, then the Permittee may seek a permit modification to remove the unnecessary requirements.

h. If the Permittee later concludes that the requirements specified above in paragraph 13.g do not ensure that the design, location, construction and capacity of the facility's CWIS will reflect the BTA for minimizing adverse environmental impacts, the Permittee may request that EPA modify this permit under 40 C.F.R. § 122.62 to provide alternative BTA limits that will ensure that the requirements of Section 316(b) of the Clean Water Act, 33 U.S.C. § 1326(b), are satisfied in light of consideration of the factors specified in 40 C.F.R. § 125.3(d)(3). EPA will process any requested permit modification consistent with applicable law, including 40 C.F.R. §§ 122.62 and 124.5. (See also Permit Condition II.A.4 ("Reopener").)

i. Any change in the location, design or capacity of the present structures (excluding those required in Part I.A.13 of this permit) shall be approved by the Regional Administrator and the Commissioner. The construction of these modifications shall be done in accordance with appropriate federal, state, and local regulation governing construction of waterways and banks.

14. Other Cooling Water Intake Structure Requirements

a. No discharge shall occur from the heated backwash process that Canal Station performs for the removal of debris from the condenser tubes. A log shall be maintained that documents the times and duration of the heated backwash operation. Logs shall be kept on the property of the Station for at least five years and shall be made available upon request.

b. All live fish, shellfish, and other aquatic organisms collected or trapped on the intake screens shall be returned to their natural habitat with minimal stress. All other material, except natural debris (e.g. seaweed), shall be removed from the intake screens and disposed of in accordance with all existing federal, state, and/or local laws and regulations that apply to waste disposal. Such material shall not be returned to the receiving waters.

c. A log shall be maintained that documents the times and duration of operation of the traveling screens for each unit. Logs shall be kept on the property of the Station for at least five years and shall be made available upon request.

15. Water Quality Requirements

a. Discharges and water withdrawals shall not impair any Class SB use of the Cape Cod Canal and shall not violate any applicable narrative criteria from the state water quality standards, although discharges may exceed numeric temperature criteria included in state water quality standards to the extent that such discharges comply with temperature and flow limits specified herein pursuant to section 316(a) and 316(b) of the Clean Water Act.

b. The thermal plumes from the station shall: (a) not block zones of fish passage, (b) not interfere with spawning of indigenous populations, (c) not change the balanced indigenous population of the receiving water, and (d) have minimal contact with surrounding shorelines.

c. Pollutants which are not limited by the permit, but have been specifically disclosed in the last permit application, may be discharged at the frequency and level disclosed in the application, provided that such discharge does not violate sections 307 and 311 of the Act or applicable water quality standards.

d. Discharges to the Cape Cod Canal shall be adequately treated to insure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum or other visible pollutants. They shall be adequately treated to insure that the surface waters remain free from pollutants which produce odor, color, taste, or turbidity in the receiving water which is not naturally occurring and would render it unsuitable for its designated uses.

e. The effluent shall not contain metals and/or materials in concentrations or in combinations which are hazardous or toxic to aquatic life or which would impair the uses designated by the classification of the receiving waters.

16. Except as specified in Parts I.A.2 through I.A.6 herein the Permittee shall not discharge to the Cape Cod Canal a final effluent to which it has added any pollutants.

a. There shall be no discharge of polychlorinated biphenyl (PCB) compounds such as those commonly used for transformer fluid. The Permittee shall dispose of all known PCB equipment, articles, and wastes in accordance with 40 C.F.R. 761. The Permittee shall submit to EPA and MassDEP a certification that this disposal has been accomplished within 30 days of such disposal.

b. Chlorine may be used as a biocide for Units 1 and 2. No other biocide shall be used without explicit approval from EPA and the Commissioner. Bromine may be used as a chlorine adjunct only upon approval of EPA and MassDEP.

c. The Permittee may propose to conduct feasibility studies involving new chemicals not currently approved for water discharge. The Permittee shall gain approval from the Regional Administrator and the Commissioner before any such studies take place. A report summarizing the results of any such studies shall be submitted to the Regional Administrator and the Commissioner regarding discharge frequency, concentration, and the impact, if any, on the indigenous populations of the receiving water. The Regional Administrator or the Commissioner may require, among other parameters, Whole Effluent Toxicity testing as part of feasibility studies.

d. The Permittee shall comply with all existing federal, state, and local laws and regulations that apply to the reuse or disposal of solids, such as those periodically removed from the solids settling tanks. At no time shall these solids be discharged to the Cape Cod Canal.

e. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Administrator as soon as they know or have reason to

believe (40 C.F.R. §122.42):

i. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(1) One hundred micrograms per liter (100 ug/l);

(2) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or

(3) Any other notification level established by the Regional Administrator in accordance with 40 C.F.R. §122.44(f) and Massachusetts regulations.

ii. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(1) Five hundred micrograms per liter (500 ug/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or

(4) Any other notification level established by the Regional Administrator in accordance with 40 C.F.R. §122.44(f) and Massachusetts regulations.

17. This permit may be modified in accordance with 40 Section 122.62(a)(3) if the standards or regulations on which the permit is based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit is issued in accordance with 40 Section 122.62(a)(3).

B. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and

reported on separate discharge monitoring report (DMR) forms postmarked no later than the 15th day of the month following the effective date of the permit. The Permittee shall provide written explanations of all violations in DMR cover letters.

Mirant Canal, LLC may assert a business confidentiality claim with respect to part or all of the information submitted to EPA in the manner described at 40 C.F.R. Part 2.203(b). Information covered by such a claim will be disclosed by EPA only to the extent, and by means, of the procedures set forth in 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA without further notice to Mirant Canal, LLC. Effluent information shall not be regarded as confidential.

Signed and dated originals of the DMRs, and all other reports required herein, shall be submitted to each Permit Issuing Authority at the following addresses:

U.S. Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347

In addition, copies of all Discharge Monitoring Reports and all other notifications and reports required by this permit shall be submitted to the following address:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

In addition, annual Heat Load Reports, annual Biological Monitoring Reports, Marine Mammals Monitoring Program and Response Protocol and all Discharge Related Mortality and Unusual Impingement Event notifications and Reports required by this permit shall also be submitted to:

Sharon DeMeo (Telephone: 617-918-1995)
U.S. Environmental Protection Agency
One Congress Street, Suite 1100 (CIP)
Boston, MA 02114-2023

and

Jack Schwartz (Telephone: 978-282-0308 X122)
Massachusetts Division of Marine Fisheries

30 Emerson Avenue
Gloucester, MA 01930

C. STATE PERMIT CONDITIONS

1. This discharge permit is issued jointly by the U. S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection pursuant to M.G.L. Chap. 21, §43 and 314 C.M.R. 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 C.M.R. 3.19, are hereby incorporated by reference into this state surface water discharge permit.

2. This authorization also incorporates the state water quality certification issued by MassDEP for this permit under § 401(a) of the Federal Clean Water Act, 40 C.F.R. 124.53, M.G.L. c. 21, § 27 and 314 C.M.R. 3.07. Any additional requirements contained in Massachusetts' water quality certification are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 C.M.R. 3.11.

3. Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as a NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.