The Detroit Edison Company
One Energy Plaza, Detroit, MI 48226-1279

10 CFR 51.45
10 CFR 52.77

March 24, 2010
NRC3-10-0014

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

References:
1) Fermi 3
Docket No.: 52-033
2) Letter from Stephen Lemont (USNRC) to Peter W. Smith (Detroit Edison), "Requests for Additional Information Related to the Environmental Review for the Combined License Application for Fermi Nuclear Power Plant, Unit 3," dated May 12, 2009
3) Letter from Peter W. Smith (Detroit Edison) to USNRC, "Detroit Edison Company Response to NRC Requests for Additional Information Related to the Environmental Review," NRC3-09-0017 dated December 23, 2009
4) Letter from Peter W. Smith (Detroit Edison) to the USNRC, "Detroit Edison Application for a Combined License for Fermi 3, 2010 Annual Submittal," dated March 24, 2010.

Subject: Detroit Edison Company Response to NRC Requests for Additional Information Related to the Environmental Review

In Reference 2, the Nuclear Regulatory Commission (NRC) requested additional information to support the review of Part 3, Environmental Report (ER) of the Fermi 3 Combined License Application (COLA). On December 23, 2009, Detroit Edison provided responses to NRC Requests for Additional Information (RAI) GE3.1-1, TE4.3.1-1, and the United States Army Corps of Engineers (USACE) RAIs USACE 1 and 2 (Reference 3). Detroit Edison is revising these RAI responses as a result of telephone discussions with NRC staff. The revised responses and the associated updates to ER Rev. 1, submitted in Reference 4, are provided in the attachments.

If you have any questions, or need additional information, please contact me at (313) 235-3341.

D095
NRO

I state under penalty of perjury that the foregoing is true and correct. Executed on the 24th day of March, 2010.

Sincerely,

Peter W. Smith, Director
Nuclear Development – Licensing
and Engineering
Detroit Edison Company

Attachments: 1) RAI GE3.1-1 & TE4.3.1-1
2) RAI USACE-1 & USACE-2

cc: Chandu Patel, NRC Fermi 3 Project Manager (w/o attachments)
Jerry Hale, NRC Fermi 3 Project Manager (w/o attachments)
Ilka T. Berrios, NRC Fermi 3 Project Manager (w/o attachments)
Bruce Olson, NRC Fermi 3 Environmental Project Manager (w/o attachments)
Fermi 2 Resident Inspector (w/o attachments)
NRC Region III Regional Administrator (w/o attachments)
NRC Region II Regional Administrator (w/o attachments)
Supervisor, Electric Operators, Michigan Public Service Commission (w/o attachments)
Michigan Department of Environmental Quality
Radiological Protection and Medical Waste Section (w/o attachments)

Attachment 1
NRC3-10-0014

Supplemental Response to RAI letter related to Fermi 3 ER

RAI Question GE3.1-1
RAI Question TE4.3.1-1

NRC RAIs

Since RAIs GE3.1-1 and TE4.3.1-1 both address interrelated aspects of the site layout update to the Environmental Report (ER), Detroit Edison is updating these RAIs in one combined response.

A – RAI GE3.1-1

Provide updated site layout information and a complete evaluation and assessment of short-term and long-term direct, indirect, and cumulative impacts on all resources based on site layout changes.

At the site audit, Detroit Edison indicated that a modified site layout was being developed to reduce impacts to critical environmental resources. This information would represent a significant change to the ER and would be important for all aspects of the EIS.

B. – RAI TE4.3.1-1

Provide revised terrestrial ecology impacts data for the Fermi site based on the revised Fermi 3 site layout.

Prior to the site audit, Detroit Edison decided to make major changes in the site plan. Impacts from construction and operation of Fermi 3 would be substantially affected, compared to the previous proposal. At the site audit, staff discussed the need to revise existing resources conditions and impacts for the revised site plan. All information provided must address the revised site plan locations. Revised data will be used to complete the impact analyses that will be presented in the EIS.

Supplemental Response

The original responses to the RAIs listed above were submitted to the NRC in Detroit Edison letter NRC3-09-0017 (ML093650121), dated December 23, 2009. Based on discussions with the NRC on February 11, 2010, Detroit Edison agreed to provide an Environmental Report (ER) mark-up to clarify the responses to these RAIs. The original responses created confusion between the stated commitments of affected acreages for permanent and temporary impacts depending on whether land use, terrestrial ecology, operational, or construction impacts were being discussed. In addition, please note that the corrected version of Figure 4.3-2 has been incorporated into ER Rev. 1, therefore, a mark-up of Figure 4.3-2 is not included in this response.

Proposed COLA Revision

Attached are proposed revisions to both ER Chapter 4 and Table 10.1-2.

Markup of Detroit Edison COLA
(following 6 pages)

The following markup represents how Detroit Edison intends to reflect this RAI response in a later submittal of the Fermi 3 COLA. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

Chapter 4 Environmental Impacts of Construction

Chapter 4 presents the potential environmental impacts of construction of Fermi 3. Impacts are analyzed, and a single significance level of potential impact to each resource (i.e., SMALL, MODERATE, or LARGE) is assigned consistent with the criteria that the Nuclear Regulatory Commission (NRC) established in 10 CFR 51, Appendix B, Table B-1, Footnote 3. Unless the significance level is identified as beneficial, the impact is adverse, or in the case of SMALL, may be negligible. The NRC definitions of significance are as follows:

SMALL — Environmental effects are not detectable or are so minor that they neither destabilize nor noticeably alter any important attribute of the resource. For the purposes of assessing radiological impacts, the NRC has concluded that those impacts that do not exceed permissible levels in the NRC's regulations are considered small.

MODERATE — Environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.

LARGE — Environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

This chapter is divided into seven sections:

- Land-Use Impacts (Section 4.1)
- Water-Related Impacts (Section 4.2)
- Ecological Impacts (Section 4.3)
- Socioeconomic Impacts (Section 4.4)
- Radiation Exposure to Construction Workers (Section 4.5)
- Measures and Controls to Limit Adverse Impacts during Construction (Section 4.6)
- Cumulative Impacts Related to Construction Activities (Section 4.7)
- Summary of Construction and Pre-Construction Activities (Section 4.8)

These sections present potential ways to avoid, minimize, or mitigate adverse impacts of construction to the maximum extent practical. For the purposes of this chapter, the site, vicinity, and region are defined in Chapter 2.

The construction activities discussed in this chapter encompass two phases. The first phase involves Fermi 2 and Fermi 1 activities that have independent utility to the Fermi 2 site, even if the Fermi 3 plant was not built. This phase is not directly associated with Fermi 3 pre-construction, but may occur prior to or concurrently with Fermi 3 construction, and is therefore evaluated in this chapter from the standpoint of potentially having a cumulative impact. New facilities will be constructed to replace some Fermi 2 facilities being removed or retired. Certain preparation activities will occur onsite to ensure that Fermi 2 personnel and functions will be separated from

Fermi 3 construction activities. A new Fermi Drive will be constructed parallel to and north of the existing Fermi Drive to provide separation between Fermi 2 operations traffic and Fermi 3 construction traffic. The buildings remaining onsite from decommissioned Fermi 1 will be disassembled and removed so that the former Fermi 1 area will be available for use.

The second phase involves the construction of Fermi 3 structures, systems, and components (SSCs). The first structural concrete is expected to be poured in 2013, at the earliest. The second phase will also include the following:

- Subsurface preparation
- Placement of backfill, concrete, or permanent retaining walls within an excavation
- Foundation installation
- In-place assembly, erection, fabrication, or testing
- Construction of main power block building/structures
- Construction of station water intake structure and pump house for Fermi 3
- Construction of Fermi 3 cooling tower and associated structures

For the purposes of Chapter 4 evaluation of construction impacts, initial site preparation is expected to begin in 2011. Construction is projected to be completed in 2020, which coincides with commercial operation.

The Limited Work Authorization rulemaking (LWA Rule) became effective on November 8, 2007. Among other things, it established a bifurcated structure for assessing nuclear plant construction consisting of "Pre-Construction" (activities for which the NRC has no jurisdictional authority), and "Construction" (activities controlled by the NRC under the Atomic Energy Act, as amended).

Pre-Construction activities include the following general types of activities:

- Preparation of the site for facility construction (including site exploration, logging, clearing of land, grading, and construction of temporary access roads and spoil areas)
- Installation of temporary construction support facilities (including such items as warehouse and shop facilities, utilities, concrete mixing plans, docking and unloading facilities, and construction support buildings
- Excavation for any structure (including dewatering for concrete placement)
- Construction of service facilities (including such facilities as roadways, paving, railroad spurs, fencing, exterior utility and lighting systems, transmission lines, and sanitary sewage treatment facilities
- Fabrication of reactor system modules, if fabricated outside the power block
- Construction of SSCs that do not prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. This could

include such items as cooling tower structures, nonsafety-related circulating water lines, nonsafety-related fire protection lines, the new switchyard, and onsite interconnections

Construction activities include the following general types of activities:

- Driving of piles
- Subsurface preparation
- Installation of foundations
- Placement of backfill, concrete, or permanent retaining walls within an excavation
- In-place assembly, erection, fabrication, or testing

This applies to any of the following SSCs and facilities:

- Safety-related SSCs, as defined in 10 CFR 50.2
- SSCs relied upon to mitigate accidents or transients or used in plant emergency operating procedures
- SSCs whose failure could prevent safety-related SSCs from fulfilling their safety-related function
- SSCs whose failure could cause a reactor scram or actuation of a safety-related function
- SSCs necessary to comply with 10 CFR 73
- SSCs necessary to comply with 10 CFR 50.48 and Criterion 3 of 10 CFR 50, Appendix A
- Onsite emergency facilities, i.e., technical support and operations support centers that are necessary to comply with 10 CFR 50.47 and 10 CFR 50, Appendix E

The development of this chapter predated promulgation of Interim Staff Guidance which provided implementation guidance for the LWA Rule. Accordingly, the chapter sections do not individually distinguish between Pre-construction and Construction impacts. However, Section 4.8 provides a tabular binning of these impacts.

Insert 1 Here.

4.1 Land-Use Impacts

This section describes the effects of site preparation and construction of Fermi 3 and the impacts on land use from construction. Subsection 4.1.1 describes construction impacts on land use of the site and vicinity. Subsection 4.1.2 describes construction impacts on land use along transmission lines and within transmission access corridors. Subsection 4.1.3 describes construction impacts on historic and cultural resources in the site and vicinity, along transmission corridors, and in offsite areas. The Chapter 4 introduction provides an overview of the Fermi 3 construction schedule and key construction activities.

4.1.1 The Site and Vicinity

Construction impacts on land use at the Fermi site and vicinity are discussed in this subsection. The Fermi site is located in Monroe County, Michigan, with a property boundary that encompasses

Insert 1

Various acreage values are presented throughout the Environmental Report (primarily in Chapter 4). Acreage values are primarily determined from two perspectives: 1) land use and terrestrial ecology impacts and 2) construction affected areas. Acreage values for land use and terrestrial ecology may vary from those presented for construction affected area impacts. Figure 4.2-1 shows the construction affected areas. Areas highlighted on Figure 4.2-1 include Unit 3 New Construction Affected Areas (Permanent Impact), Unit 3 New Construction (Temporary Impact), and Previously Affected Areas and Unit 3 Construction Affected Areas (Permanent Impact). These designations allow for determination of the permanent and temporary impacts from Fermi 3 to newly impacted areas and previously affected areas. Figure 4.2-1 shows approximately 290 acres used for construction and operation of Fermi 3 (total permanent and temporary impacts). This total impact acreage can be separated into the following categories:

- Unit 3 new construction affected areas (permanent impact) – approximately 16 acres
- Previously affected areas and Unit 3 construction affected areas (permanent impact) – approximately 108 acres
- Unit 3 new construction (temporary impact) – approximately 168 acres

Figure 4.3-1 shows the Fermi 3 ecological impacts to developed and undeveloped areas. There are differences between the undeveloped areas and the areas that were not previously affected as shown on Figures 4.3-1 and 4.2-1, respectively. Some of the areas identified as being previously impacted on Figure 4.2-1 have subsequently been re-vegetated and would now be considered undeveloped areas. Acreage values in Table 4.3-1 are determined based on the terrestrial ecology impacts shown in Figure 4.3-1 and are used in the land use and terrestrial ecology impact evaluations.

Table 2.4-1 provides approximate areas per plant community on the Fermi site. The description for each area is provided in Section 2.4.1. Undeveloped land can be defined as either pristine or successional. Pristine is a natural area that has not been degraded by human disturbance or intervention characterized as a self-sustaining native-dominated plant and wildlife community. Successional is an undeveloped area that has experienced human or natural disturbance and is characterized as a successional plant community that is predominantly native or non-native species tolerant of the disturbance or plant species representing an early or a secondary successional stage rather than a climax community. Succession is the progression of one type of plant community to another, usually ending in a stable, long-term plant community that changes little over long periods of time. It can provide clues about the state of a given tract, based on plant species composition and known or observed disturbance factors. Typically, areas that previously supported a plant community but which have been disturbed go through changes in plant species composition and soil, temperature or light conditions. Undisturbed areas generally tend to be more stable, with similar plant composition over long periods, slowly moving towards a climax plant community. By consideration of plant community composition, an evaluation of the ecological state, whether undisturbed or disturbed, can be made.

An ecological review of the Fermi site with succession in mind reveals that most of the site has been disturbed, some areas more recently than others, but that there are no undisturbed or pristine habitats present. As a result, the plant species composition, and the wildlife using the vegetation present, represents relatively common species tolerant of different levels of disturbance, while plant and wildlife species requiring stable, undisturbed conditions are relatively rare to uncommon.

Table 10.1-2 Unavoidable Adverse Environmental Impacts of Operation (Sheet 1 of 4)

Impact Category	Adverse Impact	Mitigation Measures	Unavoidable Adverse Impact
Land Use	Commitment of ~~approximately 200~~ approximately 125 acres (permanent and temporary) for uses related to Fermi 3 onsite, and 1069 acres ~~with~~ within the transmission corridor.[1] This impact will occur for the operational life of Fermi 3.	The major plant structures are located, for the most part, on areas that were environmentally altered for construction and operation of Fermi 1 and Fermi 2. Uses are consistent with land use plans. Some of the disturbed land is revegetated following construction and after maintenance activities in the corridor.	Continued commitment of land use for the operational life of Fermi 3.
	Operation of Fermi 3 increases radioactive and nonradioactive wastes that are stored onsite (temporarily) and disposed of in permitted disposal facilities or landfills. Mixed waste generation and disposal occurs long-term through operation.	The established waste minimization program minimizes waste.	Land dedicated for the disposal of Fermi 3 waste is not available to other uses. This effect is long-term.
	New Independent Spent Fuel Storage Installation (ISFSI) for Fermi 3 will increase quantity of spent fuel storage onsite.	The ISFSI is sited to minimize radiation exposure to plant staff.	Land dedicated for spent fuel storage is not available to other uses for the operational life of Fermi 3.
	The cooling tower is visible from nearby locations and constitutes a small visual impact. The transmission corridor also constitutes a small visual impact.[1] These impacts occur through the operational phase.	Station operation does not contribute an additional impact to the viewshed, and no measures or controls are necessary.	The viewshed continues to be impacted over the operational phase but no more so than at the present.
	Archeological sites could be obscured or damaged through ground-disturbing activities related to operation and maintenance. This potential exists through the operational phase.	The shoreline is sensitive for archaeological resources. Shoreline stabilization may be required if NRHP-eligible archaeological resources are encountered during station operation. Continued station operation is unlikely to impact significant archaeological sites, and no measures or controls are necessary.	Minimal or no unavoidable adverse impacts.

Attachment 2
NRC3-10-0014

Supplemental Response to RAI letter related to Fermi 3 ER

RAI Question USACE-1
RAI Question USACE-2

NRC RAIs

A – RAI USACE-1

Provide a review and evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest (public concerns or rights). This review/evaluation should include supportive materials, including drawings and references. This may be integrated with the Clean Water Act (CWA), Section 404(b)(1) Guidelines alternative analysis.

B – RAI USACE-2

Provide a Section 404 (b)(1) Guidelines Alternative Analysis Package. A suggested list and order of topics to be discussed and presented in the package is provided below. This alternative analysis should include supportive materials, including drawings, and references. This may be integrated with the Public Interest Review/Evaluation.

Supplemental Response

The original response to the RAIs listed above was submitted to the NRC in Detroit Edison letter NRC3-09-0017 (ML093650121), dated December 23, 2009. Based on discussions with the NRC on February 11, 2010, Detroit Edison agreed to provide an Environmental Report (ER) mark-up to clarify the directional frame-of-reference for the thermal plume modeling results (referenced in the USACE response) in Section 5.3 and in associated tables.

Proposed COLA Revision

Attached are proposed revisions to:

- ER Section 5.3.2.1.1.6
- ER Table 5.3-12
- ER Table 5.3-13
- ER Table 5.3-14

Markup of Detroit Edison COLA
(following 7 pages)

The following markup represents how Detroit Edison intends to reflect this RAI response in a later submittal of the Fermi 3 COLA. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

The thermal plume modeling scenarios described in Table 5.3-2 were developed to evaluate the predicted thermal plume relative to these WQS. The first WQS criterion, maximum temperature rise, is evaluated using Scenarios 1 and 2, while the second criterion, maximum absolute temperature, is evaluated using Scenarios 3 and 4.

5.3.2.1.1.4 **Discharge Configuration**

A conceptual diffuser design was developed to provide efficient mixing of the thermal plume. The simulated discharge outfall enters Lake Erie from the western bank of the lake. Discharge ports are aligned perpendicular to the ambient lake current direction and directed twenty degrees above the horizontal of the lake bed. The multiport diffuser consists of three individual ports spaced evenly over 32.8 ft. Each port is 16.5 inches in diameter and located 19.7 inches above the lakebed (Table 5.3-9). Ports were designed to achieve desired exit velocity and direction. Module 2 of CORMIX v.5 for a submerged multiport diffuser discharge was used for modeling of the mixing zone.

5.3.2.1.1.5 **Effluent Data**

Table 5.3-10 shows the projected discharge parameters and rates for Fermi 3. The effluent flow rate varies by month, ranging from 12,000 gpm to 17,000 gpm. A single effluent flow rate was used for all four modeling scenarios within a single month. Both the effluent flow rate and temperature values are anticipated to be monthly maximum values, allowing evaluation of maximum potential temperature impacts.

The CORMIX model requires the initial effluent temperature to be input as ΔT, the difference between the effluent temperature and the ambient water temperature. This value varies by month because of the monthly changes in ambient temperature (Table 5.3-4) and effluent (Table 5.3-10).

A complete summary of the monthly-variable CORMIX input parameters is presented in Table 5.3-11.

5.3.2.1.1.6 **Results of Thermal Plume Analysis**

Model Set 1: Monthly Model Runs

Summaries of the predicted thermal plume dimensions are presented in Table 5.3-12 and Table 5.3-13 for Model Set 1, evaluating the two WQS. Predicted plume [dimensions] ~~width and length~~ are defined in Table 5.3-12 as the estimated location of the 3°F ΔT isotherm, which indicates the maximum extent of the discharge plume above the WQS for temperature increase above ambient. The May scenario with low ambient lake temperature and high ambient lake velocity (Scenario 2 in Table 5.3-12) produced the ~~largest~~ plume [that extended furthest eastward into Lake Erie from the discharge point] for the ΔT WQS. ~~The largest mixing zone of the proposed thermal discharge was predicted to be 130.2 feet long and 226.4 feet wide, for a total plume area of 20,486 ft² (Figure 5.3-8).~~ [Add Insert # 1 here]

Table 5.3-13 shows the resulting plume dimensions when evaluated for the absolute temperature WQS, which specifies that water temperature outside of the mixing zone not exceed a month-specific maximum value (Table 5.3-8). This standard was assessed by evaluating the plume

Insert 1

The largest mixing zone of the proposed thermal discharge was predicted to extend 130.2 feet in the eastward direction and was 226.4 feet wide in the north/south direction, with an approximate plume area of 29,486 ft^2 (Figure 5.3-8).

temperature, including the influence of ambient temperatures, relative to the WQS. The maximum ambient lake temperature during this time is assumed to be the 90th percentile of observed monthly temperatures for the 2-year period of record. The largest plume in this analysis is produced by the January conditions using low ambient lake temperature and high ambient lake velocity (Scenario 4 in Table 5.3-2). ~~The mixing zone under these conditions is predicted to be 23.11 feet long and 8.11 feet wide for a total area of 188 ft^2.~~

Add Insert # 2 here

The worst-case plume scenario from Model Set 1 was used for subsequent analyses in Model Sets 2 and 3 that address specific concerns related to lake bathymetry and variability in local depth and current direction.

Model Set 2: Depth Sensitivity Analysis

area

By producing the largest plume ~~length~~ in the month-specific temperature rise evaluation, the specific conditions of May Scenario 2 are expected to provide a worst-case scenario of the effects of variable depth. In order to address worst-case conditions, lower (and less frequently occurring) water depths were used with the monthly scenario that produced the largest plume with respect to the temperature increase standard in Model Set 1. The values used for the depth-related sensitivity analysis represent depths that recur with 1 percent, 5 percent, and 20 percent frequency within the month of May (7.0 ft, 7.6 ft, and 8.0 ft, respectively). Summaries of the predicted thermal plume dimensions are presented in Table 5.3-14. ~~Plume length increases from 130.2 feet to 159.4 feet at the lowest modeled depth, increasing in size from 29,486 ft^2 to 55,347 ft^2.~~ Even under rare conditions of decreased depth, the plume is expected to disperse within a small fraction of the local lake area (over 35 billion ft^2).

Add Insert # 3 here

Model Set 3: Westward Current Flow

The specific conditions of May Scenario 2 are also expected to provide a worst-case scenario of the effects of current flow directly towards the western shore. For this analysis, the May scenario was duplicated with ambient currents to the west-northwest direction (directly into the shore) and velocity equal to 1.0 fps, 1.5 times the maximum observed current velocity in any direction. All other parameters such as water depth, ambient temperature, and discharge flowrate were equal to those used in the May scenario with low ambient lake temperature and high ambient lake velocity (Scenario 2).

The results of this model run indicated very little risk of the thermal plume impinging upon the shoreline wetlands and intake areas. This analysis, using wintertime ice-free temperature conditions, ambient cross-flow directed towards the shore, and a single port discharge without a diffuser, predicted that the thermal plume will extend approximately 26 feet towards the shore (Table 5.3-15). Since the center of the discharge port is located approximately1300 feet from the shoreline, the plume dissipates approximately 1300 feet away from the shore in this worst-case scenario. It poses no threat of impinging on the western shore located 1300 feet from the discharge outfall location.

Insert 2

The mixing zone under these conditions is predicted to be 23.1 feet long in the eastward direction from the discharge location and 8.1 feet wide in the north/south direction, for an approximate plume area of 188 ft^2.

Insert 3

The length of the plume's eastward extent increases from 130.2 feet to 159.4 feet at the lowest modeled depth, increasing in approximate area from 29,486 ft^2 to 55,347 ft^2.

Table 5.3-12 Monthly CORMIX Results for Model Set 1, Scenarios 1 and 2: Evaluation of the Maximum Allowable Temperature Rise Standard

Month	Ambient Current Velocity	Scenario (Table 5.3-2)	~~Plume Length, ft~~ Length of Eastward Plume, ft	~~Plume Width, ft~~ North / South Plume Width, ft	~~Plume Planview~~ Approximate Plume Planview Area, ft^2	Plume Vertical Thickness, ft
January	low	1	169.0	33.1	5599	7.5
	high	2	53.8	38.7	2083	5.2
February	low	1	169.6	33.1	5621	7.5
	high	2	41.7	33.1	1381	4.9
March	low	1	123.0	30.8	3794	7.9
	high	2	44.9	47.6	2138	7.5
April	low	1	178.8	42.3	7568	8.2
	high	2	84.0	203.7	17112	3.3
May	low	1	145.3	35.4	5150	8.5
	high	2	130.2	226.4	29486	3.6
June	low	1	80.1	22.0	1760	8.5
	high	2	78.4	18.7	1466	8.5
July	low	1	56.1	17.1	957	8.5
	high	2	53.5	14.8	790	8.5
August	low	1	12.1	8.5	104	5.6
	high	2	12.1	8.5	104	5.6
September	low	1	3.6	5.9	21	3.9
	high	2	13.5	15.7	212	2.3
October	low	1	103.0	20.0	2062	7.5
	high	2	51.8	36.4	1888	5.2
November	low	1	125.0	24.6	3076	7.2
	high	2	54.1	39.4	2131	5.2
December	low	1	177.2	35.4	6278	7.5
	high	2	44.6	39.4	1757	5.9

Note: Shading indicates maximum predicted plume

Table 5.3-13 Monthly CORMIX Results for Model Set 2, Scenarios 3 and 4: Evaluation of the Maximum Allowable Absolute Temperature Standard

Month	Ambient Current Velocity	Scenario (Table 5.3-1)	~~Plume Length, ft~~ Length of Eastward Plume, ft	~~Plume Width, ft~~ North / South Plume Width, ft	~~Plume Planview~~ Approximate Plume Planview Area, ft^2	Plume Vertical Thickness, ft
January	low	3	30.4	4.2	128	2.8
	high	4	23.1	8.1	188	1.5
February	low	3	30.5	4.3	130	2.8
	high	4	21.1	3.7	79	1.5
March	low	3	9.9	7.9	78	5.2
	high	4	4.0	10.7	43	2.1
April	low	3	14.8	0.5	7	0.3
	high	4	12.7	3.5	45	1.0
May	low	3	15.5	0.3	4	0.2
	high	4	12.6	3.1	40	0.9
June	low	3	14.7	0.5	8	0.4
	high	4	14.7	0.5	8	0.4
July	low	3	15.6	0.3	4	0.2
	high	4	15.6	0.3	4	0.2
August	low	3	16.4	1.4	23	0.7
	high	4	16.4	1.4	23	0.7
September	low	3	16.4	1.4	23	0.7
	high	4	16.4	1.4	23	0.7
October	low	3	0.0	0.0	0	0.0
	high	4	0.0	0.0	0	0.0
November	low	3	16.4	1.4	23	0.7
	high	4	16.4	1.4	23	0.7
December	low	3	19.5	0.9	18	0.6
	high	4	18.3	3.9	72	1.0

Note: Shading indicates maximum predicted plume

Table 5.3-14 Plume Dimensions For May Scenario with Varying Depth

Month	Ambient Velocity	Ambient Temperature	Ambient Depth, ft	Depth Statistic	~~Plume Length, ft~~ Length of Eastward Plume, ft	~~Plume Width, ft~~ North / South Plume Witdth, ft	~~Plume~~ Approximate Plume Area, ft^2
May	high	low	7.0	1st Percentile	159.4	347.1	55,347
			7.6	5th Percentile	146.0	294.0	42,918
			8.0	20th Percentile	138.8	263.1	36,516
			8.5	Mean	130.2	226.4	29,486