

RESPONSE TO PUBLIC COMMENTS
Taunton Municipal Lighting Plant (TMLP)
National Pollutant Discharge Elimination System (NPDES) No. MA0002241

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) are issuing a final National Pollutant Discharge Elimination System (NPDES) permit for the Taunton Municipal Lighting Plant in Taunton, Massachusetts (TMLP, the permittee, or the Facility). This permit (the Final Permit) authorizes TMLP to discharge wastewater to, and to withdraw water for cooling from, the Taunton River in accordance with the requirements of the Federal Clean Water Act (CWA), 33 U.S.C. §§ 1251 *et seq.*, and the Massachusetts Clean Waters Act, M.G.L. Ch. 21, §26-35.

The Draft Permit public comment period began February 16, 2006, and ended on March 17, 2006. The following sources submitted comments:

- Massachusetts Division of Marine Fisheries (MA DMF);
- U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeastern Region (NMFS);
- Taunton River Watershed Alliance (TRWA);
- Massachusetts Office of Coastal Zone Management (CZM); and
- Taunton Municipal Lighting Plant (TMLP).

Additionally, EPA received correspondence from the permittee dated April 18, 2006, May 17, 2006, May 23, 2006, June 5, 2006, June 6, 2006, and June 20, 2006. This correspondence did not present any new comments. The correspondence merely provided clarification for aspects of the comments provided by the permittee during the public comment period. The clarification correspondence is contained in the administrative record.

The comment letters received by EPA are part of the administrative record. To obtain a copy of these comments and/or the Final Permit, please write or call Doug Corb, EPA Massachusetts Municipal NPDES Permits Program (CMP), 1 Congress Street, Suite 1100, Boston, MA 02114-2023; telephone: (617) 918-1565.

This RTC document presents EPA's responses to public comments on the Draft Permit, in accordance with the provisions of 40 C.F.R. 124.17. This RTC document also describes the changes that have been made to the Draft Permit in the course of developing the Final Permit and clarifies certain provisions of the Final Permit. In this RTC document, EPA presents in italics the comments submitted by these parties, followed by EPA's response. In some cases comments have been rephrased, clarified, or grouped together by subject. In some cases, a single response is provided to address two or more comments on related topics.

EPA's decision-making process has benefitted from the various comments and the additional

information submitted. The information and arguments resulted in a few changes that are detailed in this document and are reflected in the Final Permit. A summary of the changes made in the Final Permit is listed below. The analyses underlying these changes are explained in the responses to individual comments. Each change is followed by a number that correlates to a specific response.

Summary of changes from the public notice draft to the Final Permit

1. The permit effective and end dates have been adjusted to begin and end concurrent with calendar months to simplify discharge monitoring and compliance tracking.

The following language has been added to Page 1 of the Permit

- The permit shall become effective on the first day of the calendar month immediately following sixty (60) days after signature.
- This permit and the authorization to discharge expire at midnight, five (5) years from last day of the month preceding the effective date

2. The average monthly flow limit for Outfall 001 is 5.8 mgd (vs. 4.9 mgd in the Draft Permit) for the period March through November and 8.2 mgd (vs. 7.3 mgd in the Draft Permit) for December through February. [B.1]

3. The following language has been added to Special Condition, Section C.3.c.:

To increase the screen area and to reduce the through screen velocity whenever Unit 8 circulating pump(s) are operating the Final Permit requires that;

- both inlets and traveling screens are to be operated simultaneously, except when chlorinating or during periods of required maintenance, and
- only one circulation pump shall be operated unless both pumps are needed to comply with the permitted temperature limits. [B.5-10.]

4. The language in Section C.3.d has been modified to reflect the year-round requirement to rotate Units 8 and 9 traveling screens at least once every eight hours when Unit 9 is operating alone (vs. December 1 - February 29). [B.7-8]

5. The language in Section C.3.f has been modified as follows to reflect the revised Section C.3.c and eliminate redundancies: “In addition to Condition C.3.c above, the permittee shall take operational measures to further minimize intake velocity to the degree practicable, to minimize impingement of fish.” [B.7-11.]
6. The language in Section C.5.ii has been modified to reflect the year-round requirement to operate Units 8 and 9 traveling screens when Unit 8 pump(s) are operating. [B.7-8]
7. Section C.5.ii is now redundant with the year-round requirement to operate Units 8 and 9 traveling screens when Unit 8 circulation pump(s) are operating, and has been deleted. [B.7-8]
8. The Final Permit shall prohibit chlorination while the traveling screens are operating. [B.12.]
9. The compliance schedules in Section D.1-7 have been extended and are now triggered by the effective date of the permit. [F.1-6.]
10. The sampling location for temperature used to calculate the ΔT for Outfall 001 shall be at the condenser inlet. [E.4]
11. Incorrect references within the Draft Permit to page numbers have been corrected [E.6. and E.15.]
12. The flow limits for Outfall 002 shall be increased to a maximum daily discharge of 0.469 mgd and an average monthly limit of 0.239 mgd. [E.8.]
13. For Outfall 005, the inappropriate reference to footnote number 3 regarding pH has been eliminated. [E.10.]
14. For Outfalls 004 and 005, the measurement frequency for flow shall read “total discharge per day” and the sample type shall be “estimate”. [E.12.]
15. The sample location for pH for Outfall 004 shall be “at the discharge from the traveling screen” [E.13.]

A. General Comments

Comment A.1. The TRWA comments that the Taunton River watershed drains water for all or part of 38 communities in southeastern Massachusetts, providing the essential resource for drinking water aquifers, flood storage areas, and significant fish and wildlife habitat in this part of the State.

The TRWA also notes that the Taunton River is currently congressionally proposed for inclusion into the National Park Service, National Wild and Scenic Rivers Program (www.TauntonRiver.org), and is the focus of the Taunton River Watershed Campaign. According to the TRWA, the Taunton River is also considered by many to be one of the most ecologically diverse water bodies in the Commonwealth.

Comment A.2. The TRWA requests that the final permit include stronger measures for ensuring compliance with all water quality standards and be more protective of river fish.

Comment A.3. The MA DMF comments that the Taunton River supports a significant anadromous fishery. The MA DMF further points out that in recent years, anadromous fish runs in Massachusetts and elsewhere along the Atlantic coast have seen substantial reductions in returning numbers of anadromous fish species. River herring returns in Massachusetts have become so low in recent years, according to the MA DMF, that the state imposed a three-year moratorium on the taking, possession and sale of these species. With this in mind, the MA DMF believes further protection is necessary to help preserve the fishery resources in the Taunton River.

Comment A.4. The NMFS states that this portion of the Taunton River provides habitat for a number of living marine resources including the anadromous alewife, blueback herring and white perch, as well as the Atlantic menhaden. The NMFS further comments that these species serve as prey for certain federally managed fishery resources and, therefore, are considered an important component of the “essential fish habitat” (EFH) of these managed species.

EPA Response to Comments A.1 through A.4:

EPA fully acknowledges the outstanding qualities of the Taunton River, including its notable anadromous fish runs. EPA also is aware of the effort to formally designate the Taunton River as a wild and scenic river eligible for inclusion in the national wild and scenic rivers system. As part of developing this permit, EPA visited the Taunton River Wild and Scenic River Study website several times and has considered information presented there. The conditions of this final permit are designed to meet the applicable standards of the Clean Water Act, including those provided at CWA §§ 316(a) and (b), which should also serve to protect the outstanding values of the Taunton River, consistent with the goals of the Wild and Scenic Rivers Act, 16 U.S.C. 1271, *et. seq.*

With respect to state water quality standards, the Final Permit will comply with applicable water quality standards and the permit has been certified by the MassDEP under CWA § 401(a)(1). This certification indicates that the thermal discharge limits developed under CWA 316(a) are appropriate and will be considered site specific limitations in compliance with 314 CMR 4.00. *See* 314 CMR 4.05(b)(2)(c).

EPA also acknowledges that river herring populations have recently declined and that this has prompted MA DMF to impose a three-year harvest moratorium. EPA considered the impacts to river herring more closely in light of population declines. According to MA DMF (personal communication with Phillips Brady), river herring declines have prompted similar moratoria in Rhode Island and Connecticut. Given these declines and in consideration of the comments submitted on the Draft Permit, EPA re-examined the Draft Permit and its measures to minimize the facility's adverse impacts to river herring from impingement. As a result, a new special condition has been added in the Final Permit to help further reduce the impingement due to TMLP's cooling water intake structure (CWIS) by reducing the intake velocity. This additional condition, Section C.3.c in the Final Permit, should further reduce the potential to impinge out-migrating young-of-year river herring, and it is discussed in more detail in Section B below.

Finally, EPA also recognizes that TMLP's operations have the capacity to affect designated EFH of federally managed species, including forage species that are an important part of that EFH. More specific information regarding EPA's response to NMFS's EFH Conservation Recommendations is provided in the response to Comment A.5 below.

Comment A.5. NMFS comment: Please note that Section 30.5(b)(4)(B) of the MSA requires the US EPA to provide NMFS with a detailed written response to these EFH Conservation Recommendations, including a description of measures adopted by the EPA for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with NMFS' recommendations, Section 305(b)(4)(B) of the MSA also indicates that the EPA must explain its reasons for not following the recommendations. Included in such reasoning would be the scientific justification for any disagreements with NMFS over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects pursuant to 50 CFR 600.920(k). Please also note that a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920(1) if new information becomes available or the project is revised in such a manner that affects the basis for the above EFH Conservation Recommendations.

EPA Responses to Comment A.5:

EPA understands and will fully comply with its consultation responsibilities related to EFH. In addition to addressing NMFS's questions and comments in this RTC document, EPA will submit to NMFS, prior to permit issuance, a detailed written response to NMFS's Conservation Recommendations.

B. Cooling Water Intake Structure and Water Withdrawal Limits

Comment B.1. TMLP expressed concern about the application of the permit's flow limits for Unit 8 during periods when the facility's circulating water pumps are operating but the plant is not generating electricity and, therefore, has no thermal discharge.

According to TMLP, the restrictions on plant capacity factor (85% reduction in thermal loading) mentioned in the fact sheet (pp. 27 & 28 of 55) for this draft permit appear to be based on past actual plant run time data previously provided to the USEPA by TMLP. TMLP indicates that it recently confirmed that this run time data is based on periods when electrical power is being transmitted to the grid (e.g. during thermal loading). The company notes, however, that there are also times when the Unit 8 circulating water pumps are operated and no thermal load is present (see permit Page 10 of 16, C.1.). For example, TMLP states that the hours associated with the following events were not included in the original run time data provided:

- a.) Circulating Pump(s) on and Unit 8 not scheduled to run (e.g. maintenance).*
- b.) Circulating pump(s) on and Unit 8 in start-up mode or shut down mode.*

TMLP expresses the concern that if the permits intake flow limits are based only on reported intake flows during electrical generation periods, but the limits would apply to any intake flows, including those that would result from Unit 8 circulating water pump operation during periods without thermal discharges, then the permit could end up restricting TMLP's future electrical generating capacity to a level below its current operational profile because the facility must continue withdrawing water during non-generating periods but the permit limits do not reflect this. TMLP states its belief that EPA did not intend this to be the result of its calculated flow restrictions. Therefore, TMLP proposed to provide USEPA with data applicable to the operation of the Unit 8 circulating water pumps during conditions of no thermal load and requested that EPA review this data and then consider either exempting TMLP from the requirement to log these hours for permit compliance purposes or, alternately, to exempt these logged hours from the application of the permitted flow limits.

EPA Response to Comment B.1

TMLP is correct that EPA used the information provided by TMLP on Unit 8's past operations to determine its Capacity Utilization Factor (CF) for each month of the year – i.e., Unit 8's actual operating hours as a percentage of the total available operating hours over a year. (It appears that TMLP's consultant used this same information for calculating estimates of entrainment and impingement.) Based on these CFs, EPA then established two separate flow limits in the Draft Permit to account for seasonal variations in electricity demand and thermal loading impacts. The Draft Permit contained an average monthly flow limit for Unit 8 of 4.9 million gallons per day (mgd) for the period March through November, and a flow limit of 7.3 mgd for the period December through February. While these flow limits are substantially lower than the flow rates permitted under TMLP's prior permit, EPA also found that these limits would allow TMLP to continue operating Unit 8 at levels generally consistent with past operations.

Furthermore, EPA included these flow limits in the Draft Permit as necessary to ensure a limit on the capacity of the cooling water intake structure that would reflect the Best Technology Available for minimizing adverse environmental impacts (e.g., entrainment and impingement) in accordance with CWA § 316(b), and to control thermal discharges so as to prevent more persistent adverse impacts to the Discharge Creek and assure the protection and propagation of the balanced indigenous population of fish, shellfish and wildlife (BIP) in and on the Discharge Creek and the main stem of the Taunton River, in accordance with the requirements of CWA § 316(a).

In response to TMLP's comment, EPA requested that the company submit its proposed additional information regarding the facility's past operations and Unit 8 intake/discharge flows during times that the Unit is neither generating electricity nor discharging heat so that the Agency could determine whether changes to the Draft Permit's flow limits might be appropriate to accommodate TMLP's operational needs. While TMLP could have submitted this information to EPA prior to the release of the draft permit for public review, and should have submitted this information with its comments on the Draft Permit, *see* 40 C.F.R. § 124.13, the Agency agreed that it was appropriate to consider this information when establishing appropriate flow limits for the Final Permit, assuming it was provided promptly (the comment period closed on March 17, 2006).

TMLP provided the requested information on May 17, 2006 ("Supplemental Submission") and this information has been included in the administrative record for the Final Permit. The Supplemental Submission identifies the following three different types of intake/discharge flows that have occurred during periods when electricity is not being generated and thermal load is not being discharged: (1) intake/discharge flow during Unit 8 start-up and shut-down; (2) intake/discharge flows associated with chlorinating the cooling water system when Unit 8 is not operated for extended periods and for general circulation water maintenance; and (3) intake/discharge flows associated with the need to conduct periodic work on the circulation water system when Unit 8 is not generating electricity.

Based on its review of the Supplemental Submission, EPA has concluded that an additional 900,000 gallons per day of flow is warranted to cover start-up and shut-down operations for Unit 8 throughout the year. Therefore, the Final Permit limits average monthly flow during the period from March through November to 5.8 mgd (increased from 4.9 mgd in the Draft Permit) and during the period from December through February to 8.2 mgd (increased from 7.3 mgd in the Draft Permit). The flow limits in the Draft Permit would have reduced permitted flow by 86.4% during summer months and by 79.7% during winter months. The flow limits in the Final Permit reduce permitted flow by 83.9% during summer months and by 77.2% during winter months. EPA concludes that with this marginal increase in Unit 8 intake flow (and discharge), the Final Permit's limits will continue to satisfy the requirements of CWA §§ 316(a) and (b). Importantly, the flow limits in the Final Permit continue to be substantially lower than the flow limits in TMLP's prior permit.

Along with other permit requirements, these limits will continue to ensure that entrainment and impingement effects are minimized in a way consistent with practicable operation of the power plant taking start-up and shut-down needs into account. Moreover, the additional discharge flow does not undermine the Final Permit's limits consistency with CWA § 316(a) because the small increase in permitted flow will not be heated. As such, the Final Permit's flow limits are not expected to result in any increased thermal stress on the Discharge Creek or main stem of the Taunton River.

In its May 17, 2006 submission, TMLP also presented information on the need to use circulation pumps to chlorinate the cooling water system when Unit 8 is not operated for extended periods, and for general circulation water maintenance. TMLP asserted it would need to operate the circulation pumps for an additional 2.1 – 4.3 hours each month to chlorinate the cooling water system when Unit 8 is not online. EPA is not including this additional flow increase in the Final Permit adjustments because the chlorination events described occur when Unit 8 is not operated for extended periods. If there are such long down periods, then EPA believes TMLP will be able to meet the flow limits of the Final Permit because during these periods, the flows from Unit 8 generating periods will be low. In other words, if Unit 8 is down for extended periods, it is unlikely that TMLP will have a problem meeting the monthly flow limits because of a need to operate the circulation pumps for an additional 2.1 – 4.3 hours each month to chlorinate the cooling water system when Unit 8 is not online. Therefore, the flow limits have not been adjusted based on this new information.

Finally, regarding TMLP's expressed need to conduct work on the circulation water system when Unit 8 is not online, EPA agrees that one additional hour of pump operation is reasonable. The new flow limits in the Final Permit reflect one additional hour of flow (780,000 gallons) for pump maintenance.

Comment B.2 In general, NMFS indicates support for the proposed water use reductions (as compared to the existing permit) within the draft NPDES permit in an effort to reduce entrainment of living marine resources. Specifically, the draft permit reduces maximum daily flows from 39.5 mgd to 36 mgd, and average monthly flow rates from 39.5 mgd to 4.9-7.3 mgd.

Comment B.3. MA DMF comments that impacts to fishery species associated with the cooling water intake structure can arise from entrainment of fish eggs and larvae, and/or impingement of fish. Unless the permittee is committed to installing control technologies that might be able to exclude fish eggs and larvae, such as an aquatic filter barrier, entrainment should be reduced, according to MA DMF, by reducing the volume of water removed from the Taunton River. To this end, MA DMF acknowledges that the reductions in allowable withdrawal contained in the permit will help to restrict entrainment.

EPA Response to Comments B.2 and B.3.

EPA acknowledges these comments in support of the permit's reduction in authorized water withdrawals by the facility's CWIS (as compared to the amounts permitted by the existing permit). These reductions should help to restrict the potential for adverse entrainment and impingement effects associated with the facility's CWIS. These flow restrictions are important components of the best technology available (BTA) to minimize the adverse environmental effects of the CWIS.

Comment B.4. MA DMF comments that the derivation of the 1.02 fps intake velocity in the Fact Sheet and this discrepancy with information from the permittee discussed in other of the agency's comments should be explained.

EPA Response to Comment B.4.

According to TMLP, the design intake velocity for Unit 8 is 1.02 fps. This value is based on a design flow rate of 25,193 gallons per minute (gpm) and the surface area of one intake structure opening, which is 55.25 square feet (sf). The design flow rate of 25,193 gpm is equivalent to 56.13 cubic feet per second (ft³/s). The design intake velocity is the flow (56.13 ft³/s) divided by surface area of the intake structure (55.25 sf), which equals 1.106 fps. In a letter dated December 7, 2000, TMLP's consultant (Earth Tech) provided EPA with requested information on TMLP's cooling water intake structure. In that letter, Earth Tech indicated that the maximum intake velocity through the traveling screens was 5.12 fps. This assumed that the screens were only 50% clean, and that a water depth of only 5 ft, which is minimum required to operate the circulation pump, was available. This water depth is less than the 8.5 ft vertical opening of the intake, and therefore the intake opening would effectively be reduced to a 5 ft by 6.5 ft opening, or 32.5 sf. In reviewing Earth Tech's information, EPA noted that this maximum velocity is inaccurate since the surface level of the Taunton River, which is tidally-influenced at the intake structure, should never drop below the top of the intake structure opening. In addition, the assumption that the traveling screens are fouled so that the surface area has been reduced by 50% may be realistic in some cases, but is typically not how EPA determines intake velocity. The permit requires that traveling screens be rotated continuously from March 1 to November 30 when Unit 8 is operating, and at least once every 8 hours from December 1 to February 29. This should minimize any reduction in surface area associated with the build-up of debris on the traveling screens.

In conclusion, the differing intake velocity estimates are as a result of varied assumptions made during the calculations by TMLP and EPA. By employing a common set of assumptions, the velocity calculations can be reconciled. The velocity will be lowered further in the future as the permit requires TMLP to take additional specific measures to reduce the intake velocity as outlined in the response to comments B.5 to B.10 below.

Comment B.5. MA DMF comments that the permit does not take into consideration impacts to fishery species through impingement at times when full withdrawal rates are permitted. According to MA DMF, EPA has guidance that supports an intake velocity of 0.5 feet per second (fps) and the permit should require the permittee to demonstrate that it will reduce the intake velocity to 0.5 fps. MA DMF states that the permittee has indicated to EPA (letter from Earth Tech to EPA dated December 7, 2000) that the facility has a maximum intake approach velocity of 1.91 fps and a maximum through screen intake velocity of 5.12 fps, both of which are based on a withdrawal rate of 40 mgd with one of the two intake openings in operation. Operating both intake openings reduces these rates by fifty percent, according to MA DMF. The agency indicates that it considers through-screen velocity at an intake to represent a significant source of physical impact to impinged fish. MA DMF states that both the intake approach velocity provided by the permittee, and as provided in the Fact Sheet, represent an excessive intake velocity for the protection of fishery species and until a through-screen intake velocity of 0.5 fps is achieved, the permittee should be required to employ both intake openings during operation to minimize or reduce intake velocity.

Comment B.6. NMFS comments that this portion of the Taunton River provides habitat for a number of living marine resources including the anadromous alewife, blueback herring, and white perch, as well as Atlantic menhaden. NMFS also states that, according to the Fact Sheet, these four species represent the numerical dominants for impingement and entrainment with the facility. In addition, NMFS expresses its concern that the current intake velocity does not provide sufficient protection for living marine resources. Therefore, NMFS recommends, pursuant to §30.5(b)(4)(A) of the MSA, that the EPA adopt certain specific EFH conservation recommendations.

Comment B.7. NMFS expresses its support for the modification of the fish return system and changes in plant operations to improve the survival of impinged fishery resources. However, NMFS states that it has a major concern over the intake velocity of TMLP's cooling water intake structure, which, as stated within the Fact Sheet, is currently 1.02 feet per second (fps). NMFS further states that this intake velocity is greater than the EPA protection guidance of 0.5 fps. While acknowledging that the draft permit would require the facility to remove sediment build up in front of the intake structure in an effort to reduce intake velocity, NMFS maintains that further reductions in intake velocity should be explored. NMFS states that water is currently drawn into the TMLP facility through two circulating water pumps but that correspondence with state resource agencies has indicated to NMFS that TMLP could potentially operate with only one of the Unit 8 circulating water pumps during certain times of the year and still meet the EPA draft discharge criteria of 90 degrees F (absolute temperature) and a delta-T of 23 degrees F. NMFS further understands that the operation of only one of the circulating water pumps, when water temperatures allow, would serve to reduce the intake velocity.

Comment B.8. NMFS states that, according to section 5.2.3.b.i of the Fact Sheet, water is drawn into the TMLP pump house through one of two wet well inlet openings and that at any given time, only one of the inlet openings is operating with the other operating as a backup. NMFS states the view that using both inlet openings in the pump house would distribute the intake between the two inlets and, thus, further reduce intake velocity.

Comment B.9. MA CZM states that it remains concerned about the intake velocity through the Unit 8 traveling screen. As a result, MACZM recommends that EPA require TMLP to employ methods to reduce the calculated intake velocity. MA CZM acknowledges the requirement in the NPDES permit that sediments that have accumulated in front of the intake be dredged out, but states that additional steps can and should be taken. Recent discussions with Steve Donovan of TMLP have suggested to MA CZM that the plant could operate with only one of the Unit 8 circulating water pumps on (thereby reducing intake velocity) and still meet the requirements of the NPDES permit for absolute temperature (90 F) and delta T (23 F) of the discharge.

Comment B.10. MA CZM recommends that EPA require TMLP to use only one circulating water pump when river temperatures allow (see for example the attached spreadsheet and text from Steve Donovan).

In addition, the permit Fact Sheet states that although water can enter the TMLP pump house through either of two 6.5' x 8.5' wet well inlet openings, only one inlet opening and its traveling screen is operated at any time. (Fact Sheet Section 5.2.3.b.i). Furthermore, MA CZM recommends that EPA require TMLP to use both inlet openings in order to further reduce intake velocity through the cooling water intake structure's traveling screens. With the recommendations above, MA CZM believes that TMLP should be able to get its intake velocity below the calculated 1.02 feet per second (fps) stated in the Fact Sheet. As MA CZM has noted in our previous comments, an EPRI review of the literature on this subject reported that 1.02 fps exceeds the swimming velocity of white perch and menhaden under certain conditions and is within 10% of the swimming velocity of river herring.

EPA Response to Comments B.5 to B.10

These comments all raise concerns with the CWIS intake velocity and, in some cases, propose measures to further reduce CWIS intake velocity. EPA agrees that despite the substantial reduction in the allowable discharge flow required in the new permit limits, which will proportionately restrict the volume of river water that can be withdrawn through the CWIS, additional measures to reduce intake velocities would further reduce the potential for impingement mortality to fish. This is particularly important in order to reduce impingement of young-of-year river herring. Therefore, the Draft Permit required that, between June 1 and November 30 – the period of greatest concern regarding impingement of young-of-year river herring – the permittee shall take additional operational measures to minimize intake velocity to the degree practicable (Special Condition C.3.e. in the Draft Permit).

In considering these comments for further reductions, EPA assessed the specific modifications

recommended in comments received, which included to: (1) require TMLP to operate only one circulation pump when ambient water temperatures permit (i.e., when operating only one pump will not result in a permit violation for temperature); and (2) require that both wet well inlet openings be operated in order to reduce intake velocities below 1.02 fps. (*See* Response to B.4 above regarding various estimates of through-screen intake velocity.)

TMLP's design intake flow velocity of 1.02 fps is based on the rate of water withdrawal with two circulation pumps operating, and the dimensions of one intake opening. There are two circulation pumps at TMLP which, when both operating, pump approximately 25,000 gallons per minute (gpm). EPA requested clarification from TMLP regarding the periods of the year when only one circulation pump could be used without TMLP exceeding permitted thermal discharge limits. In response, TMLP provided five years of ambient river data, which, while exhibiting annual variation, suggests the plant could operate within permitted temperature limits using only one circulation pump starting in early to mid-October and extending to the end of April.

As pointed out previously, the Draft Permit required that, between June 1 and November 30, the permittee shall take operational measures to minimize intake velocity to the degree practicable (Special Condition C.3.e. in the Draft Permit). Based on the comments received, EPA has added more specific language in a separate special condition (C.3.c in the Final Permit). This condition requires TMLP to increase the screen area and to reduce the through screen velocity, whenever Unit 8 circulating pump(s) are operating. Specifically, whenever Unit 8 circulating pump(s) are operating,

- both inlets and traveling screens are to be operated simultaneously, except when chlorinating or during periods of required maintenance, and
- only one circulation pump shall be operated unless both pumps are needed to comply with the permitted temperature limits.

This requirement should reduce intake velocities by approximately 50 percent, to approximately 0.5 fps. In addition, having both inlets and traveling screens operating simultaneously whenever Unit 8 is operating will further reduce intake velocities year-round. The reduction in intake velocity as a result of these new conditions will be most significant during spring (March – April) and fall (mid-October – November) when only one circulation pump is required. These periods of significantly lower velocities (below 0.5 fps) cover portions of the spring and fall migration of alewife and blueback herring (collectively referred to as river herring) to and from spawning grounds upstream. Therefore, impingement potential is expected to be minimized for these species during these migration periods. See also Response to Comment C.4 for an assessment of this reduced intake velocity on impingement in the Taunton River.

This requirement is found in Special Condition C.3.c. in the Final Permit. For clarity in the Final Permit, the language in Section C.3.f has been modified as follows to reflect the revised Section C.3.c and eliminate redundancies: “In addition to Condition C.3.c above, the permittee shall take operational measures to further minimize intake velocity to the degree practicable, to minimize impingement of fish.”

Juvenile river herring, Atlantic menhaden, and other schooling fish species may be present near the cooling water intake structure during spring, summer and early fall when the use of two circulation pumps is necessary for TMLP to operate Unit 8 and meet discharge temperature limits. The revision in the special conditions requiring TMLP to operate the inlets and traveling screens for both Units 8 and 9 whenever two circulation pumps are operating should reduce the intake velocity by approximately 50 percent, similar to operating only one circulation pump. These permit conditions are intended to ensure that intake velocity and, therefore, impingement potential, is minimized throughout the year.

TMLP informed EPA that the Unit 9 traveling screen is currently inoperable. A compliance schedule for repairing or replacing the Unit 9 traveling screen was established in Section D.5 of the permit. The date listed in the draft permit has been revised to one (1) year from the effective date of the permit, based on comments provided by TMLP. In light of the time elapsed since the release of the draft permit, the new completion dates in the final permit reflect the amount of time EPA originally intended in the draft permit to allow TMLP to make the required modifications. See Permit, Section D.5.

Comment B.11. MA DMF comments that the permittee should retrofit both existing traveling screens with traveling screens containing fish lift buckets, commonly known as Ristroph design screens, in order to improve the likelihood of that impinged organisms will survive.

Comment B.12. MA CZM expresses agreement with MA DMF’s comment that TMLP should retrofit its traveling screens with fish lift buckets or Ristroph-type screens to improve the survival rate of fish impinged on the intake screen. MA CZM recognizes the importance of the Taunton River as a river herring migratory route (both for adults swimming upstream as well as juveniles and adults swimming downstream) and notes MA DMF’s recent efforts to improve returning numbers of anadromous fish species. The installation of Ristroph-type screens should, according to MA CZM, help reduce TMLP’s cropping effect on river herring and other species that inhabit the Taunton River.

Comment B.13. MA CZM agrees with EPA that reducing the permitted flow through TMLP, retrofitting the intake with a low pressure spray wash, requiring continuous rotation of the Unit 8 traveling screen from March 1 through November 30, and redesigning the fish return system, should combine to help reduce impingement mortality and entrainment at the plant. (CZM)

EPA Response to Comments B.11 to B.13

EPA acknowledges there are additional modifications to the CWIS, such as the installation of Ristroph-type screens, that could potentially increase the survival of impinged fish. However, EPA has concluded on a best professional judgment (BPJ) basis that the conditions and limitations contained in this final permit that are designed to minimize impingement events and increase the survival of organisms that are impinged are adequate to constitute the BTA for TMLP. These components of BTA are the following:

- restricting Unit 8 flow to 16.1% of TMLP's Unit 8 capacity factor (or capacity utilization rate) from March through November when most vulnerable species, including their early life stages, are present in the river (Note, regarding reduced flows, compared to the current permit, the flow limits in the Final Permit reduce permitted flow by at least 83.9% during summer months and by at least 77.2% during winter months.);
- minimizing intake velocity by
 - limiting the operation of two circulation pumps to the minimum necessary to comply with the permitted temperature limits;
 - requiring the operation of both intakes and traveling screens;
 - removing all sediments from in front of the intake structure that may affect intake velocity, and keeping screens clear of debris;
- running the traveling screens continuously while Unit 8 is operating in order to return fish back to the river quickly;
- installing low pressure spray washers to minimize injury to fish when removing them from the traveling screens;
- modifying the fish return pipe to minimize injury to fish being returned to the river
- extending the fish return pipe so fish are returned to the river at all tidal stages;
- modifying the fish return pipe to provide easy and effective fish sampling;
- requiring regular monitoring and reporting of significant fish impingement events should they occur, and
- preventing impinged fish from being exposed to chlorine compounds by prohibiting chlorination while traveling screens are being operating.

Comment B.14. TRWA Comment. The fish impingement and entrainment evaluations were based on 1990-1991 data and should be revisited with more current data, studies and actual biological monitoring during plant operations. Survival studies should be conducted on the fish return system to evaluate its effectiveness for both juvenile and adult fish and based on results take corrective action(s) as needed to improve survival. The Taunton River hosts one of the largest anadromous river herring populations remaining in Massachusetts and the Nemasket River run serves as the donor basin for restoration efforts along the entire coast. Albeit the TMLP mortality numbers may seem reasonable, we are concerned with cumulative impacts in light of the water withdrawal and the potential impingement and entrainment adverse impacts from the Taunton River Desalination Plant at the Taunton/Dighton line and the current state of depressed river herring populations. Draft NPDES Permit No.: MA0002241 Taunton Municipal Light Plant TRWA Comment Page 3 of 3

EPA Response to Comments B.14

The permit requires TMLP to conduct year-round inspection for fish impingement, and report the observation of the impingement of 25 or more fish within any 8-hour period. See Permit Section C.5. This will allow for more current and continuous evaluation of actual significant impingement impacts. As part of re-issuing this for the next permit cycle, EPA will evaluate the need to conduct survival studies based in part on the frequency of documented impingement events, the species impinged, and the operation of Unit 8 during that period. EPA also will evaluate entrainment impacts at that time. It is noted that some pelagic fish species such as Atlantic menhaden and river herring are fairly delicate, and typically have poor survival rates in survival studies.

Comment B.15. TMLP is requesting clarification of the statement on the 4th line down on Permit Pg. 11 of 16 Part C .3.b (CW Intake Structure) Fish Return Pipe which reads " or one continuous arc." TMLP assumes that the use of mitered elbows with angles no greater than 22.5 ° or smooth radius elbows (no miters) is acceptable and seeks confirmation. (TMLP)

EPA Response to Comments B.15

TMLP's assumption is correct, and this has been clarified in Permit Section C.3.b.

Comment B.16. TMLP Comment. Permit Pg. 11 of 16 Part C.3.c Traveling Water Screen Hours - Logged and submitting via the DMR To facilitate the method of reporting data via the DMR document, TMLP requests that USEPA modify the reporting requirements to provide total run hours per month of the TWS's in the DMR's, rather than providing "logged (actual times).

EPA Response to Comments B.16

The actual times that the circulation pumps operate is useful information that may be correlated with fish migration, impingement events, river temperatures, and other data. The reporting of actual operating times will also aid in future permit modifications or reissuances. No change has been made in the Final Permit.

Comment B.17. Permit Pg 14 of 16, Part D.5 & Page 11 of 16 para. (c) (Outfall 004 Traveling Screen) For clarification page 11 of 16 para. (c) is acceptable. However, based on future Unit 8 budgetary considerations, TMLP may decide in the future, to not replace Unit 9 TWS for use in supporting Unit 8 operation. (TMLP)

EPA Response to Comments B.17

The Unit 9 Traveling Water Screen (TWS) will need to be repaired or replaced if Unit 8 is to continue operating. The use of both TWSs are needed to reduce the intake velocity at the CWIS when Unit 8 is operating.

C. Retiring Unit 8 or Restricting Its Operations

Comment C.1. MA DMF comments that the fact sheet lists the facility total electrical generating capacity as 135 MW, with unit 9 capable of producing 110 mW of electricity. MA DMF understands that the reductions in total intake volume allowed by the draft permit are substantial. Yet, MA DMF points out that because unit 9 uses a closed cycle cooling system, nearly all intake volume utilized at the facility is directed to operating unit 8. Since the great majority of biological impacts to fisheries result from the intake and discharge associate with unit 8, and it produces less than twenty percent of the plant output capability, MA DMF asks if EPA conducted an assessment of the biological risks and benefits between the current permit approach (i.e. reducing frequency of maximum intake volume) versus retiring of unit 8 and TMLP reliance on unit 9 entirely. MA DMF state that under this scenario, impacts to fishery resources would be dramatically reduced, and the agency requests information from EPA if and how an assessment of biological impacts for these two approaches was conducted and what EPA decided.

Comment C.2. NMFS comments that the TMLP facility utilizes both Unit 8 (open-loop cooling system) and Unit 9 (closed-loop cooling system) for power generation but the Fact Sheet states that Unit 9 has the capacity to produce 110 megawatts (mW) of electricity, whereas Unit 8 only has the capacity to produce 25 mW of electricity. NMFS states that while Unit 8 only produces a small portion of electricity, it incurs nearly all of the impacts on fishery resources, due to the nature of open loop systems. The sole use of Unit 9 for the operation of TMLP would, according to NMFS, substantially reduce the impacts on living marine resources. In order to avoid impingement and entrainment of fishery resources, NMFS urges that EPA should evaluate the alternative of limiting the operation of TMLP solely to Unit 9.

Comment C.3. The Taunton River Watershed Association (TRWA) states that considering thermal impacts, chlorine, and entrainment and impingement, the TMLP facility poses a real threat to aquatic resources. Consequently, TRWA comments that additional modifications to the intake, thermal discharge and the discharge flow to the Creek may be needed to further reduce, if not eliminate, the significant aquatic impacts. The TRWA states the view that, ideally, the operation of a closed cycle cooling system specifically during the summer months when up to 24% of the Taunton River flow is withdrawn from the river would solve this problem.

Comment C.4. MA CZM expresses concern that even with the proposed flow reductions, upwards to twenty four percent of the entire riverine flow can be withdrawn during 7Q10 low flow conditions, typically in summer months when young of the year river herring are migrating seaward. Even with reductions in the allowable frequency of maximum withdrawal rate, MA CZM finds this to be unacceptably high, particularly when the state is attempting to preserve depleted stocks of river herring.

An alternative approach, MA CZM suggests, would be to allow operation using only unit 9, because it withdraws only two percent of the facility's total design intake. MA CZM states that this would still allow the permittee to generate 110 mW electricity, over eighty percent of the generating capacity, according to the Fact Sheet.

EPA Response to Comments C.1 to C.4

EPA recognizes the inefficiencies of Unit 8 relative to Unit 9. Further, EPA is aware of how much the capacities of these two units to impact the aquatic environment differ. EPA did not, however, conduct a comparison of the biological risks and benefits between the current permit approach and retiring Unit 8, and no such assessment is required. EPA assessed the biological impacts of TMLP's CWIS and evaluated possible measures to ensure that the design, location, capacity and construction of the CWIS at TMLP reflects the BTA for minimizing adverse environmental effects. Possible options for BTA are discussed in the fact sheet for the Draft Permit. In addition, EPA has continued evaluating options in the process of considering public comments, as described in this document, and particularly in light of river herring population declines which have prompted MA DMF to impose a three-year harvest moratorium.

That being said, it does not take a biological risk assessment for EPA to conclude that shutting down Unit 8 with its open-cycle cooling system would be more beneficial to the environment than operating it at any level. Of course, that could be said for virtually every power plant with a once-through cooling system. Nevertheless, EPA cannot simply decide to shut down all or part of a facility simply because it is inefficient or because doing so would be more environmentally beneficial. Instead, EPA has tried to develop permit limits that would, on a best professional judgment (BPJ) basis, satisfy CWA § 316(b)'s BTA requirement and would satisfy state water quality standards. It also should be noted that just because Unit 8 generates significantly less power than Unit 9, that does not mean that the Unit serves little energy purpose.

While only generating 19% of TMLP's electricity, Unit 8 still provides power to approximately 25,000 homes. Moreover, because it is a peaking facility, Unit 8 only operates during periods of high electrical demand when energy supplies may be taxed, when the incremental energy from TMLP may be at its most important for consumers, and when electric facility profits are at their highest. Furthermore, the less Unit 8 operates, the less (as a relative matter) are its overall adverse environmental effects likely to be, whereas the more it operates the more profitable and significant an energy source it may be.

EPA *did* evaluate the costs and benefits of constructing and operating a cooling tower for Unit 8, which would essentially allow the unit to operate in a closed-loop cooling mode. As discussed in Section 5.2.3.c of the Fact Sheet (pg. 36), EPA concluded that due to the substantially-reduced operations of Unit 8 over the past 30 years, TMLP's predicted low use of Unit 8 for the foreseeable future, and an estimated construction cost of \$5.2 million, the cost of a cooling tower would be wholly disproportionate to its benefits in minimizing adverse environmental impacts associated with TMLP's cooling water intake structure.

In order to assess the potential for fish species of concern to be impinged in TMLP's cooling water intake structure, EPA reviewed published data provided by MA CZM on "critical swimming speeds" for species of concern in the Taunton River. According to the report published by the Electric Power Research Institute (EPRI), critical speeds are defined as the maximum prolonged swimming speed (velocity) that can be maintained for only so long before the fish tires and must slow down or cease swimming. The EPRI report is actually a summary of many published studies conducted on swimming speeds of fish. Using these data, researchers were able to better understand at what velocities certain fish species would be able to avoid impingement. For many species, water temperature appeared to affect critical speed. In most cases, critical swimming speeds decrease as water temperatures decrease. Another significant variable was the size (age) of the fish being tested.

According to the data provided in the EPRI report, the average critical speed for juvenile river herring ranged from 1.3 fps in water temperatures of 75-77°F to 0.7 fps at 50°F. Water temperatures in the 70 degree range are typical in the Taunton River in proximity to TMLP in September, and temperatures in the 50's are common in November. No data were provided for juvenile river herring for summer water temperatures. However, in July and August, when river temperatures can rise into the 80's, swimming speeds of juvenile river herring are likely to be at least as high as those measured at 70 degrees, if temperature effects on the swimming speed of larger herring are similar to those on juveniles, which we believe is a reasonable assumption to make, in the absence of contrary information. Based on the data provided in the EPRI report, TMLP's intake velocity should not exceed the critical swimming speeds identified for river herring during any month. The same applies to juvenile Atlantic menhaden, whose swimming speeds are estimated to range from 1.8 fps (86° - 95°F) to 0.6 - 0.7 fps (55°-65°F), and white perch (0.65 fps [75°F] to 1.25 fps [85°F]).

Therefore, despite the volume of water withdrawn, and the potential for that withdrawal to constitute a significant percentage of the Taunton River's 7Q10 flow, EPA has concluded that the velocity reductions should minimize any impingement and that other permit requirements should increase the chance that any fish that are impinged will survive. Monitoring required by the permit and future permit reissuance proceedings should enable EPA's conclusions here to be tested going forward.

In sum, the limits and conditions in the Final Permit will suitably minimize impingement mortality of river herring and other fish species, and generally will restrict entrainment effects, while allowing Unit 8 to operate on a limited basis. The Final Permit conditions, as modified following review of public comments, were developed to assure that intake velocities are maintained at approximately 50 percent of the design intake velocity, or approximately 0.5 fps, at all times when Unit 8 is operating. While impingement events are still possible, they are significantly less likely when intake velocities remain below a fishes' ability to escape impingement. Meanwhile, the flow reductions and other requirements listed above should further contribute to the minimization of adverse environmental effects from impingement. Therefore, eliminating all withdrawals by Unit 8 does not seem necessary or appropriate at this time (see responses to Comments C.1 to C.3 above).

D. Unit 8 Discharge

Comment D.1. MA DMF comments that it is unclear in the Fact Sheet if a biological demonstration was conducted for reducing thermal discharge delta T from 30F to 23F. According to MA DMF, it appears this decision was based on plant performance, but a discussion of the ability of this new delta T to protect the balanced indigenous population (BIP) in the creek when unit 8 is operating was missing.

Comment D.2. MA DMF requests clarification on the ability of this new delta T to protect the BIP. According to MA DMF, it is clear in the Fact Sheet that 1) the frequency of completely flushing and scouring the discharge creek with heated effluent from unit 8 is reduced, 2) that much of the fish community in the discharge creek is displaced when unit 8 is operating, 3) the function of this tidally influenced creek as fishery habitat is maintained when unit 8 is not operating, and 4) the creek is a waterbody of the Commonwealth. While MA DMF appreciates the reduction in permitted frequency of overwhelming the creek with thermally elevated cooling water from the facility, the agency states that this does not negate adverse impacts to fishery species that use this creek as habitat arising from increased water temperature as well as the physical alteration, i.e. scouring, of habitat when unit 8 is in operation. MA DMF further comments that it is unclear from the Fact Sheet that lowering the frequency of removing fishery habitat maintains this waterbody as fishery habitat.

Comment D.3. The TRWA comments that it appears that the Permit Limitations are not fully protective of the receiving waters (Discharge Creek and the Taunton River). The information presented, according to the TRWA, reveals that the Creek is highly impacted by the discharge with conditions, morphology, water quality and biology significantly different than the reference tidal creeks, particularly in regards to the fish diversity and populations. The TRWA states that it is apparent that the discharges are impacting the ability of the Creek to support a "balanced, indigenous population of shellfish, fish and wildlife" (BIP).

Comment D.4. The TRWA comments that the discharge flow (1) impacts the Discharge Creek's morphology so that feeding, refuge and resting areas are lost, (2) has altered grain size significantly so that an indigenous benthic infauna population can not be maintained, (3) has caused what appears to be a permanent loss of vegetation in the channel, and (4) creates steep banks which reduce the ability of upland species to use the Creek. TRWA states that an assessment of the Creek found that even when Unit 8 was not operating, fish were not collected in the Creek. Consequently, according to TRWA, the conditions in the draft permit will not satisfy the Water Quality Standards nor do they meet the requirements in sec. 316a of the Clean Water Act {33 U.S.C. 1326}, which requires the applicant to "assure the protection and propagation of a BIP in and on the body of water".

Comment D.5. The discharge flow also impacts the morphology so feeding, refuge and resting areas are not present in the Creek. The effluent has altered grain size significantly so an indigenous benthic infauna population can not be maintained. There is also what appears to be a permanent loss of vegetation in the channel and the steep banks reduce the ability of upland species to use the Creek. The assessment found that even when Unit 8 was not operating, fish were not collected in the Creek. Consequently the conditions in the draft permit will not satisfy the Water Quality Standards nor do they meet the requirements in sec. 316a {33 U.S.C. 1326} which requires the applicant to "assure the protection and propagation of a BIP in and on the body of water". (TRWA)

EPA Responses to Comments D.1 to D.5

EPA agrees with the comments that suggest that physical scouring associated with the discharge from Unit 8 have resulted in alterations to habitats within the Discharge Creek. EPA also acknowledges that thermal conditions in the Discharge Creek when Unit 8 is operating, particularly during summer months, are likely to cause an avoidance response from fish and other organisms. In light of these conditions, and the potential for more significant impacts to occur were Unit 8 to run at flow limits allowed in the previous permit, EPA has established flow limits in the Final Permit that will assure the protection and propagation of the balanced indigenous population in the Discharge Creek and main stem of the Taunton River.

In developing appropriate permit limits, EPA considered the combined effects of maximum temperature, delta T (i.e., change in temperature,) and other factors in assessing the thermal impacts on the Discharge Creek's biological community at all times, not just when Unit 8 is operating. Under natural conditions, the Discharge Creek is a dynamic intertidal environment, continually changing from a subtidal extension of the main stem of the Taunton River at higher tides to a largely exposed mudflat at lower tides, and back again. Most fish that inhabit the Discharge Creek during higher stages of tide are forced to return to the main stem during low tide. Therefore, the biological community in the Discharge Creek is actually part of the "balanced indigenous population" of this segment of the Taunton River main stem.

Similarly, sessile organisms and infauna residing in the Discharge Creek represent segments of the larger main stem populations. Like the absence of water at low tide, the discharge of heated effluent into the Discharge Creek can prevent fish from inhabiting the creek when Unit 8 is operating during the summer months. However, fish sampling conducted during discharge events and immediately afterwards indicate that some fish species do return to the Discharge Creek soon after the Unit 8 discharge has ceased.

Therefore, on the basis of the above discussion, and in light of the limited extent of Unit 8's operations as restricted through flow limits, EPA has concluded that the thermal discharge, as permitted, should provide reasonable assurance that the BIP in the Discharge Creek and this segment of the Taunton River will be maintained. To ensure that thermal discharge effects are not increased, the permit restricts the flow of heated discharge from Unit 8 by 84 percent into the Discharge Creek from March to November, and by 77 percent during winter months. In addition, MassDEP has determined that the conditions of the permit will achieve compliance with the Massachusetts Surface Water Quality Standards and have certified the permit. MassDEP has the option of adding additional conditions or limitations in its water quality certifications.

As noted in the Fact Sheet (p. 28), EPA may require TMLP to submit additional information on, among other things, changes to habitat use, resident populations, and conditions within the Discharge Creek and/or the Taunton River main stem. Based in part on TRWA's comments, EPA may request TMLP to conduct additional studies during this permit cycle to better assess the need for additional permit modifications. If this is done as a permit requirement during the permit cycle EPA will follow the appropriate permit modification regulations and process. If there are additional studies, EPA would anticipate inviting TRWA, Marine Fisheries, TMLP, and others interested to participate in developing a study plan.

Comment D.6. The TRWA comments that the temperature maximum daily limit (90 °F) that is being carried forward from the existing permit issued in 1988 – nearly twenty years ago – does not appear to have been based on a thorough assessment of receiving water needs. The more recent information, according to TRWA, documents that there are negative impacts and the Creek has not recovered despite recent operational reductions. The TRWA suggests that this strongly indicates that appropriate modifications to this limit are needed to meet Water Quality standards and to fulfill the requirements of sec 316 (a) to protect and propagate a BIP. The TRWA states that, at a minimum, the permit limits for outfall 001 should reflect the State WQS, which would mean a maximum instantaneous temperature of 85 °F (it would be better to at least match outfall 003 effluent -which is a significantly smaller flow into a waterway that affords dilution- and have 83 °F as the max instantaneous), a daily average of not more than 80 °F and the delta T should be 1.5 °F in the summer, and 4° F in winter to meet existing regulatory requirements. Finally, the TRWA comments that Outfall 002 should also have the same temperature limitations.

EPA Response to Comment D.6

The TRWA is correct that the 1988 permit issued by EPA and the MassDEP was not based on a thorough evaluation of thermal discharge effect on the Discharge Creek. This is because the Discharge Creek was not understood to be a “water of the Commonwealth” at that time. Since that time, analysis by the state has confirmed that the Discharge Creek is a “water of the Commonwealth” to which state law requirements, including water quality standards, generally apply. At the same time, the Discharge Creek is part of the larger Taunton River ecosystem and constitutes one of several tidal creeks in that larger ecosystem.

A study of Unit 8's thermal plume conducted in 1974–75 graphically depicts the dynamic nature of the plume during several tidal scenarios. As discussed in the Fact Sheet for the draft permit (p. 25), EPA concluded that continual changes in tidal current velocity and direction, in combination with Unit 8's intermittent operation, and the new permit's significant restrictions to maintain Unit 8's existing profile of intermittent operations in the future, would ensure the protection and propagation of a balanced indigenous population (BIP) of aquatic organisms in the main stem of the Taunton River and the Discharge Creek. Fish and other aquatic organisms found in the Discharge Creek are actually part of the main stem community. From the perspective of these organisms, it makes sense in this case to look at the receiving water of concern as being the Discharge Creek *and* the affected segment of the main stem of the Taunton River. Even without the TMLP discharge, fish routinely vacate the creek during low tide. They may also vacate the creek when naturally occurring water temperatures exceed their preferences, which can occur at times. Furthermore, one can reasonably expect that most fish do not remain permanently in the Discharge Creek even during ambient tidal conditions. Therefore, when the Creek's tidal and thermal conditions would otherwise welcome these fish, a thermal discharge at temperatures exceeding the thermal preferences of the fish could cause them to avoid the area. Of course, under these circumstances, the fish would be expected to gravitate to more hospitable portions of the main stem and could return to the Discharge Creek when tidal and temperature conditions allow.

EPA concluded that this marginal increase in the time that these organisms would be displaced from the relevant habitat represented by the Discharge Creek as a result of Unit 8's thermal discharge would not interfere with the protection and propagation of the BIP of the nearby segment of the main stem of the Taunton River. At the relatively low frequency of operation (an average of nine 11-hour generation events per month), EPA believes the thermal discharge from Unit 8 will not have an adverse impact on aquatic populations.

Comment D.7. Comment by TMLP: Permit Pg. 2 of 16 Part I A.1 Table Line 5 Outfall 001) Temperature Rise - Maximum Daily using the recently upgraded digital instrumentation at the permanent locations (condenser inlet/outlet) mentioned above, TMLP would like the opportunity to provide USEPA with ΔT data to show that there have been ΔT readings between 23 ° and 24 °. Therefore, TMLP requests that USEPA consider review of this information prior to final permit issuance to support a 24 ° temperature rise to allow for this normal operating range.

EPA Response to Comment D.7

A review of the temperature data provided by TMLP demonstrates that the ΔT of 23°F can be achieved consistently when intake temperature is measured at the condenser inlet. The ΔT limit of 23°F shall remain unchanged in the final permit.

Comment D.8 Comment by TMLP. Permit Pg 8 of 16 Part B.1 .b Thermal Plumes This note currently does not specify which water bodies it refers to TMLP requests that the note be modified to read, "The thermal plumes in the Taunton River from the station shall: (a) not block zones...

EPA Response to Comment D.8

This condition is from the Massachusetts State Water Quality Standards and applies to all waters of the Commonwealth. The State has identified the Discharge Creek as a water of the Commonwealth, and therefore these protections apply. However, given that Outfall 001 is at the head of the Discharge Creek, the creek is largely intertidal, and there are no significant natural water sources draining into the creek, EPA does not consider fish passage to be an issue relevant to the Discharge Creek. This condition will remain in the permit.

Comment D.9. Comment by TRWA. Given the high volume of heated water compared to Creek flow and even main stem flow in the Taunton River in the summer, it appears that dissolved oxygen levels may be depressed and should be monitored accordingly.

EPA Response to Comment D.9

The dissolved oxygen (DO) concentration at the river intake is almost uniformly lower than the DO for the length of the Discharge Creek. The effects of the aeration induced by the turbulent cascade at the outfall is maintained into the main stem of the Taunton River down stream of the discharge. Further turbulence induced aeration likely occurs as a result of the normal flow of the Taunton River and is additionally enhanced by the opposition of the river flow and incoming tide. The DO in the Discharge Creek is comparable to the DO in the reference creeks as detailed in the January 2004 Section 316(a) Demonstration Document prepared by Earth Tech, Inc. The Final Permit shall not be changed to require in-stream dissolved oxygen monitoring.

E. Comments on Various Plant Operations and Discharge Issues

Comment E.1. Comment by MA DMF. pH - frequency of exceedances The data summary contained in Attachment E - Discharge Monitoring & Violations provides monthly pH measurements from April 30, 2003 to March 31, 2005 for Outfall 002. Among these measurements, the effluent pH was below the allowable limit of pH = 6.5 seventy five percent during this time period. In Part I.A.2. We recommend the permit include a condition for the permittee [to] demonstrate how it intends to improve compliance with this discharge limitation.

EPA Response to Comments E.1

The permittee has a duty to comply with the permit limitations for pH immediately upon the permit going into effect. Where the pH requirements are carried forward from the current permit, EPA is prohibited from issuing a compliance schedule in the permit for achieving those limits. The permittee's duty to determine how to attain compliance is, therefore, implicit in the permit as written. Violations of the permit limits may lead to EPA enforcement actions that may include such directives as necessary and a schedule to attain compliance.

Comment E.2. Comment by MA DMF. Total Suspended Solids - reduce maximum daily from 75 to 40 mg/L. During the same time period for Outfall 003 in Attachment E referenced above, the maximum concentration for the discharge of Total Suspended Solids was 40 mg/L. Since this represents the highest concentration typically achievable under current operating conditions, we recommend establishing 40 mg/L as the maximum daily concentration in Part I.A.3. in lieu of carrying forward the discharge limit from the existing permit.

EPA Response to Comments E.2

The average monthly Total Suspended Solids (TSS) concentration limits of 30 mg/l and a maximum daily TSS concentration limit of 75 mg/l have been carried forward through each permit reissuance since being established in the August 30, 1979 permit (See Fact Sheet). The Commenter suggests that the EPA develop a technology-based effluent maximum daily limit for TSS based on best professional judgement (BPJ) and past demonstrated performance. EPA is prohibited under 40 CFR §125.3(c)(2) from developing TSS limits using BPJ where TSS was analyzed in the development of the Effluent Limitation Guidelines found in 40 CFR Part 423, but where EPA specifically decided not to limit TSS for cooling water blowdown. See the Development Document for Effluent Limitation Guidelines and Standards and Pretreatment Standards for the Steam Electric point Source Category, EPA November 1982. Because of this prohibition, the TSS maximum daily limit has not been assessed based on past demonstrated performance, and the TSS limit in the final permit is unchanged.

The current TSS limits and sampling requirements may actually require a higher level of

treatment than the maximum daily limit suggested by the Commenter. If TMLP samples TSS at the required frequency of once per month, this single sample value will be reported for both the average monthly and maximum daily TSS limits. TMLP will need to meet the lower average monthly limit of 30 mg/l, which is more stringent than the requested 40 mg/l maximum daily limit. If TMLP chooses to sample more frequently than required, such samples must be reported with their Discharge Monitoring Reports. Thus, the low average monthly limit is what will most likely compel TMLP to maximize treatment, rather than a maximum daily limit. EPA also found that there is no indication that a new water quality based effluent limitation for TSS is necessary.

Comment E.3. TRWA Comment. At a minimum, whole effluent toxicity testing (WET) should also be required for Outfalls 001 or 002 despite the zero dilution of the effluent in the receiving water. Priority pollutant testing should be required for Outfall 002 or at a minimum, similar metal limitations/testing such as those in Outfall 003. The engineering calculations of projected priority pollutants should be confirmed periodically with results from actual samples analyses.

EPA Response to Comments E.3

The only sources of toxicity for Outfall 001 are residual chlorine, which is limited as an individual pollutant in the permit, and metal cleaning waste which is required to be disposed of off-site as a condition of the permit. The once through cooling water system which discharges through Outfall 001 does not concentrate river water pollutants, therefore, WET testing for Outfall 001 is not warranted.

For Outfall 002-Boiler blowdown, the most likely source of pollutants will be from the carbon filter backwash and the demineralize regeneration waste. The permittee is required to take a representative sample for WET testing for Outfall 002 once per year. A representative sample is defined at 40 CFR 122.41(j).

The EPA New England WET protocol requires that the permittee test the Outfall 002 effluent for the same metals as those required for Outfall 003, as well as additional parameters. The WET testing and ancillary metals tests incorporated in the permit for Outfall 002 are included specifically to confirm an absence of toxicity from the priority pollutants as suggested. The results of the metal samples may be used to validate the predicted priority metal concentrations established through the engineering calculations.

Comment E.4. Comment by TMLP. Permit Pg. 2 of 16 Part I A.1 Table Line 1,2 (Outfall 001) Flow Rate - Measurement Frequency: The measurement frequency is listed as "Continuous" under Monitoring Requirements. For clarity, TMLP will be logging pump run-hours and applying a calculated flow rate per run-hour to determine the flow rate. Does this method meet the definition of "Continuous" as used in the permit? Alternately, does USEPA prefer to use the term "Calculated" instead of "Continuous" for the reason stated above?

EPA Response to Comments E.4

The monitoring frequency will remain as “continuous”. EPA understands that the reported flow will be calculated from the pump logs which is listed as the sample type.

Comment E.5. Comment by TMLP. Permit Pg. 2 of 16 Part I A1 Table Line 5 (Outfall 001) Temperature Rise - Maximum Daily The permanent and recently upgraded digital instrumentation used to provide data to USEPA from TMLP, to support the 23 ° ΔT across the condenser, are located:

a.) at the condenser inlet, not at the inlet structure, and

b.) at the outlet of the condenser.

Therefore, TMLP requests to use the existing condenser inlet/outlet locations for obtaining and monitoring temperature and ΔT readings for permitted Outfall 001. [See also Comment G.1]

EPA Response to Comments E.5

The permittee has provided concurrent temperature measurements taken at both the CWIS and the condenser intake which demonstrate that sampling at the condenser intake will yield a representative sample (see 40 CFR 122.41(j)) for intake water temperature. Therefore, the final permit has been changed to require the Outfall 001 ΔT measurements to be taken at the condenser inlet and the outlet of the condenser.

Comment E.6. Comment by TMLP. Permit Pg. 2 of 16 Part I A.1 Table Line 6 (Outfall 001) Total Residual Chlorine - Measurement Frequency In several locations the terms "chlorine" and "chlorination" are used. In the permit. TMLP wishes to have it clarified that chlorine includes derivatives (especially sodium hypochlorite, which is presently used). A suggested revision to meet these criteria would be to change note 4 on page 6 of 16 to read: "Chlorine (products) may be used"

EPA Response to Comments E.6

When chlorine is added to water in either the molecular form (as a gas or liquid) or in a solid hypochlorite form such as sodium or calcium hypochlorite, the process is referred to as chlorination. Regardless of the original form of chlorine used, the limit is based on an end point measured as total residual chlorine. Where the active ingredient is not chlorine; such as bromine (brominating), the limit is measured as total residual oxidants. The permit allows the use of chlorine in the form of a gas, liquid, chlorine dioxide, or as a hypochlorite. No change to the final permit is necessary.

Comment E.6. Comment by TMLP. Permit Pg. 2 of 16 Part I A.1 Table Line 6 (Outfall 002) Total Residual Chlorine Administrative - Under "Effluent Characteristics", the permit incorrectly lists the Compliance Schedule as being on "Page 13". It actually appears on page "14". Please revise.

EPA Response to Comments E.7

The permit page number has been corrected as suggested.

Comment E.8. Comment by TMLP. Permit Pg. 3 of 16 Part I A.2 Table Line 1 (Outfall 002) Flow Rate - Maximum Daily because Outfall 002 contains storm water from roof drains and catch basins, there is a likelihood that an isolated major storm event, in combination with plant operation, may result in a maximum daily flow in excess of 0.350 mgd. In case of this event, TMLP is requesting guidance from USEPA as how to report such events without resulting in a violation of permit limits? Please advise.

EPA Response to Comments E.8

The Outfall 002 flow limits shall be adjusted to accommodate a high flow storm event. The adjustment is based on the 25 year/24 hour design storm for Taunton, Massachusetts and the impervious area served by Outfall 002. The design storm data was garnered from the MassDEP, March, 2002 Hydrology Handbook for Conservation Commissioners, for Taunton, MA (Bristol County), design rainfall. The 25 year storm rainfall is projected to be 5.6 inches in 24 hrs.

The total main building roof drainage area (which would discharge to 002) is 33980 sq. ft. The 24 hour drainage runoff is based on the rate of rainfall and the building roof area, which is 0.119 mgd (million gal/day).

A dry weather flow limit of 0.350 mgd is based on data from TMLP reported on July 8, 2003, a day with no recorded rain in Taunton

In the final permit, the maximum daily flow limit of 0.350 mgd is adjusted to add 0.119 mgd of storm water (Max daily = $0.350 + 0.119 = 0.469$ mgd)

The average monthly limit also is adjusted to account for a one day 25 year design storm. (Ave monthly = $0.235 + (0.119/30 \text{ days}) = 0.239$ mgd)

Comment E.9. Comment by TMLP. Permit Pg. 3 of 16 Part I A.2 Table Line 1 (Outfall 002) Flow Rate - Maximum Daily Also we request the addition of a footnote similar to footnote #11 (page 7 of 16) to apply to Outfall 002. Possibly re-word footnote 11 to read "The average monthly flow reported for the 001 condenser and other intakes and Outfalls is based on..." Please advise.

EPA Response to Comments E.9

Page 11, first paragraph of Part II of the permit gives a definition of average monthly that is consistent with the definition in footnote 11. The definition states: “Average monthly discharge limitation means the highest allowable average of “daily discharges” over a calendar month calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.”

The Part II definition for all practical purposes equivalent to footnote 11 which reads: “The average monthly flow reported for the 001 condenser is based on the total monthly flow divided by the number of days per month.” The language in footnote 11 shall not be changed in the final permit.

Comment E.10. Comment by TMLP. Permit Pg. 3 of 16 Part IA.2 Table Line 2 (Outfall 002) pH - Discharge Limitations The draft permit lists an allowable discharge value of >6.5 standard units from Outfall 002. TMLP suggests that language be added to cover the condition of low pH in the river. If TMLP has difficulty meeting these limits due to the background levels in the Taunton River at the entrance of the intake structure, TMLP proposes to have a river water sample analyzed for background levels.

Similarly, in the case of isolated major rain events, the storm water component may reduce the pH from Outfall 002 to a level below the 6.5 standard units. If TMLP has difficulty meeting these limits due to the background levels in the storm water, TMLP proposes to have a storm water sample from that event analyzed for background levels.

In both cases TMLP will document the DMR accordingly. Please advise TMLP as to how to account for such exceedances without resulting in a permit violation.

EPA Response to Comments E.10

If the effluent from Outfall 002 was uncontaminated (not commingled with) storm water only or was once through cooling water where there were no chemicals were added as a result of plant activities, adjustments to the pH limits to account for low “background” pH may be allowable.

The discharge from Outfall 002 is, however, made up of boiler blowdown, boiler blowdown quench water, auxiliary equipment cooling water, carbon filter back wash, and neutralized demineralize regeneration wastes in addition to the floor drain water, and storm water. For the purpose of setting permit requirements, the result of combining storm water with process water is to make the resulting effluent all process water. Process water needs to meet the pH limits regardless of the rainwater or river water (background) pH. If the discharge of uncontaminated storm water is separated from the process water discharge, then such consideration of background pH values may be used in determining compliance with the pH limitations. The final permit shall not be changed to allow background pH values to be used to adjust the effluent pH limits.

Comment E.11. Comment by TMLP. Permit Pg. 4 of 16 Part I A.2 Table Line 5 (Outfall 003) pH - Discharge Limitations Temperature Administrative - In the 'Measurement Frequency' column existing footnote 3 is n/a. Delete reference to footnote 3 (appears no other footnote is applicable).

EPA Response to Comments E.11

The permit has been corrected to removed the inappropriate footnote.

Comment E.12. Comment by TMLP. Permit Pg. 4 of 16 Part I A.2 Table Lines 7,8 & 9 (Outfall 003) Metals - Chromium & Zinc. If TMLP has difficulty meeting these limits due to the background levels in the Taunton River upstream of the intake structure, TMLP proposes to have a raw water sample analyzed for background levels and document our DMR accordingly. Please advise TMLP as to how to account for such exceedances without resulting in a permit violation.

EPA Response to Comments E.12

The permittee has not provided quantitative data pertaining to background or in-stream metals concentrations up-stream of TMLP's discharges with its comments. EPA does not have sufficient information to establish net credits (See 122.45(g)) for chromium and zinc which are derived from the Effluent Limitation Guidelines, nor is there currently a demonstrated need to do so. Relief from the more stringent water quality based chromium and zinc limits is acquired through the extension of Outfall 003 and the schedule of compliance, see response to comment D.2.

Comment E.13. Comment by TMLP. Permit Pg. 5 of 16 Part I A.4 & 5 Table Line 1 (Outfalls 004 & 005) Flow Rate Under 'Monitoring Requirements' we suggest that the language be modified for both Outfall 004 & 005 to read "Daily when in use" under measurement frequency and "Estimated" or "Calculated" under 'Sample Type'. This will make the table more consistent with the tables for other outfalls.

EPA Response to Comments E.13

In the final permit, the measurement frequency has been changed to read "total discharge per day" and the sample type "estimate". The two small flow sources from Outfalls 004 and 005 are treated differently than the higher volume flows from the other outfalls in that EPA is looking at the total effluent volume each day, rather than the rate of discharge. The measurement frequency and the sample type in the final permit are similar to those requested by the permittee, while being more descriptive of the required information.

Comment E.14. Comment by TMLP. Permit Pg. 5 of 16 Part IA.4 Table Line 2(Outfall 004) pH

The end-of-pipe for Outfall 004 will be submerged below the river water level. Therefore, TMLP is requesting a clarification that the sampling location for pH can be at the discharge of the traveling screen for Outfall 004.

EPA Response to Comments E.14

The requested change of the sampling location for pH to the discharge from the traveling screen for Outfall 004 is acceptable and is included in the final permit. (See footnote at I.A.4)

Comment E.15. Comment by TMLP. Permit Page 6 of 16 footnote 4 Dechlorination Time: To support testing of the new dechlorination system, TMLP requests an increase in the allowable daily time (or other equivalent restriction) to start up and test the dechlorination system. The reason for this request is to not restrict maintenance and vendor personnel to a maximum of two hour daily testing time on site.

EPA Response to Comments E.15

Section C.1 of the permit states: “The circulating water pumps of Unit 8 shall be operated only when Unit 8 is either producing electricity, during unit warm-up or cool-down, or for required testing, maintenance, or repair.” Testing of the new dechlorination system falls within the definition of required testing, and therefore, no change to the permit is needed.

Comment E.16. Comment by TMLP. Permit Page 6 of 16 Footnote #6 & 8 (Outfall 003) Total Residual Chlorine & Total Zinc Administrative - The permit incorrectly lists the Compliance Schedule as being on "Page 13". It actually appears on page "14". Please revise.

EPA Response to Comments E.16

The permit page number has been corrected as suggested.

Comment E.17 Comment by TMLP. Permit Pg 8 of 16 Part B .1.c (All Discharges) PCB's The permit under "Conditions Applicable to All Discharges" (for PCB's) requires that the "permittee shall certify that this disposal has been accomplished ". TMLP is not clear as to whom certification shall be made. Please clarify.

EPA Response to Comments E.17

The certification shall be mailed to the three addresses found on Page 15 of the permit. The certification may accompany the Discharge Monitoring Reports. The addresses are those of the EPA and two MassDEP Offices.

Comment E.18. Comment by TMLP. Permit Pg 8 of 16 Part B .1.h New Chemicals TMLP requests clarification that chemicals proposed to be used for dechlorination (e.g. sodiumbisulfide is tentatively planned) be allowed for discharge from Outfall 001 by this permit (and for potential future dechlorination of the cooling tower discharge - Outfall 003). We understand that discharge of any chemicals used for dechlorination must not violate any other provisions of the permit. Please advise.

EPA Response to Comments E.18

Dechlorination is accomplished through the addition of one of the following chemicals; sulphur dioxide, sodium sulfite, sodium bisulfite, sodium metabisulfite, sodium thiosulphate, or hydrogen peroxide. In each case the dechlorinating agent is added to the effluent based on chlorine demand to minimize the overuse of expensive chemicals. Any excess of these dechlorinating agents dissipates rapidly.

In the case of the commonly used sulfite dechlorinating chemicals, the excess sulfites are immediately oxidized to sulfate at the point of discharge. The discharged dechlorinating chemicals do not have a reasonable potential to cause or contribute to an exceedance of in-stream water quality criteria or cause toxicity, therefore no limits are needed. In its comment, the permittee refers to the use of "sodiumbisulfide" for dechlorination, EPA assumes that this is or is equivalent to sodium bisulfite. The permittee's use of sodium bisulfite or one of the other dechlorinating agents listed in this paragraph is acceptable without a permit modification.

F. Comments on Permit Compliance Schedules

Comment F.1. Comment by TMLP. Permit Pg 14 of 16, Part D.1 Dechlorination Because of the date of the potential permit approval by USEPA, TMLP is requesting that the language be changed for the deadline to install the dechlorination system from "July 1st, 2006" to "one year after the permit issuance date" especially to support start up testing requirements. This date is provided in two places. Also can USEPA modify Page 6 of 16 footnote # 6 to meet the above?

EPA Response to Comments F.1

Discussions began with TMLP in April of 2005 concerning the compliance schedules. The final issuance of the permit will be more than one year after the projected issuance date which will necessitate changes to the compliance schedule dates. The dates have been changed to read “one (1) year from the effective date of the permit.”

Comment F.2. Comment by TMLP. Permit Pg 14 of 16, Part D.2 Outfall 003 Administrative - request change from "December 1, 2006" date (for zinc) to December 31, 2006 for consistency with the rest of that Section. (This matches Page 6 of 16 footnote 8). This occurs in two places in this Section.

EPA Response to Comments F.2

All dates for the schedules found in Part D.2 have been changed to read “one (1)-year from the effective date of the permit.”

Comment F.3. Comment by TMLP. Permit Pg 14 of 16, Part D.3 Outfall 004 Extension Because of the date of the potential permit approval by USEPA, and additional work scope required for pipe repair, TMLP is requesting that the language be changed for the deadline to install the discharge extension from "June 1st, 2006" to "December 31st 2006".

EPA Response to Comments F.3

The date has been changed to read “six (6) months from the effective date of the permit.”

Comment F.4. Comment by TMLP. Permit Pg 14 of 16, Part D.4 Outfall 004 Unit 8 TWS Materials need to be fabricated and installed with vendor support. Therefore, TMLP requests that the July 1st date be revised to read "six months after issuance of permit".

EPA Response to Comments F.4

The date has been changed to read “six (6) months from the effective date of the permit”

Comment F.5. Comment by TMLP. Permit Pg 14 of 16, Part D .5 (Outfall 004 Traveling Screen) Prior to its further use, TMLP will repair or replace the Unit 9 Traveling Water Screen. For future use description see Permit Page 11 of 16 para. (c). Because of the date of the potential permit approval by USEPA, TMLP is requesting that the language be changed for the deadline for the Unit 9 Traveling Screen and spray headers from "June 1st, 2006" to "One year after permit issuance date".

EPA Response to Comments F.5

The date has been changed to read “one (1) year from the effective date of the permit.”

Comment F.6. Comment by TMLP. Permit Pg 15 of 16, Part D.6 (Outfall 004 Extension) Request date change from "December 1, 2006" to "December 31,2006". (Work schedule on 003, 004, and entrance to intake structure to be similar.)

EPA Response to Comments F.6

All dates for this set of schedules have been changed to read either “one (1) year from the effective date of the permit” or “six (6) months from the effective date of the permit.” The extension and reconfiguration of the fish return pipe (Outfall 004) is a priority and therefore has been given a six month schedule. Similarly, the low pressure wash for traveling screen 8 is on a six month schedule. The addition of the low pressure wash for traveling screen 9 is on a one year schedule based on the need for extensive repairs or replacement of the screen.

G. Comments Pertaining to the Fact Sheet

EPA is not altering or reissuing the Fact Sheet after public notice. Rather, any clarifications or corrections to the Fact Sheet are acknowledged below in this RTC document. EPA has considered any factual corrections and changes acknowledged below, and unless discussed elsewhere in this RTC document, EPA has determined that no changes are warranted in the final permit. The following comments pertain specifically to the Fact Sheet.

Comment G.1. Comment by TMLP. Fact Sheet Page 11 of 50 Differential Temperature. See comments. Match wording accordingly.

Fact Sheet Page 27 of 50 2`d Par. Differential Temperature

The latest ΔT data used to calculate the Draft Permit 23 ° LIT limit (mentioned in the 2`d paragraph) was taken with recently upgraded instrumentation. The sensing points of this permanent instrumentation are still located at the inlet/discharge of the condenser. These instruments provide a more accurate means of controlling both ΔT and temperature out of Unit 8 (to support maintaining Outfall 001 permitted temperature limits) by TMLP's plant operations personnel. Therefore, TMLP requests a revised instrument location description to read "at the condenser inlet' and "at the condenser discharge".

EPA Response to Comments G.1

The Fact Sheet itself will not be changed but these responses to comments serve to amend the administrative record. The change in the sampling location is acceptable. See Response E.5.

Comment G.2. Comment by TMLP. Fact Sheet Page 13 of 50 Hours of Operation. Please update this Section if Item 11a is revised.

EPA Response to Comments G.2

The Fact Sheet itself will not be changed but these responses to comments serve to amend the administrative record.

Comment G.3. Comment by TMLP. Fact Sheet Page 16 of 50 (para.7) Total residual Chlorine. Please modify to read "These limits will apply per compliance schedule until such time as Outfall 003" The reason for this is to avoid the new lower limits being implemented upon issuance of permit.

EPA Response to Comments G.3

Unlike the Final NPDES Permit, the Fact Sheet is not an enforceable document. The correction is noted in this response for the record.

Comment G.4. Comment by TMLP. Fact Sheet Page 17 of 50 Last part in TRC Section Total Residual Chlorine. Replace wording that reads "condenser Unit 8" with "003 discharge from the cooling tower Unit 9".

EPA Response to Comments G.4

EPA has considered the correction and the correction is noted in this response for the record. No change in the permit is required.