



CITY HALL
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TALLAHASSEE, FL
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TDD 1-800/955-8771

SCOTT MADDOX
Mayor
STEVE MEISBURG
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
DEBBIE LIGHTSEY
Commissioner
RON WEAVER
Commissioner

ANITA R. FAVORS
City Manager
ROBERT B. INZER
City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

June 25, 1997

HAND DELIVERED

Mr. Al Linero
Bureau of Air Regulation
Florida Department of Environmental Protection
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED
JUN 25 1997
BUREAU OF
AIR REGULATION

**Re: City of Tallahassee Sam O. Purdom Generating Station
PSD Permit Conditions**

Dear Mr. Costello:

On June 19, 1997, the City of Tallahassee met with the Department to discuss draft specific conditions for the Purdom Unit No. 8 Project. We would like to thank Department for taking time to meet with us to discuss the permitting of Unit No. 8. Most particularly, we appreciate the Department's receptiveness to comments detailed by the City and the encouragement to submit draft condition language for consideration by the Department. As such, we thought it may be most helpful to forward a draft of specific conditions that the City is expecting to see in the permit. For your convenience, we have incorporated the format utilized by FDEP in previously-issued PSD permits and have included an electronic copy of the conditions.

It should be noted that the attached document excludes malfunction from the 12 ppmvd 30-day rolling average limit on oxides of nitrogen (NO_x). In support of this exclusion, the City would like to emphasize that malfunctions will be restricted by other regulatory means. Pursuant to Rule 62-210.700(1), F.A.C., malfunctions are restricted to two hours in any 24-hour period. Further restrictions will be inherent through establishing a facility-wide cap (inclusive of malfunctions) of 467 tons of NO_x per year. Furthermore, the City has consulted with its design contractor and understands that uncertainties associated with malfunctions further support the City's need to exclude malfunctions from the NO_x limit. Thus, the City requests that the Department consider the reasons outlined above and the Departments historical practice of excluding malfunctions from NO_x limits as the conditions of certification are being drafted.

If you have any questions regarding the draft conditions of certification, please feel free to contact me at (904) 891-8850.

Sincerely,

A handwritten signature in black ink that reads "Karl Bauer for". The signature is written in a cursive style and is positioned above the typed name of the signatory.

Jennette Curtis
Environmental Administrator

JC/kb

Attachments

cc: Clair Fancy, FDEP
Martin Costello, FDEP
Rob McGarrah, COT
Gordon King, COT
Karl Bauer, COT



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RICARDO FERNANDEZ
City Auditor

April 28, 1997

Hand Delivered

Mr. Cleve Holladay
New Source Review Section
Bureau of Air Regulation
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED

APR 29 1997

BUREAU OF
AIR REGULATION

Dear Mr. Holladay:

Subject: City of Tallahassee
Purdom Unit 8 Project
Supplemental NO₂ Modelling

In response to your request during a discussion with Messrs. Doug Fulle and Mike Bilello of Foster Wheeler Environmental on Monday, April 21, 1997, this letter provides the results of a supplemental modelling analysis of short-term nitrogen dioxide (NO₂) impacts due to the Purdom Unit 8 Project. As you recall, you questioned the basis of the short-term NO₂ concentrations used in the Air Quality Related Values (AQRV) portion of the Prevention of Significant Deterioration (PSD) report.

Please be aware that the short-term results presented in the AQRV portion of the PSD report were based on simply scaling the results of the annual modelling for NO₂ using standard factors (i.e., 0.9 for 3-hr, 0.7 for 8-hr, 0.4 for 24-hr, and 0.05 for annual, when compared to a 1-hr value). Thus, the 1-hr concentration was estimated by multiplying the annual value (including a background concentration) by 20 (i.e., 1/0.05), the 3-hr was the annual multiplied by 18 (i.e., 0.9/0.05), etc. Also, please note that the annual impact-value was computed using the facility wide cap for the whole Purdom Station (i.e., 467 tons per year converted to grams/second) rather than a 9 parts per million by volume, dry (ppmvd) emission rate for Unit 8 alone.

At your suggestion we have conducted a supplemental analysis for NO₂ using maximum short-term emission rates instead of the annual facility wide cap. We assumed that Unit 7 and the two existing combustion turbines (GT1 and GT2) would be operating at full load on No. 6 fuel oil and diesel fuel, respectively. We also assumed that the proposed Unit 8 was operating on diesel fuel at 42 ppmvd at its worst case impact load (50% load at 20°F).

Mr. Cleve Holladay
April 28, 1997
Page 2

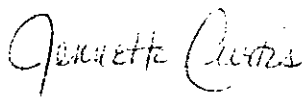
We did not model an emission rate of 97 ppmvd (allowed under the New Source Performance Standards (NSPS)) as the Unit will not actually operate at this level for either fuel. Also included in the modelling were the other existing sources included in the ambient air quality standards (AAQS) emission inventory for NO_x . Since there are no short-term background concentrations available, the annual background value of 14 micrograms per cubic meter (ug/m^3) was scaled up using the ratios indicated above; I'm sure you will agree that this is a very conservative approach.

The ISCST3 model was run using the same five years of meteorological data and coarse grid receptors as were used in the PSD report. After the five years of modelling were completed, a fine grid was modelled for each averaging period. A figure depicting the receptor locations is attached.

The results of the modelling analysis are summarized in the attached table. The sum of the highest second-high modelled NO_2 impact plus the scaled background NO_2 concentration was compared with the low end of the vegetation threshold range for each averaging period. As indicated, all predicted total concentrations are below the respective thresholds. Please note that the 1-hr threshold value is 18,800 ug/m^3 rather than the 1,880 ug/m^3 indicated in the PSD report. This was a typographical error and will be corrected when we issue errata to the Site Certification Application. As you can see, while the results of modelling the individual sources are different from those produced by the scaling analysis presented in the PSD report, the conclusions are the same. No impacts on vegetation are anticipated. As you can also see, even if a 97 ppmvd emission rate had been used for Unit 8, the conclusions of the analysis would be the same.

We trust that this supplemental analysis is helpful. Enclosed is a disk containing a file which, when unzipped, will contain the input and output files used in the analysis. Please call me at (904) 891-8850 should you have any questions.

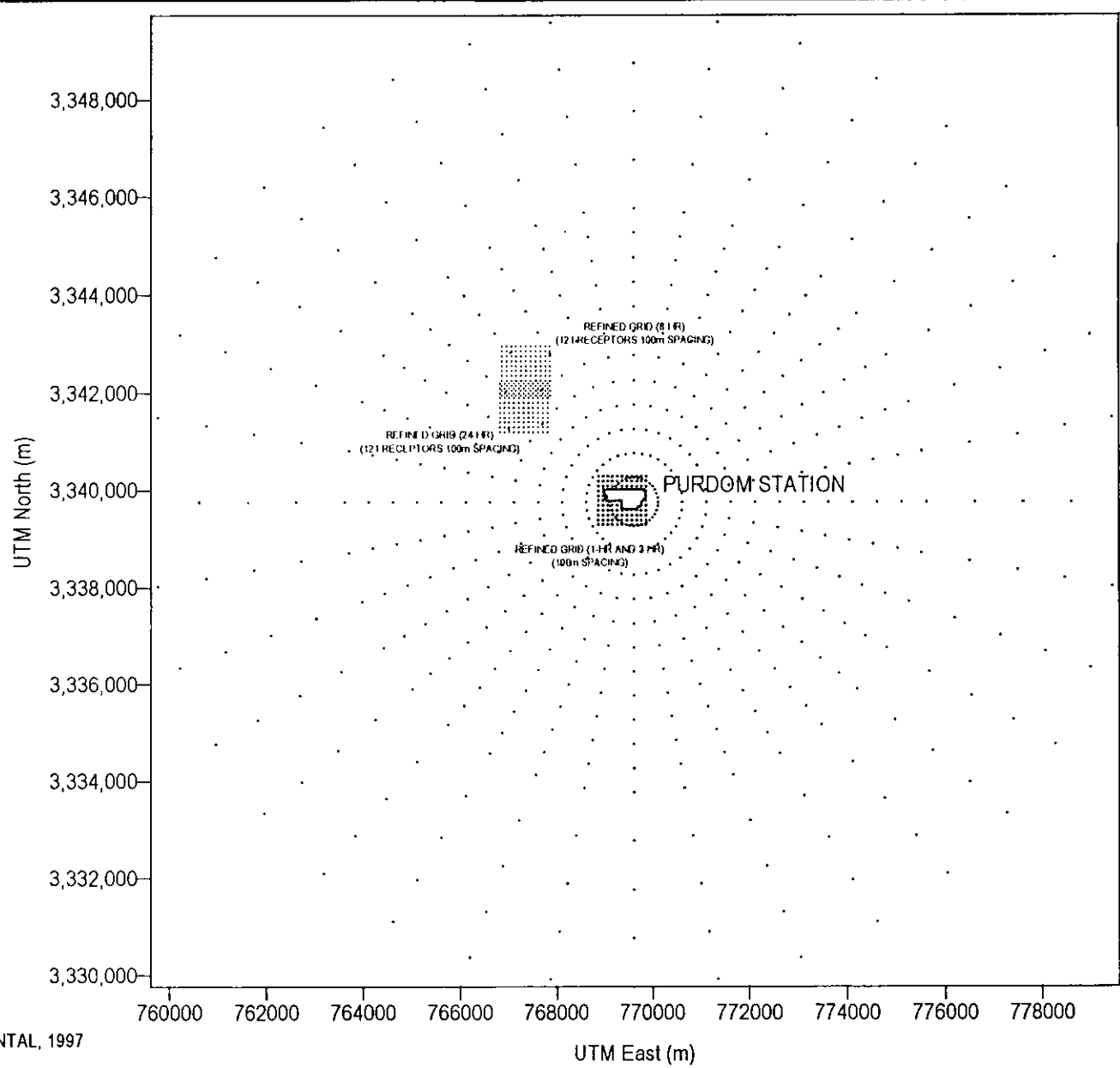
Sincerely,



Jenette Curtis
Environmental Administrator

Enclosures

cc. H. Oven(FDEP)
M. Costello(FDEP)
E. Porter (USFWS)
D. Wergowske(USFS)
R. McGarrah(COT)



SOURCE: FOSTER WHEELER ENVIRONMENTAL, 1997



PURDOM UNIT 8 PROJECT - ST MARKS, FLORIDA
NO2 SHORT TERM
REFINED GRID - ISCST3 MODELLING RECEPTORS

SUPPLEMENTAL ANALYSIS: NITROGEN DIOXIDE IMPACTS VERSUS VEGETATION THRESHOLDS

Pollutant	Avg Period	Max ⁽¹⁾ Refined Conc (µg/m ³)	Background (µg/m ³) ⁽²⁾	Modelled + Background (µg/m ³)	Vegetation Min Threshold Range ⁽³⁾ (µg/m ³)	Period (yyymmddhh)	Receptor Location ⁽⁴⁾		Preliminary Maximum ⁽⁵⁾ Concentration by Year				
							East (m)	North (m)	1985 (µg/m ³)	1986 (µg/m ³)	1987 (µg/m ³)	1988 (µg/m ³)	1989 (µg/m ³)
Nitrogen Dioxide (NO ₂)	Annual ⁽⁵⁾	21.4	14	35	94	87	767511	3341895	5.1	7.4	10.4	9.1	6.8
Nitrogen Dioxide (NO ₂)	24-hr	102.3	112	214	1880	86111324	767511	3341695	38.8	67.4	66.0	59.1	44.0
Nitrogen Dioxide (NO ₂)	8-hr	162.9	196	359	4324	86072916	767460	3334348	79.2	126.8	105.3	112.2	85.1
Nitrogen Dioxide (NO ₂)	3-hr	718.3	252	970	22560	85090112	769362	3339793	718.3	191.1	155.8	194.1	137.8
Nitrogen Dioxide (NO ₂)	1-hr	1500.0	280	1780	18800	85090115	769362	3339793	1500.0	252.4	251.3	239.9	256.6

⁽¹⁾ Short-term values are highest second high values for this analysis.

⁽²⁾ Short-term values ratioed from annual value.

⁽³⁾ Vegetation thresholds from Section 8.3.1.3 of the PSD Report.

⁽⁴⁾ Unit 8 stack location 769,611 m East 3,339,767 m North.

⁽⁵⁾ Annual values were not run as they were and continue to be based on the facility wide cap emissions. Thus, they are the same values as in Table 7-10 of the PSD Report.

Source: Foster Wheeler Environmental, 1997

~5 times background

shut down units in 1986?



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304

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RON WEAVER
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ANITA R. FAVORS
City Manager
ROBERT B. INZER
City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

OK AIR
AL
Harty
Clay
Kim - To Purdom & files.
June 2, 1997
RECEIVED
JUN 04 1997
DIVISION OF AIR
RESOURCES MANAGEMENT

CERTIFIED MAIL

Mr. Howard Rhodes, Director
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Mail Stop 5500
Tallahassee, Florida 32399-2400

**Re: Actual Startup Notification
Auxiliary Boiler - Construction Permit No. 1290001-002-AC
Sam O. Purdom Generating Station**

Dear Mr. Rhodes:

This letter is being provided to inform you of the actual startup date in accordance with Chapter 40 of the Code of Federal Regulations (CFR) Part 60.7(a), as adopted by reference in 62-204.800, Florida Administrative Code (FAC). The City of Tallahassee initiated startup on May 31, 1997, of the above-referenced emission unit at the Sam O. Purdom Generating Station located at 667 Port Leon Drive, St. Marks, Wakulla County, Florida. The emission unit is a 16.74 million British thermal units per hour (mmBtu/hr) natural gas-fired auxiliary boiler subject to regulation under 40 CFR Part 60, Subpart Dc, as adopted by reference in 62-204.800, FAC.

If you have any questions regarding this anticipated startup notification, please feel free to contact either myself at (904) 891-5534 or Ms. Jennette Curtis at (904) 891-8850.

Yours Truly,

Robert McGarrath, Superintendent
Electric Production Division

cc: Johnathan K. Holtom, DEP
Winston A. Smith, EPA Region IV
B. Cowart, COT
G. King, COT
J. D. Curtis, COT

RECEIVED
JUN 05 1997
BUREAU OF
AIR REGULATION

CITY OF TALLAHASSEE
 UTILITY ENVIRONMENTAL
 SUPPORT SERVICES
 FACSIMILE COVER SHEET

DATE: 5/9/97

922-6979

TO: ~~Al Hincro, Cleve Holladay~~

488-

Copy - Marty

FROM: Jennette D. Curtis, Environmental Services Administrator
 TELEPHONE NO: (904) 891-8850

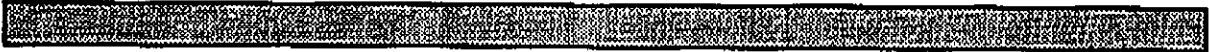
Original to Tallahassee

SUBJECT: U. S. Department of Agriculture Letter

Pardon & file

Attached please find a copy of the letter I promised to send you during our recent meeting.

For questions regarding this fax please call: Environmental Affairs at (904) 891-8852, Fax (904) 891-8277



United States
Department of
Agriculture

Forest
Service

National
Forests in
Florida

Suite F-100
325 John Knox Road
Tallahassee, FL 32303
(904) 942-9300



File Code: 2580

Date: MAY 02 1997

97 MAY -6 PM 3:41

Ms. Jennette Curtis
City of Tallahassee
300 S. Adams Street
Tallahassee, FL 32301-1731


Dear Ms. Curtis:

We have received the PSD Application, Purdom Unit 8 Site Certification Application - Volume 3, that you sent on March 31. Our review of the document shows that the project has been developed very much as described in previous discussions.

Essentially, the project replaces older equipment with that of more recent technology, thereby providing a significant increase in generating capacity while increasing PM10 emissions only slightly and holding NOx and SOx emissions at current levels. The technology employed to control PSD significant pollutants from the facility is consistent with new source performance standards established by the U.S. Environmental Protection Agency for areas where existing air quality surpasses national standards.

We appreciate your effort to involved the Forest Service so early in the development of this project. We have no additional comments or questions at this time.

Sincerely,


KARL P. SIDERITS
Forest Supervisor



Caring for the Land and Serving People





Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

May 6, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Robert E. McGarrah, Production Superintendent
City of Tallahassee, Electric Utility
2602 Jackson Bluff Road
Tallahassee, Florida 32304

Re: Title V Permit Revision Application for Unit Number 8
File No.: 1290001-003-AV
Sam O. Purdom Generating Station, Wakulla County

Dear Mr. McGarrah:

The application for revision to the Title V permit for the Sam O. Purdom Generating Station received on March 7, 1997, submitted with the Site Certification application, can not be further acted upon until the Prevention of Significant Deterioration (PSD)/New Source Review (NSR) construction permit has been finalized.

The processing of this application will continue when the Title V Section receives a written notification from the City of Tallahassee stating that the PSD/NSR construction permit has been issued in its final version and that a copy of this final permit has been provided to the Title V Section.

If the PSD/NSR permit is not finalized within ninety days of receipt of this letter, a request for additional time to process the Title V operation permit revision request needs to be made pursuant to Rule 62-213.420(1)(b)6., F.A.C.

If you should have any questions, please contact Jonathan Holtom or me at (904) 488-1344.

Sincerely,

Scott M. Sheplak, P.E.
Administrator
Title V Section

SMS/jh

CC: Mr. Darrel Graziani, P.E., Foster Wheeler Environmental Corporation
Mr. Karl Baur, P.E., City of Tallahassee
Mr. Ed Middleswart, DEP, Northwest District Office
Mr. Gerry Neubauer, DEP, Northwest District Branch Office
Mr. Buck Oven, DEP, Power Plant Siting Office
Mr. Al Linero, DEP, PSD/New Source Review Section ✓

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Florida Department of
Environmental Protection

Memorandum

TO: Buck Oven, Siting Coordination Office

THROUGH: Al Linero *ajl*

FROM: Martin Costello *MC*

DATE: April 21, 1997

SUBJECT: City of Tallahassee
Purdum Generating Station, Unit 8
Permit No. PA97-36

We have reviewed the subject application and hereby provide comments for incorporation into the in-house sufficiency review.

The Department plans to review the project with respect to Rule 62-212.400, Prevention of Significant Deterioration, and to make a Best Available Control Technology determination for at least carbon monoxide, particulate matter, nitrogen oxides, and sulfur dioxide. Sufficient information has been provided in the application to make these determinations.

We request that the City provide a comparison between nitrogen oxides emissions from the existing units at the facility based on the Acid Rain Program data versus the data in the application which is based on AP-42 emission factors.

HOPPING GREEN SAMS & SMITH
PROFESSIONAL ASSOCIATION
ATTORNEYS AND COUNSELORS

123 SOUTH CALHOUN STREET
POST OFFICE BOX 6828
TALLAHASSEE, FLORIDA 32314
(904) 222-7500
FAX (904) 224-8551
FAX (904) 425-3415

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JONATHAN T. JOHNSON
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ANGELA R. MORRISON
GARY V. PERKO
KAREN M. PETERSON
E. SCOTT RUTH
W. STEVE SYKES
T. KENT WETHERELL, II
OF COUNSEL
W. ROBERT FOKES

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KATHLEEN BLIZZARD
ELIZABETH C. BOWMAN
RICHARD S. BRIGHTMAN
PETER C. CUNNINGHAM
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ROBERT P. SMITH
CHERYL G. STUART

Writer's Direct Dial No.
(904) 425-2258
E-mail: morrisona@hgs.com

MEMORANDUM

TO: Jennette Curtis
FROM: Angela R. Morrison
DATE: April 18, 1997
RE: PSD "Netting" Issue

Attached are excerpts from the preamble statements made by the U.S. Environmental Protection Agency when it proposed and finalized the Prevention of Significant Deterioration rules. As we discussed earlier today, these statements discuss EPA's position regarding "netting" to avoid PSD review. You might want to pass along copies of these excerpts to the Department of Environmental Protection. Please call me if you have any questions.

cc: Karl Bauer
Doug Fulle
Darrel Graziani

Excerpt from Proposed
PSD Rules

51832 Federal Register / Vol. 44, No. 173 / Wednesday, September 5, 1979 / Proposed Rules

review, increments and even standards could easily be violated.

While increased protection of air quality might be achieved by reviewing groupings even bigger than a plant, review of larger groupings is infeasible. New units not on adjacent property or under common control would be an awkward grouping to evaluate and regulate. Therefore, PSD review will apply to groupings of new construction no larger than a plant.

* Plant-wide review also serves the basic purposes of PSD when pieces of equipment are being built or modified at existing plants. With plant-wide review, industry can construct new and modified equipment without a permit, by reducing emissions enough that net emissions at the plant do not increase. (Allowing use of offsetting emission reductions within the source to avoid NSR is called the "bubble" approach. For discussion of the bubble, see "Modification"). The purposes of PSD are served, because assuring that there will be no net increase in emissions from the plant also assures that the construction will not interfere with maintaining good air quality.

Permitting offsets only within individual process units would go beyond maintaining the status quo. While additional emission reductions beyond existing levels are needed to attain standards in nonattainment areas (see discussion in the next section), such reductions are ordinarily unnecessary to meet the purposes of the PSD program. In addition, the review itself would not make sense relative to RSD goals. If new units at sources with offsetting plant-wide decreases were forced to undergo review, sources might be required to model and monitor increment consumption when air quality is expected to improve or stay the same. In addition, application of the bubble on a plant-wide basis encourages voluntary upgrading of equipment, and growth in productive capacity.

* Since obtaining offsets is often less expensive and less time-consuming than obtaining a PSD permit, providing industry with the offset option will facilitate upgrading of production capacity, and encourage application of improved controls to obtain offsets. Permitting plant-wide use of offsets provides the greatest opportunity for both of these desirable results. Thus, plant-wide review is the preferred approach under PSD for reviewing construction of both new plants, and new and modified pieces of equipment at existing plants.

For these reasons, EPA proposes that PSD review apply to a large grouping of pollutant-emitting activities, like an

industrial plant. To accomplish this, EPA proposes to define "building, structure, facility, or installation" to mean a grouping of activities on contiguous or adjacent properties and under common control. The term "grouping" is intended to include a plant consisting of a single isolated activity, as well as a plant consisting of many activities.

C. Sources Subject to Nonattainment Requirements.

1. Purpose to be Served by Nonattainment NSR Definitions. Unlike the PSD provisions, the nonattainment provisions are primarily intended not merely to prevent excessive increases in emissions, but to reduce emissions. This fundamental difference in purpose requires a different approach to defining the sources that will be subject to NSR. To assure adequate review, EPA believes that both entire plants and individual pieces of equipment must be subject to NSR. The one exception under EPA's proposal is for areas subject to fully complete SIPs satisfying Part D requirements. In these areas, where attainment is assured, NSR need apply only to entire plants.

To assure adequate review of new plants, a large grouping must be subject to nonattainment NSR for the reasons discussed above for PSD. To do otherwise would allow a new plant that is divided into separate process units, each below the potential emission threshold, to escape review. New emissions could thus be added to the existing violation, without review, making attainment virtually impossible. Therefore, EPA believes that nonattainment programs, like PSD programs, must apply NSR to entire plants.

EPA believes that pieces of process equipment within plants should also be subject to NSR under nonattainment programs. This would prevent use of plant-wide offsets for increases from construction or modification of major pieces of process equipment. The plant-wide bubble is less appropriate for nonattainment programs than for PSD programs because it only holds emissions constant. Nonattainment programs, in contrast to PSD programs, must positively reduce emissions.

If increases from construction of new or modified pieces of process equipment could be offset on a plant-wide basis the construction would make attainment of the standards substantially more difficult. For each nonattainment area, there are only a limited number of cost-effective ways to reduce existing emissions enough to attain standards. If the cost-effective opportunities to reduce emissions are used to offset

equally large increases from new construction, then other, less cost-effective ways to reduce emissions must be found to achieve attainment.

Therefore, to ensure that construction within existing plants does not make attainment of the standards more difficult, nonattainment programs must provide for NSR new and modified pieces of equipment. The NSR requirements will assure that the most stringent controls are applied to new and modified equipment, and that more than offsetting reductions in existing emissions are obtained to assure adequate continued progress toward attainment. The nonattainment requirements also ensure that other sources in the state, owned or operated by the same owner, are in compliance with SIP requirements needed for attainment.

This policy argument is strongly supported by the legislative history. Even where demolition of obsolete equipment reduces emissions, Congress indicated that construction of replacement equipment should be subject to NSR under nonattainment programs without regard to the offsetting reductions:

Thus, [under the offset ruling and Part D NSR requirements,] a new source is still subject to such requirements as "lowest achievable emission rate" even if it is constructed as a replacement for an older facility resulting in a net reduction from previous emission levels." (Statement of Senator Muskie, 123 Cong. Rec. at S 13702 col. 2 (daily edition, August 4, 1977)).

2. Proposed Definitions. To implement this specific expression of Congressional intent, as well as the general purposes of the nonattainment provisions discussed above, EPA is proposing to define "source" to include not only plant-wide groupings of activities, but also individual pieces of process equipment. "Building, structure or facility" would be defined as a large grouping of activities (a plant) and "installation" would be defined as an "individual piece of process equipment."

These definitions would prevent use of plant-wide bubble for all new and modified major pieces of process equipment ("Major" means having high enough potential emissions to be a major stationary source. "Minor" means having less than that.) The plant-wide bubble would still serve to avoid NSR, when emissions from a new or modified minor piece of equipment (or from some activity like a coal pile that is not an installation) are offset by enough

* Then, as now, "facility" was defined in EPA's offset ruling as a piece of process equipment.

* Referred to hereafter as "facility."

Excerpt from Preamble to
Final PSD Rules

Federal Register / Vol. 43, No. 154 / Thursday, August 7, 1980 / Rules and Regulations 52783

approach might have. Several asserted that EPA's proposal would discourage early cleanup and actually perpetuate the existing air quality problem.

The Administrator has reconsidered the interpretation that led to the proposal of the "increase only" approach for carrying out the growth restrictions and concluded that the *Alabama Power* decision does not support it. Thus, in the final rules promulgated today, a major stationary source can construct in a growth restricted area, if sufficient contemporaneous, creditable net reductions are found (subject to the limitations on reconstruction described below).

J. Reconstruction

In the September 8, 1979 proposal, a reconstruction (roughly, improvements at an existing source which equal 50% or more of the capital cost for replacing the source) was to be treated as if it were a new source for purposes of NSR under both PSD and nonattainment rules. Under the proposal, a reconstructed major stationary source would be subject to review regardless of any contemporaneous emissions reductions that would occur at the same source. The Administrator proposed this approach in accordance with Congressional intent to subject new construction in nonattainment areas to requirements such as meeting the lowest achievable emission rate (LAER), even though a replacement of an older unit would result in a net reduction from previous emission levels (see 123 CONG. REC. 13702, col. 2 (daily ed. August 4, 1977) (statement of Senator Muskie)). In the agency's view nonattainment areas require very stringent NSR Procedures to overcome the inertia of the nonattainment problem. Having a reconstruction provision would promote maximum air quality improvements from an area's limited reduction capability by requiring more construction projects to meet LAER and bring other sources in the State under common control into compliance with the SIP.

The reconstruction rule was also proposed for PSD in an effort to be consistent with nonattainment NSR. Although the Administrator recognized that the air quality rationale for having reconstruction in nonattainment areas was considerably stronger than that for PSD inclusion, it was believed that less confusion would result with a parallel application of the reconstruction rule.

All ten commenters on the reconstruction topic voiced general disapproval for the proposal. Eight of the ten favored dropping the concept

entirely from both sets of regulations, with the remaining two requesting that its applicability be restricted. They advised that EPA should rely instead on the reconstruction provisions of NSPS and NSR/IAQ to ensure such construction would apply adequate control technology. Commenters complained that review criteria based solely on the replacement cost of equipment regardless of air quality improvements make little sense for NSR rules charged with safeguarding air quality. They further argued that the added regulatory complexity inherent to the inclusion of a reconstruction provision was not warranted and its addition to NSR would not be consistent with the "no net increase" exemption under *Alabama Power*.

The Administrator agrees that the reconstruction requirement makes only limited air quality sense for PSD and has reconsidered the need to retain this concept for the program. It is true that a reconstructed source not otherwise subjected to PSD review as a major modification (i.e., such source would not cause a significant net emissions increase) would not interfere with the PSD air quality objective of allowing only limited deterioration of existing air quality. On the other hand, the PSD objective of maximizing future use of the allowable increments through application of best available control technology (BACT) would not be strictly met. Nevertheless, the Administrator believes that the general PSD objective of safeguarding existing air quality from significant degradation will not be undermined by deleting the requirement for review of reconstructions.

The proposal would have implemented reconstruction for PSD only on a plant wide basis. Thus, an entire plant would have to be reconstructed in order for it to be subjected to PSD review as a reconstruction. Few instances of plantwide reconstruction are expected. The limited applicability under PSD brings further doubt as to the real need for the added complexity that a reconstruction provision would bring to determining the permit applicability of construction projects. Furthermore, the deletion of reconstruction from PSD would avoid some increment tracking problems; treating reconstruction as new PSD sources could lead to increment consumption unrelated to actual air quality changes.

The Administrator does not agree with the commenters who argued that applying "reconstruction" in nonattainment areas would bring unwarranted complexity and no air

quality benefits. As explained in the proposal, EPA believes that the reconstruction provision within nonattainment NSR rules is consistent with stated Congressional intent and programmatic goals to get reasonable air quality improvements from each major construction activity. Since *Alabama Power* did not strictly bind EPA in nonattainment concerns and since the reconstruction concept was not expressly precluded, the Administrator has determined that reconstruction is warranted in nonattainment areas and is today promulgating this concept as proposed for nonattainment NSR rules.

Commenters also asked that several exemptions be considered if a reconstruction rule were promulgated. Among the exemptions suggested were (1) current NSPS exemptions for modifications, (2) Fuel-Use Act exemptions, (3) involuntary replacement of damaged equipment, and (4) voluntary fuel switches. The Administrator is not promulgating any of these exemptions into the reconstruction provision. First, the current NSPS exemptions and involuntary replacement of damaged equipment do not avoid applicability of NSPS under 40 CFR 80.15 when a unit would have been reconstructed. Therefore, it would be inconsistent to establish such a concept under nonattainment NSR. In addition, 40 CFR 80.15, which governs how the reconstruction rule will apply in the affected NSR programs (see e.g., 40 CFR Part 81 Appendix R, section II, A(12)), allows the Administrator, in paragraph (f), some case-by-case discretion in determining when a reconstruction would occur. Thus, no specific exemptions such as those suggested appear warranted at this time.

K. Exclusions

In September, EPA proposed to exclude "routine maintenance, repair and replacement" from the category "physical change" which appeared in the proposed PSD and nonattainment definitions of "major modification." At the same time EPA proposed to exclude the following events from the category "change in method of operation," unless previously limited by enforceable permit conditions: (1) a fuel switch due to an order under the Energy Supply and Environmental Coordination Act of 1974 (ESECA) (or any supplanting legislation) or due to a natural gas curtailment plan under the Federal Power Act; (2) a voluntary switch to an alternative fuel or raw material that the source prior to January 6, 1975, was capable of accommodating; (3) a fuel switch due to an order or rule under section 125 of the

APPENDIX B
AIR QUALITY MODELLING PROTOCOL

APPENDIX B

AIR QUALITY MODELLING PROTOCOL

Introduction

The development of and agreement on a modelling protocol is suggested by U.S. Environmental Protection (EPA) and the Florida Department of Environmental Protection (DEP) prior to embarking on any major air quality modelling exercise. This protocol describes, in some detail, the models (and model options) which will be used, the meteorological and emissions data which will be input to the model, the receptor grids which will be utilized, and the analyses which will use the model results. Unlike the remainder of this Plan of Study, this modelling protocol is being submitted for formal DEP approval.

Netting Analysis

The proposed project will be a major modification of a major existing source for the criteria pollutants. In accordance with Rule 62-212.400, F.A.C., and the Draft New Source Review Workshop Manual (EPA, 1990), a modification is subject to PSD review only if the net emissions increase of any pollutant emitted by the source, as a result of the modification, is "significant." Typically, this means that the net emissions increase is greater than the PSD Significant Emission Rates (Table 212.400-2 in 62-212.400 F.A.C.). However, since the Purdom Plant is within 10 km of a Class I area, any net increase in a regulated pollutant which will cause an increase of $1 \mu\text{g}/\text{m}^3$ (24-hour average) in the Class I area is considered significant. Prior to commencing the modelling analysis described in this protocol, a netting analysis will be conducted in accordance with the procedures in the PSD Workshop Manual. The PSD regulations indicate that modelling analyses need to be conducted for only those pollutants with significant net increases resulting from the modification. However, in the interest of providing a more complete picture of project impacts, the City of Tallahassee intends to model the proposed project impacts for all PSD regulated pollutants and Florida Draft Ambient Reference Concentrations (FARCs) for which the project will have quantifiable emissions.

General Modelling Approach

General Modelling Approach - The air quality impact assessment will consist of a proposed source significant impact area analysis, a PSD increment consumption analysis, an ambient air quality standards impact analysis, and an additional impacts analysis. In addition, the need for ambient monitoring will be evaluated. These analyses are discussed in greater detail below. The modelling approach will follow EPA and DEP modelling guidelines for determining compliance with applicable PSD increments and ambient air quality standards (AAQS). EPA modelling guidance is provided in the Guideline on Air Quality Models (40 CFR 51, Appendix W) as well as the Draft New Source Review Workshop Manual (EPA, 1990). DEP guidance on conducting the analyses is provided in Rule 62-212.400 F.A.C.

Based on current EPA and DEP policies, the highest annual average and highest second-high short-term (i.e., 24 hours or less) predicted concentrations (critical concentrations) will be selected for comparison to applicable AAQS and PSD increments. However, the highest short-term predicted concentrations will be used for comparison to significance levels. The use of a

five-year meteorological data base in the modelling analysis, as proposed below, allows a comparison of the predicted highest second-high short-term concentration to applicable short-term PSD increments and ambient air quality standards. The highest second-high concentration is calculated for a receptor field by:

- Eliminating the highest concentration predicted at each receptor;
- Identifying the second-high concentration predicted at each receptor; and
- Selecting the highest concentration among those second-high concentrations.

This approach is consistent with the air quality standards and PSD increments which permit one short-term average exceedance per year at each receptor.

The general modelling approach for each air quality impact analysis will commence with a significant level impact phase. Then, if indicated, screening and refined multi-source modelling phases will be conducted for those pollutants having a significant impact. The major difference between the two latter phases is the receptor grid used when predicting concentrations and the number of meteorological data periods evaluated. In general, concentrations for the screening phase will be predicted using a coarse mesh receptor grid and a five-year meteorological data base. The screening phase will identify the critical receptors associated with the highest and highest second-high short-term concentrations for all applicable pollutants and averaging periods. The predicted concentrations at those critical receptors will be evaluated in greater detail in the refined phase of the analysis.

The refined phase of the analysis will be performed by predicting concentrations using a fine mesh receptor grid centered over each of the critical receptors identified in the screening phase of the modelling analysis. Several critical receptors will be evaluated for each year of meteorological data containing the meteorological conditions which caused the critical concentrations identified in the screening phase analysis. This approach will be used to ensure that valid highest second-highest (critical) short-term concentrations will be obtained for comparison to applicable air quality standards and PSD increments.

Model Selection and Use

The most current version of Industrial Source Complex (ISC) dispersion model will be used to evaluate the emissions from the proposed units. As of the date of this protocol, this is ISC3 (Version 95250). This model has been downloaded from the EPA Technology Transfer Network (TTN), Support Center for Regulatory Air Models (SCRAM) bulletin board. The model and its use are covered in a Users Guide (EPA, 1995a). The ISC3 model was selected primarily for the following reasons:

1. EPA and DEP have approved the general use of the model for air quality dispersion analysis because the model assumptions and methods are consistent with those in the Guideline on Air Quality Models.
2. The ISC3 model is capable of predicting the impacts from stack, area, and volume sources that are spatially distributed over large areas and located in flat or gently rolling terrain.

3. The results from the ISC3 model are appropriate for addressing compliance with AAQS and PSD increments since the model can predict the highest as well as the highest second-high concentration and period of occurrence for 1-hour, 3-hour, 8-hour and 24-hour averaging periods at each receptor for each full year of hourly meteorological data used. The short-term or long-term versions of the ISC3 model can be used for annual averages.
4. The ISC3 model has several options and features that allow it to handle certain situations in a variety of ways. For this analysis, the EPA regulatory default options will be used to predict the maximum impacts from the facility.

Area Classification

The ISC3 model has rural and urban options which affect the wind speed profile exponent law, dispersion rates, and mixing-height formulations used in calculating ground-level concentrations. The criteria used to determine when the rural or urban mode is appropriate are based on land use near the proposed plant's surroundings (Auer, 1978). If the land use is classified as heavy industrial, light-moderate industrial, commercial, or compact residential for more than 50 percent of the area within a 3 km radius circle centered on the proposed source, the urban option should be selected. Otherwise, the rural option is more appropriate.

Based on the use of USGS topographic maps, it has been preliminarily concluded that the land use is consistent with the use of the rural rather than urban options.

GEP Stack Height/Downwash Considerations

If the stack for the proposed unit or existing units are less than Good Engineering Practice (GEP), then the potential for building downwash based upon the dimensions of nearby buildings must be considered in the modelling analysis. The procedures used for addressing the effects of building downwash are those recommended in the ISC3 Dispersion Model User's Guide and are incorporated into the ISC3 model. The effective height and effective width of structures are input to the model and are used to modify the dispersion parameters. The Unit 8 stack is planned for GEP height; however, the stacks of the existing units are believed to be less than GEP.

The possibility of on-site structures influencing off-site concentrations due to the structures creating a cavity recirculation region will be evaluated. The first level of screening will be performed to determine if a structure is within 3H of the property line (where H = structure height). Structures greater than 3H from the property line are not expected to have an off-site cavity. Structures which are within 3H of the property line will be further evaluated using the method presented in the SCREEN3 Model User's Guide (EPA, 1995b) to determine the cavity height, length and concentration. The results of these calculations will be used in subsequent analyses.

Plant Loads/Ambient Temperatures

Operating load can affect emission parameters, and therefore ground-level impacts, because exit temperature and velocity change along with source emission rate. Three Unit 8 operating load cases will be analyzed before the significant impact area analysis using ISC3 and one year of meteorological data. These loads will be selected to cover the range of normal plant operations (probably 60%, 80% and 100%). The Unit 8 load case shown in the analysis to cause the highest

impacts will be used in the subsequent analyses. The new unit will also be modelled at three ambient temperatures (20°F, 59°F and 95°F) to determine which produces the highest impacts. Thus, with three loads and three ambient temperatures to consider, a matrix of at least nine cases will be evaluated.

Meteorological Data

The air quality modelling analysis will use hourly preprocessed National Weather Service (NWS) surface meteorological data from Tallahassee, Florida and concurrent twice-daily mixing heights from Apalachicola, Florida for the years 1985 to 1989. These are the locations and years recommended by DEP. The preprocessed hourly meteorological data file for each year of record used in the analysis obtained from DEP will contain randomized wind direction, wind speed, ambient temperature, atmospheric stability using the Turner (1970) stability classification scheme, and mixing heights. The anemometer height of 6.7 meters, to be used in the modelling analysis, was obtained from NWS Local Climatological Data summaries for Tallahassee.

Emission Inventory

Emissions and stack parameters of the proposed project for the significant impact area analysis as well as subsequent analyses will be generated from the most current engineering information available at the time the modelling is performed. Emissions data will be obtained for SO₂, NO_x, PM₁₀, lead (Pb) and CO.

For those pollutants for which the project will have a significant impact, it will be necessary to consider other sources in the AAQS and PSD increment consumption analyses. The sources to be considered will be determined in accordance with guidance in EPA's Guideline on Air Quality Models and Draft New Source Review Workshop Manual. Sources located beyond the significant impact area of the proposed source will be screened based on the "Screening Threshold" method (North Carolina DNR, 1985) to determine whether they should be included in the modelling analysis. Source information will be obtained from DEP and from other recent air quality modelling studies for the area. Maximum allowable emission rates will be used in all modelling analyses involving other sources. A listing of sources in the inventory will be submitted to DEP for review and concurrence prior to the initiation of any detailed multi-source modelling effort. Existing sources will be categorized as increment consuming PSD sources, PSD increment expanding sources, or non-PSD affecting sources depending upon whether their emissions have increased or decreased from their "baseline" emissions and whether they commenced construction before or after the PSD baseline date for the area, which also will be obtained from DEP.

Stacks which have similar emission parameters will be modelled as co-located sources to simplify the analysis. Further, stacks which have similar stack gas compositions will be modelled using a unit emission rate and the results scaled to get the impacts for each separate pollutant.

Receptor Locations

Receptors will be placed at locations considered to be "ambient air," which EPA has defined as "that portion of the atmosphere, external to buildings, to which the general public has access" [40 CFR 50.1(e)]. All of the site will not be ambient air because access to it is restricted. Therefore, the closest receptors will be on the site property lines. A plot plan showing the plant boundary

and areas where public access is precluded will be provided, as will a description of the measures taken to prohibit public access (e.g., fences, signs along the river).

The significant impact area analysis will use a polar receptor grid centered over the proposed source. The polar receptor grid will consist of 36 radials, each separated by 10 degree increments and extending out from the plant boundary line in all 36 directions. The length of the radials will depend upon the distance at which the proposed source impacts reach the significant impact levels as defined for each applicable pollutant in the PSD regulations, but will be no more than 50 km.

The screening phase for the air quality impact analysis will use a coarse mesh polar receptor grid (0.50 km distance between rings with radials spaced 10 degrees apart out to 6 km and then at 1.0 km spacing out to at least 10 km) centered over the proposed source. The receptor grid will begin coverage at the plant boundary line and extend outward in all directions. The receptor grid will provide sufficient receptor coverage to determine the locations of all critical concentration receptors to be evaluated in the refined phase of the analysis.

The refined phase of the air quality impact analysis will use a fine mesh cartesian receptor grid (0.10 km grid resolution) composed of 121 discrete receptors within a 1.0 km square grid centered over each critical receptor.

Background Concentrations

To analyze impacts relative to AAQS, estimates of background pollutant concentrations will be needed. Background concentrations should include contributions from sources not included in the modelling analyses as well as contributions from natural sources. Since it is anticipated that no on-site monitoring program will be required, background concentrations will be obtained from DEP.

The Guideline on Air Quality Models provides some guidance regarding the determination of background concentrations. The data collected as part of the DEP monitoring network will be interpreted following this guidance. For pollutants not monitored in the area, recommendations regarding representative background concentrations will be obtained from DEP.

Proposed Analyses

Proposed Source Significant Impact Area Analysis - The proposed project will be modelled using the SO₂, NO_x, PM₁₀, and CO emissions data discussed above. The significant impact area will be defined on a pollutant-specific basis for all applicable averaging periods according to the significant impact levels defined in the PSD regulations. Highest rather than highest second-high short-term values will be used in this analysis. The greatest significant impact area resulting from an analysis of all applicable averaging periods for a given pollutant will be the significant impact area for that pollutant. The significant impact area will be used to determine the source interaction zone for the screening phase of the air quality impact analysis.

Ambient Air Monitoring Requirements Analysis - The results of the significant impact area analysis will be compared to "de minimis" monitoring concentrations in Table 212.400-3 in 62-212.400 F.A.C. to determine if ambient air monitoring is required or if a monitoring exemption will be granted. While the City of Tallahassee does not anticipate the need for ambient air monitoring, a monitoring plan will be prepared if the modelling results demonstrate a need.

PSD Increment Consumption Analysis

The Purdom Site is in a Class II PSD area. However, two Class I areas are located nearby, the St. Marks Wilderness Area (as close as 0.875 km south, southeast, and southwest of the site) and the Bradwell Bay Wilderness Area (28 km west of the site). The next closest Class I areas are the Okefenokee Wilderness Area in Georgia (about 170 km east-northeast of the site) and the Chassahowitzka Wilderness Area in Florida (about 200 km southeast of the site); these are too far away to warrant consideration in the analysis. The Class II PSD increment consumption analysis will consist of modelling the PSD source inventory for those PSD pollutants projected to have a significant off-site impact using the ISC3 model and comparing the highest second-highest short-term average and highest annual average impacts to the appropriate Class II PSD increments. For the Class I PSD increment consumption analysis, the ISC3 model will be used to assess whether the net proposed project impact will be "significant," with significance defined by the EPA in the recently proposed New Source Review Reform Regulations (61 FR 38,249, dated July 23, 1996). If the net proposed project impacts are predicted to be significant, the City of Tallahassee will conduct multi-source modelling using an agreed upon inventory of sources whose emissions would impact the Class I areas for the pollutant or pollutants of concern.

Ambient Air Quality Standards Impact Analysis - The area around the Purdom site is attainment or unclassifiable for all of the criteria pollutants. The ambient air quality standards impact analysis will consist of modelling all appropriate (permitted) and existing sources identified on the emissions inventory for each criteria air pollutant (SO₂, NO₂, CO, PM₁₀, and Pb) for which the proposed project will have a significant impact. The highest second-high short-term and highest annual average impacts will be combined with appropriate background concentrations for each applicable air pollutant and averaging time and compared to the appropriate state and federal ambient air quality standards to determine whether the ambient air quality standards are exceeded. The background concentrations for each applicable air pollutant will be determined using the procedures described above. No modelling of proposed project impacts on ozone (O₃) concentrations is planned as it is not considered to be feasible for single source impact analysis.

Additional Impacts Analysis -Additional impacts analysis will be performed for those criteria and non-criteria PSD regulated air pollutants emitted in significant quantities to determine air pollution impacts on soils and vegetation caused by emissions from the proposed project and emissions resulting from associated growth. Specifically, a growth projection analysis including population growth projection and industrial growth project data will be performed. The impacts of this growth on air quality will be estimated. Modelled concentrations and/or depositions will be used to determine if there will be any significant impacts on soils or vegetation. The need for an Air Quality Related Values (AQRV) analysis for the St. Marks and Bradwell Bay Wilderness Areas will be determined after further discussions with the DEP and the Federal Land Managers. A screening (level-1) visibility impact analysis will be conducted for the nearest Class I Areas using the technical guidance provided in the Workbook for Plume Visual Impact Screening and Analysis (EPA, 1988b).

FARC Analysis

The analysis of hazardous air pollutants (HAPs) will follow the DEP guidelines. The maximum impacts from the proposed project for those HAPs regulated under the Clean Air Act Amendments and on the DEP Draft FARC list will be predicted and compared with the guidelines.

References

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- U.S. Environmental Protection Agency. 1996. Guideline on Air Quality Models (40 CFR 51 Appendix W).



JENNETTE CURTIS
Environmental Services Administrator
Electric Department
Route 4 Box 448
Tallahassee, Florida 32304
Telephone No. 904/891-5894 Fax No. 904/891-5899

TO: CLAIR FANCY DATE: 4/14/97

RE: PSD APPLICABILITY

FYI. ATTACHED PLS FIND THE
RATIONALE / REGULATORY BASIS THE
CITY OF TALLAHASSEE UTILIZED IN
THEIR NETTING ANALYSIS, ALONG
WITH SOME MEMORANDUM FROM EPA
WE WERE ABLE TO LOCATE ON THE
SUBJECT.

I HOPE THIS IS HELPFUL.

JENNETTE

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AIR REGULATION

CITY OF TALLAHASSEE
Sam O. Purdom Generating Station
Unit 8 Project
PSD Applicability--Netting Analysis
April 14, 1997

- Purdom Station is a "major facility" (current potential to emit is greater than 100 TPY)
- Addition of Unit No. 8 would be a "modification" to a major facility
- Key is whether the modification would result in a "significant net emissions increase," comparing past actuals to future potentials
- First, consider past actual emissions of the facility (i.e., average TPY from last two years)

NO_x

Units 5 and 6 -	209
Unit 7 -	251
Combustion Turbines 1 and 2 -	7
Auxiliary Boiler -	<u>0</u>
Total -	467

- Next, consider any "contemporaneous creditable increases and decreases" in those actual emissions from the facility
 - * Increases include the modification (e.g., Unit 8), any new minor units installed within the last five years (e.g., auxiliary boiler), and any anticipated increase in emissions from existing units because of the modification
 - * Creditable decreases include the shut down of units (e.g., Units 5 and 6) and federally enforceable limitations on operation or utilization (e.g., though an emissions cap)
 - * "Potential" emissions are defined as: The maximum capacity of an emissions unit *or facility* to emit a pollutant under its physical and operational design. Any enforceable physical or operational limitation on the capacity of the emissions unit *or facility* to emit a pollutant, . . . shall be treated as part of its design provided that, for any regulated air pollutant, such physical or operational limitation is federally enforceable.
 - * A facility-wide emissions cap based on past actual emissions will ensure no *net* increase, and that all increases and decreases are contemporaneous

- **Netting Analysis**

- * Units 5 and 6 will be permanently shut down, subject to federally enforceable requirement
- * "Potential" NO_x and SO₂ emissions from Combustion Turbines 1 and 2, Auxiliary Boiler, Unit 7, and new Unit 8 will be limited by a federally enforceable cap to ensure no net emissions increase from the facility

NO_x

Units 5 and 6: Decrease of 208

Combustion Turbines 1 and 2: No change anticipated, but limited by facility-wide cap

Auxiliary Boiler: Potential increase of 2 TPY; limited by facility-wide cap

Unit 7 and New Unit 8: Contemporaneous increases and decreases; limited by facility-wide cap (Unit 8 potential: 320 TPY)

Total from facility: CAP of 467 TPY, equal to past actual emissions; therefore, no net increase

- December 1, 1986 memorandum from EPA provides that an "agency can act (via an emissions cap) to limit the increase so as to ensure no net emissions increase at the source." "A State may act to place a federally enforceable emissions cap, based on historical actual emissions," on a source to ensure no net emissions increase. (Copy attached.)
- July 14, 1992, memorandum from EPA provides that a facility-wide cap can effectively limit emissions to avoid triggering a major modification under the PSD program. (Copy attached.)
 - * An emissions limit can be accepted which reflects past actual emissions.
 - * A federally enforceable emissions limit may be used to limit the potential to emit if a CEM (or acceptable alternative) is used.
 - * The emissions cap will provide assurance that any increases will be offset by equivalent decreases.



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Mayor
SCOTT MADDOX
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
DEBBIE LIGHSEY
Commissioner
STEVIE MEISBURG
Commissioner

STEVEN C. BURKETT
City Manager
ROBERT B. INZFR
City Treasurer/Clerk

JAMES R. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

March 31, 1997

RECEIVED

APR 03 1997

BUREAU OF
AIR REGULATION

Via Overnight Delivery

Mr. David Wergowske
USDA Forest Service
2946 Chestnut Street
Montgomery, AL 36107-3610

Dear Mr. Wergowske:

On March 7, 1997, the City of Tallahassee submitted to the State of Florida Department of Environmental Protection (DEP) a Site Certification Application for a proposed power plant addition to the existing Sam O. Purdom Generating Station in St. Marks, Florida. You may recall that this project was discussed with you and representatives from other agencies at a meeting in Tallahassee on September 25, 1996. The City is proposing to add a new combined cycle combustion turbine, along with associated facilities, and to permanently shut down two of the existing units at the Purdom Generation Station to help minimize any environmental impacts.

The Site Certification Application was submitted to DEP in accordance with Florida's Power Plant Siting Act (Part II of Chapter 403, Florida Statutes), and included a Prevention of Significant Deterioration (PSD) air construction permit application as Appendix 10.1.5. A copy of this application is enclosed for your review and information. As you may be aware, the Siting Act provides for a centralized environmental and land use licensing process that is coordinated by DEP. As part of the Site Certification Application, therefore, the City addressed many different environmental and land use aspects of the proposed project, including but not limited to air quality.

The City welcomes all comments that you and your staff may have regarding the expected impacts of the air emissions from the proposed project on the Bradwell Bay National Wilderness Area within the Apalachicola National Forest. As shown in the application, the project will not cause or contribute to any exceedances of the Ambient Air Quality Standards or PSD increments. In addition, as discussed in the application, there should be no adverse impacts on Air Quality Related Values in the Class I areas.

In keeping with the schedule that has been established by DEP for receiving requests for additional information from the various state, local, and regional agencies reviewing the Application, the City would greatly appreciate receiving any comments that the U.S. Forest Service may have on or before May 1, 1997. By receiving your comments on this schedule, the City will be able to coordinate its responses and provide any additional information to the

Mr. David Wergowske
March 31, 1997
Page 2

various agencies reviewing the Application in a timely manner. Thank you in advance for your cooperation.

If you have any questions regarding the Application or will be unable to submit your comments by May 1, please contact me at (904) 891-8850.

Sincerely,

A handwritten signature in cursive script that reads "Jennette Curtis". The signature is written in black ink and is positioned above the printed name.

Jennette Curtis
Environmental Administrator

Enclosure

cc (without enclosure):

Andrew Colaninno, USDA Forest Service
Hamilton S. Oven, Jr. (Buck), DEP
Martin Costello, DEP
Rob McGarrah, City of Tallahassee



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

DEC 1 1986

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MEMORANDUM

SUBJECT: Need for Emission Cap on Complex Netting Sources
FROM: Darryl D. Tyler, Director *Darryl*
Control Programs Development Division (MD-15)
TO: David Kee, Director
Air Management Division, Region V (5AR-26)

This is in response to your correspondence dated November 4, 1986, concerning a request from a State to provide further guidance on: (1) the appropriate context for defining an emissions decrease for prevention of significant deterioration (PSD), and (2) the level of administrative effort appropriate to make an emissions decrease permanent and enforceable. Your example involves an applicant proposing to modify a source and wanting to net out of PSD review by taking federally enforceable restrictions on existing units.

The PSD rules at 40 CFR 52.21(b)(2)(i) define a major modification as

. . . any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.

Net emissions increase is defined as:

. . . the amount by which the sum of the following exceeds zero: (a) Any increase in actual emissions from a particular physical change or change in method of operation at a stationary source; and (b) Any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable.

Major modifications are, therefore, determined by examining changes in actual emission levels at the source. Actual emissions are defined as:

. . . the actual rate of emissions of a pollutant from an emissions unit, as determined in accordance with paragraphs(b)(21)(ii) through (iv) . . .

-2-

(ii) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal source operation. The Administrator shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored or combusted during the selected time period.

(iii) The Administrator may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.

(iv) For any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.

From subparagraph (iv), it is clear that a new unit's actual rate of emissions is equal to its potential to emit. Any federally enforceable physical and operational limitations which an applicant is willing to accept on the new emissions unit is considered in evaluating the new unit's potential to emit.

To determine the actual emissions decrease from the shutdown emissions unit, the reviewing agency applies the method defined in subparagraph (ii). Specifically, the average rate, in tons per year, at which the unit actually emitted during a 2-year period prior to shutdown. Furthermore, for the emissions decrease from the shutdown to be creditable, the requirement to shut down must be made federally enforceable.

After the new unit's potential to emit and the creditable emissions decrease have been quantified, the reviewing agency should then evaluate the extent to which the modification to the source will affect changes to actual emissions levels at other emissions units. Of particular concern (as you have pointed out in your example) is where existing emissions units, historically operated at less than their full capacity or allowable level, will increase operational levels for the sole purpose of compensating for the shutdown unit. If the emissions units in question do not have source-specific allowable emissions, actual emissions are determined as set forth in subparagraph (ii). If the reviewing agency determines that an increase in actual emissions at the existing emissions units will be directly attributable to the startup of the new unit, then the agency can act (via an emissions cap) to limit the increase so as to ensure no net emissions increase at the source.

-3-

Suppose, however, as specified in subparagraph (iii), actual emissions (for the purpose of performing a "net emissions increase" calculation) are presumed to be source-specific allowable emissions for these units; in such a case, there is probably no increase in "actual" emissions. This results from the fact that, though in reality emissions may increase at these units, their actual emissions have been presumed to be equivalent to their allowable emissions and their allowable emissions have not changed. In such a case, after the modification, the atmosphere may in reality experience an increase in emissions. For example, emissions at the source after modification could equal the source's previous emissions level (three units operating at 67 percent rather than four units at 50 percent) plus the additional emissions from the new emissions unit. In effect, a significant emissions increase occurs at the source without PSD review.

Although the regulations provide a presumption for the use of allowable emissions when source-specific limits are established, the preamble at 45 FR 52718 (August 7, 1980) states that:

The presumption that federally enforceable source-specific requirements correctly reflect actual operating conditions should be rejected by EPA or a state, if reliable evidence is available which shows that actual emissions differ from the level established in the SIP or the permit.

Further along that section of the preamble states that:

EPA, a state, or source remains free to rebut the presumption by demonstrating that the source-specific requirement is not representative of actual emissions. If this occurs, however, EPA would encourage states to revise the permits or the SIP to reflect actual source emissions.

Therefore, a State may act to revise source-specific requirements if such a revision in the State's view is needed to establish allowable emissions limits consistent with historical actual emissions. Accordingly, in the modification scenario you describe, a State may act to place a federally enforceable emissions cap, based on historical actual emissions, on the source. It can do this on the knowledge (or presumption) that the three remaining boilers will (or would logically be expected to) operate at a higher capacity in the future to make up for the shutdown unit. Simply shifting the load like this should not result in a "credit" that can be used to net a new emissions unit out of review. The emissions cap would prevent such an occurrence.

-4-

If the modification is a direct replacement, then an emissions cap is required on the new unit's production capacity to ensure that its potential to emit, when balanced against the shutdown credit, does not result in a significant emissions increase. Depending on the available shutdown credit, this may result in a limit in production capacity at the source.

For a major source to net out of PSD review, a permit agency must take all administrative measures necessary to ensure that the requirements to decrease emissions are explicit and meet the criteria for being considered "federally enforceable." The credits may come from any emissions unit within the source as long as the emissions unit meets the criteria for being a part of that "major source."

If you have any questions regarding this matter, please have your staff contact David Solomon of the New Source Review Section at 629-5697.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 14 1992

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: 3M Tape Manufacturing Division Plant, St. Paul,
Minnesota

FROM: John B. Rasnic, Director
Stationary Source Compliance Division

Robert J. Martin for

TO: David Kee, Director
Air and Radiation Division

This is in response to your memorandum of June 8, 1992, regarding a proposed renewal project at the Industrial Specialties Division Tape plant in St. Paul, Minnesota owned by the 3M corporation. The company desires to enter into a federally enforceable state construction permit under which it would be required to operate such that current emissions levels would not be exceeded in order to lawfully avoid being treated as a major modification under the PSD program for a period of five years. My staff has reviewed the letter dated May 14, 1992 from the Minnesota Pollution Control Agency (MPCA) and the accompanying draft permit outline. Based on the information submitted to us, we believe that the draft permit, with some minor changes, is sufficient to allow 3M to make the changes as specified in the permit without triggering a major modification under the PSD program.

In general, a permit application must be sufficiently detailed so as to allow the permitting agency to be certain of the nature of the physical or operational changes proposed, and to accurately account for any resulting increase or decrease in emissions. In this case, we recognize that 3M is accepting an emission limitation which reflects its historically low current level of actual emissions. Further, the source plans to undertake a five-year renewal project that may cause it to deviate, during the project, from the level of normal source operations

established following installation of the thermal oxidizers. We agree that 3M may use the 1990 and 1991 years as representative of normal source operation for any changes during the five year period of the renewal project. Please note, however, that should 3M deviate from changes allowed under the permit, this may result in another period being deemed more representative of normal operations relative to that change. Accordingly, we suggest that you advise 3M to check with your office if its plans change substantially in the future in order to reaffirm that 1990-1991 continues to be the appropriate baseline period. Further, we agree that a federally enforceable emissions limit may be used in this case to limit the potential to emit as long as a continuous emissions monitor (CEM) or an acceptable alternative is used. A CEMs alternative is one that is demonstrated as providing information with the same precision, reliability, accessibility, and timeliness as that provided by CEMs. Considering 3M's baseline and the emissions limitations that restrict the plant's potential to emit, we recognize that more specificity in this permit would serve little purpose beyond that which the notification requirements already ensure for the permitting agency.

MPCA presently has no reason to believe that the National Ambient Air Quality Standard (NAAQS) for ozone is threatened by this source or any other sources in the area. It also believes that there will be no need for ambient impact analysis since the emissions cap in the draft permit will prevent the 3M renewal project from resulting in emissions increases over the 1990-1991 levels. As discussed above, with the presumption that 3M will not change its renewal plans so as to alter our conclusion that the 1990-1991 period is representative of normal source operations, changes at this source during the five year period of the permit will not be considered a major modification for New Source Review (NSR) purposes. Important to this conclusion is that the authority to construct the modifications authorized by the proposed permit will expire five years from the date of the permit's issuance, and the emissions cap will remain in place thereafter. This means that there will be contemporaneity between the acceptance of an emissions cap and the proposed modification, thereby providing assurance that any significant increases will be offset by equivalent decreases during the life of the permit.

Thus, the permit should be revised to reflect the most current two years of actual emissions. The permit must also require the use of a acceptable CEM equivalent. In addition, the permit must make it clear that any deviation from the permit requires notification to MPCA and may result in NSR applicability or another period being considered representative.

Lastly, we would like to review any other permits that take a similar approach to ensure that the goals of PSD are met.

If you have any questions, please contact me or have your staff contact Clara Poffenberger at (703) 308-8709.

cc: Greg Foote, OGC
Jeff Renton, OGC
Julie Domike, AED
John Calcagni, AQMD
David Solomon, NSRS

62-210.200 Definitions.

(1) THROUGH (19) - No Change.

(20) "Air Emissions Bubble" or "Bubble" - An air pollution control strategy wherein a facility complies with a multi-unit aggregate emissions limit or cap, in lieu of unit-specific limits, on a pollutant-specific basis for carbon monoxide, nitrogen oxides, sulfur dioxide, particulate matter, PM₁₀, or volatile organic compounds (VOCs).

(20) THROUGH (47) - Renumber as 21 THROUGH 48.

(49) "Bubble Baseline Emissions" or "Bubble Baseline" - For purposes of establishing an air emissions bubble, the sum of emissions of each pollutant from the emissions units included within the bubble, expressed both on a short-term and long-term basis.

(a) On a short-term basis, the bubble baseline shall be calculated by summing the allowable emissions of each unit after converting the allowable emissions to the equivalent pounds per hour.

(b) On a long-term basis the bubble baseline shall be calculated in tons per year by multiplying the allowable emissions times the actual capacity of each unit, actual capacity being determined as the average of the highest two out of the last five calendar years prior to the permit application for the bubble. For steam generating units, the actual capacity shall be expressed as million British Thermal Units per year.

(48) THROUGH (312) Renumber As (50) THROUGH (314).
Specific Authority 403.061, FS. Law Implemented 403.021,
403.031, 403.061, 403.087, 403.08735, FS. History Formerly 17-
2.100, Amended 2-9-93, 11-28-93, Formerly 17-210.200, Amended
11-23-94, 4-18-95, 1-2-96, 3-13-96, 3-21-96, 8-15-96, 10-7-96,
10-15-96,_____.

62-210.300 Permits Required.

(1) Air Construction Permits. An air construction permit shall be obtained by the owner or operator of any proposed new or modified facility or emissions unit prior to the beginning of construction or modification, in accordance with all applicable provisions of this chapter, Chapter 62-212 and Chapter 62-4, F.A.C. Except as provided under Rule 62-213.415, F.A.C., the owner or operator of any facility seeking to create or change an air emissions bubble shall obtain an air construction permit in accordance with all the applicable provisions of this chapter, Chapter 62-212 and Chapter 62-4, F.A.C. The construction permit shall be issued for a period of time sufficient to allow construction or modification of the facility or emissions unit and operation while the new or modified facility or emissions unit is conducting tests or otherwise demonstrating initial compliance with the conditions of the construction permit.

(2) Air Operation Permits. Upon expiration of the air operation permit for any existing facility or emissions unit, subsequent to construction or modification, or subsequent to the creation of or change to a bubble, and demonstration of

compliance with the conditions of the construction permit for any new or modified facility or emissions unit, any air emissions bubble, or as otherwise provided in this chapter or Chapter 62-213, F.A.C., the owner or operator of such facility or emissions unit shall obtain a renewal air operation permit, an initial air operation permit, or an administrative correction or revision of an existing air operation permit, whichever is appropriate, in accordance with all applicable provisions of this chapter, Chapter 62-213 (if the facility is a Title V source), and Chapter 62-4, F.A.C.

(3) THROUGH (5) No Change.

Specific Authority 403.061, FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.08735, FS. History Formerly 17-2.210, Amended 11-28-93, Formerly 17-210.300, Amended 11-23-94, 4-2-95, 4-18-95, 10-16-95, 1-2-96, 3-13-96, 3-21-96, 5-13-96, 8-15-96, 10-7-96,_____.

62-212.100 Purpose and Scope. The Department of Environmental Protection adopts this chapter to establish the preconstruction review requirements for proposed new emissions units or facilities, and proposed modifications. The requirements of this chapter apply to those proposed activities for which an air construction permit is required pursuant to Chapter 62-210, F.A.C. This chapter includes general preconstruction review requirements and specific requirements for emissions units subject to prevention of significant deterioration (PSD) and nonattainment-area preconstruction review. It also includes preconstruction review requirements applicable to specific emissions unit types and to authorizing the creation or change to any air emissions bubble.

Specific Authority 403.061, FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.0875, FS. History New 2-2-93, Formerly 17-212.100, Amended 11-23-94, 3-13-96,_____.

62-212.710 Air Emissions Bubble.

(1) General Restrictions. The Department shall not authorize the creation of or change to an air emissions bubble that would:

(a) Cause or contribute to a violation of any ambient air quality standard or PSD increment;

(b) Result in an increase of the maximum ambient ground-level concentration;

(c) Allow for an emissions increase, for any emissions unit included within such bubble, above an applicable limitation under any of the following: Best Available Control Technology (BACT)

pursuant to Rule 62-212.400, F.A.C.; Lowest Achievable Emissions Rate (LAER) pursuant to Rule 62-212.500, F.A.C.; the Federal Acid Rain Program; National Emissions Standards for Hazardous Air Pollutants pursuant to Rule 62-204.800, F.A.C.; and Standards of Performance for New Stationary Sources pursuant to Rule 62-204.800, F.A.C., provided that municipal waste combustors may apply for a bubble under this rule and subject to the provisions of 40 CFR 60, Subpart Cb, adopted and incorporated by reference in Rule 62-204.800, F.A.C.;

(d) At a facility located in a nonattainment area or in an area of influence, interfere with reasonable further progress toward attaining ambient air quality standards;

(e) Allow for an increase in opacity for any emissions unit included within such bubble above the unit's previous opacity limit;

(f) Allow any emissions unit included within such bubble to avoid any preconstruction review requirements of Chapter 62-212, F.A.C.; or

(g) Relieve any emissions unit included within such bubble from any requirements that apply to hazardous air pollutants.

(2) Permit Application Requirements. Each applicant for an air emissions bubble shall provide the following information as part of its permit application for such bubble, in addition to any other information required under rules applicable to the facility.

(a) Identification of each emissions unit proposed to be included within the bubble, along with the following for each such unit:

1. The processes and operations authorized under the facility's construction permit(s) and current operation permit(s);

2. The applicable emission limits, production limits or other limiting factors specified in the facility's construction permit(s) and current operation permit(s);

3. Any requested changes in operations under the proposed air emissions bubble and the requested emissions limit for each emissions unit operating under the bubble.

(b) A plan for quantifying emissions from the proposed bubble and for demonstrating continuous compliance with the multi-unit aggregate emissions limit, including the method of measurement, frequency of measurement, method of standardization or audit, quality control protocols and statistical information correlating the actual emission rates with capacity or production rates.

(c) A demonstration that the proposed bubble would operate within the requirements of Rules 62-212.710(1)(a) through (g), F.A.C. For purposes of Rules 62-212.710(1)(a) and (b), F.A.C., the demonstration shall comply with the following requirements:

1. For bubbles of nitrogen oxides or volatile organic compounds, no ambient impact analysis is required to demonstrate compliance with ozone ambient air quality standards or to

demonstrate no increase in maximum ambient ground-level concentration.

2. For bubbles of sulfur dioxide, nitrogen dioxide, particulate matter 10 (PM₁₀), carbon monoxide, and lead, an ambient impact analysis is required, as specified in Rule 62-212.710(3), F.A.C., if any one of the following conditions would occur under the bubble:

a. Emissions would be shifted from one emissions unit to another with a lower plume height such that there is an emissions increase at the unit with the lower plume height;

b. One or more emissions units whose emissions would be increased have emissions points that may not avoid a downwash situation, as defined in 40 CFR Part 51, Appendix W, adopted and incorporated by reference in Rule 62-204.800, F.A.C.;

c. Two or more emissions points included within the bubble are 250 meters or more apart from one another;

d. A source of fugitive particulate matter is included within the bubble; or

e. Complex terrain, as defined in 40 CFR Part 51, Appendix W, exists within the area of significant impact of the bubble or within 50 kilometers of the facility, whichever is less.

(3) Ambient Impact Analysis Requirements. If an ambient impact analysis is required pursuant to Rule 62-210.700(2)(c)2., F.A.C., the applicant shall perform the analysis in accordance with the provisions of 40 CFR Part 51, Appendix W, adopted and

incorporated by reference in Rule 62-204.800, F.A.C. For purposes of this demonstration, the applicant shall use the most recent one-year period of meteorological data available and shall perform the analysis for each applicable pollutant and relevant averaging period.

(a) The applicant shall demonstrate compliance with Rule 62-212.710(1)(a), F.A.C., by modeling all emissions units in the bubble by comparing in a single model run the difference between the allowable emissions in the existing permit(s) and the bubble baseline emissions for the proposed bubble. If at any receptor point the maximum concentration change has an increase above a significant impact level, as set forth in Rule 62-204.200, F.A.C., the applicant shall demonstrate compliance with ambient air quality standards and prevention of significant deterioration increments by performing an analysis which considers all emissions units at the facility and in the surrounding area according to the procedures of 40 CFR Part 51, Appendix W.

(b) The applicant shall demonstrate compliance with Rule 62-212.710(1)(b), F.A.C., by comparing the maximum concentration over the receptor grid of the allowable emissions in the existing permit(s) for all emissions units in the bubble with the maximum concentration over the receptor grid of the bubble baseline emissions for the proposed bubble.

(4) Permit Content. In addition to any other permit conditions, a permit authorizing creation of, change to or use of

an air emissions bubble shall include the following provisions with respect to such bubble:

(a) The multi-unit aggregate emissions limit for the emissions units included in the bubble, not to exceed the bubble baseline emissions;

(b) A requirement that the owner or operator shall calculate, record and report on the same basis the emissions for each emissions unit included in the bubble, such as mass/time, mass/unit of production, or mass/unit of heat input, as applicable to the facility's operations;

(c) A requirement that the owner or operator shall average the emissions from all emissions units under the bubble on a rolling 24 hours basis, except that a longer averaging period may be used if authorized under the facility's construction or existing operation permit(s), but in no case shall the averaging period exceed 30 days;

(d) The plan for quantifying emissions from the bubble and for demonstrating continuous compliance as required under Rule 62-212.710(2)(b), F.A.C.

(5) Monitoring.

(a) The owner or operator shall monitor emissions from each emissions unit included in the bubble according to all requirements that apply to the facility, except that the provisions set forth in this rule shall additionally apply to emissions units included in the bubble.

(b) The owner or operator shall follow the requirements of Rule 62-210.700, F.A.C., if excess emissions occur from the emissions units included in the bubble.

(6) Records. The owner or operator shall maintain all records related to the bubble for a period of five years. Such records shall demonstrate continuous compliance with the multi-unit aggregate emissions limit.

Specific Authority 403.061, FS. Law Implemented 403.08735, FS. History New _____.



CITY HALL
300 S. ADAMS ST.
TALLAHASSEE, FL
32301-1731
904/891-0010
TDD 1-800/955-8771

SCOTT MADDOX
Mayor
STEVE MEISBURG
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
DEBBIE LIGHTSEY
Commissioner
RON WEAVER
Commissioner

ANITA R. FAVORS
City Manager
ROBERT B. INZER
City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

April 3, 1997

CERTIFIED MAIL P 483 230 230

Mr. Martin Costello
Bureau of Air Regulation
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Purdom 8 SCA Preliminary Review Meeting Confirmation

Dear Mr. Costello:

As you and Karl Bauer had discussed earlier this week, the City of Tallahassee would like to re-confirm our interest in meeting with you and other members of the FDEP DARM Group on Wednesday, April 9, 1997, from 10:30 AM- 12:00 noon at the FDEP offices at the Magnolia Square Office Complex to discuss preliminary issues noted during the Department's review of the Purdom Unit 8 Project Site Certification Application.

If you have any questions regarding the meeting, please feel free to contact me at (904) 891-8850.

Sincerely,

Jennette Curtis
Environmental Services Administrator

JC/kb

cc: Buck Oven, PE, FDEP
Claire Fancy, PE, FDEP
Scott Sheplak, PE, FDEP
Cleve Holladay, FDEP
Doug Fulle, FWENC
Darrel Graziani, PE, FWENC

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APR 08 1997

BUREAU OF
AIR REGULATION



CITY HALL
300 S. ADAMS ST.
TALLAHASSEE, FL
32301-1731
904/891-8100
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RON WEAVER
Mayor
SCOTT MADDOX
Mayor Pro Tem

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STEVE HEISBURG
Commissioner

STEVEN C. BURKETT
City Manager
ROBERT B. HIZER
City Treasurer-Clerk

JAMES P. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

March 28, 1997

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MAR 31 1997

BUREAU OF
AIR REGULATION

Mr. Val Urban
Acting Refuge Manager
St. Marks National Wildlife Refuge
Post Office Box 68
St. Marks, FL 32355

Dear Mr. Urban:

On March 7, 1997, the City of Tallahassee submitted to the State of Florida Department of Environmental Protection (DEP) an Application for a proposed power plant addition to the existing Sam O. Purdom Generating Station in St. Marks, Florida. The City is proposing to add a new combined cycle combustion turbine, along with associated facilities, and to permanently shut down two of the existing units at the Purdom Generation Station to help minimize any environmental impacts.

The four-volume Application was submitted to DEP in accordance with Florida's Power Plant Siting Act (Part II of Chapter 403, Florida Statutes). You should have received a copy of the Application described above for review on March 25, 1997. As you may be aware, the Siting Act provides for a centralized environmental and land use licensing process that is coordinated by DEP. As part of the Application, therefore, the City addressed many different environmental and land use aspects of the proposed project.

The City welcomes all comments that you and your staff may have regarding the Application, but most specifically we would like your comments as to the expected impacts of the air emissions from the proposed project on the St. Marks National Wilderness Area. The Prevention of Significant Deterioration (PSD) air construction permit application is included as Appendix 10.1.5 of the Application, which describes the potential emissions from the proposed facility and the impacts of such emissions on the St. Marks National Wilderness Area. As shown in the Application, the project will not cause or contribute to any exceedances of the Ambient Air Quality Standards or PSD increments. In addition, as discussed in the Application, there should be no adverse impacts on Air Quality Related Values in the Class I areas.

In keeping with the schedule that has been established by DEP for receiving requests for additional information from the various state, local, and regional agencies reviewing the

Application, the City would greatly appreciate receiving any comments that the U.S. Fish and Wildlife Service may have on or before May 1, 1997. By receiving your comments on this schedule, the City will be able to coordinate its responses and provide any additional information to the various agencies reviewing the Application in a timely manner. Thank you in advance for your cooperation.

If you have any questions regarding the Application or will be unable to submit your comments by May 1, please contact me at (904) 892-8850.

Sincerely,



Jennette Curtis
Environmental Administrator

cc: Hamilton S. Oven, Jr.
Martin Costello
Rob McGarrah



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City Attorney
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City Auditor

March 28, 1997

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MAR 31 1997

BUREAU OF
AIR REGULATION

Mr. Andrew Colaninno
District Ranger
Apalachicola National Forest
U.S. Forest Service
Post Office Box 579
Bristol, Florida 32321

Dear Mr. Colaninno:

On March 7, 1997, the City of Tallahassee submitted to the State of Florida Department of Environmental Protection (DEP) an Application for a proposed power plant addition to the existing Sam O. Purdom Generating Station in St. Marks, Florida. The City is proposing to add a new combined cycle combustion turbine, along with associated facilities, and to permanently shut down two of the existing units at the Purdom Generation Station to help minimize any environmental impacts.

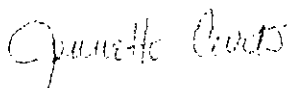
The four-volume Application was submitted to DEP in accordance with Florida's Power Plant Siting Act (Part II of Chapter 403, Florida Statutes). You should have received a copy of the Application described above for review on March 25, 1997. As you may be aware, the Siting Act provides for a centralized environmental and land use licensing process that is coordinated by DEP. As part of the Application, therefore, the City addressed many different environmental and land use aspects of the proposed project.

The City welcomes all comments that you and your staff may have regarding the Application, but most specifically we would like your comments as to the expected impacts of the air emissions from the proposed project on the Bradwell Bay National Wilderness Area within the Apalachicola National Forest. The Prevention of Significant Deterioration (PSD) air construction permit application is included as Appendix 10.1.5 of the Application, which describes the potential emissions from the proposed facility and the impacts of such emissions on the Bradwell Bay National Wilderness Area. As shown in the Application, the project will not cause or contribute to any exceedances of the Ambient Air Quality Standards or PSD increments. In addition, as discussed in the Application, there should be no adverse impacts on Air Quality Related Values in the Class I areas.

In keeping with the schedule that has been established by DEP for receiving requests for additional information from the various state, local, and regional agencies reviewing the Application, the City would greatly appreciate receiving any comments that the U.S. Forest Service may have on or before May 1, 1997. By receiving your comments on this schedule, the City will be able to coordinate its responses and provide any additional information to the various agencies reviewing the Application in a timely manner. Thank you in advance for your cooperation.

If you have any questions regarding the Application or will be unable to submit your comments by May 1, please contact me at (904) 892-8850.

Sincerely,



Jennette Curtis
Environmental Administrator

cc: Hamilton S. Oven, Jr.
Martin Costello
Rob McGarrah



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JAMES R. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

March 28, 1997

Mr. John Bunyak
Chief
Policy, Planning & Permit Review Branch
National Park Service
Post Office Box 25287
Denver, CO 80225-0287

RECEIVED

MAR 31 1997

BUREAU OF
AIR REGULATION

Dear Mr. Bunyak:

On March 7, 1997, the City of Tallahassee submitted to the State of Florida Department of Environmental Protection (DEP) Site Certification Application for a proposed power plant addition to the existing Sam O. Purdom Generating Station in St. Marks, Florida. The City is proposing to add a new combined cycle combustion turbine, along with associated facilities, and to permanently shut down two of the existing units at the Purdom Generation Station to help minimize any environmental impacts.

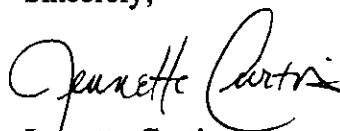
The Application was submitted to DEP in accordance with Florida's Power Plant Siting Act (Part II of Chapter 403, Florida Statutes), and included a Prevention of Significant Deterioration (PSD) air construction permit application as Appendix 10.1.5. We understand that DEP is sending you a copy of the PSD application for review, along with the air and fuel quality sections (Sections 3.3, 3.4, 4.5, 5.6, and 6.3). A copy of Appendix 10.4, which includes the existing permits for the Purdom Station, is also being sent to you. As you may be aware, the Siting Act provides for a centralized environmental and land use licensing process that is coordinated by DEP. As part of the Site Certification Application, therefore, the City addressed many different environmental and land use aspects of the proposed project.

The City would appreciate any comments that you or your staff may have regarding the expected impacts of the air emissions from the proposed project on the St. Marks National Wilderness Area. The PSD permit application describes the potential emissions from the proposed facility and the impacts of such emissions on the St. Marks National Wilderness Area. As shown in the application, the project will not cause or contribute to any exceedances of the Ambient Air Quality Standards or PSD increments. In addition, as discussed in the application, there should be no adverse impacts on Air Quality Related Values in the Class I areas.

In keeping with the schedule that has been established by DEP for receiving requests for additional information from the various state, local, and regional agencies reviewing the Application, the City would greatly appreciate receiving any comments that the U.S. Fish and wildlife Service may have on or before May 1, 1997. By receiving your comments on this schedule, the City will be able to coordinate its responses and provide any additional information to the various agencies reviewing the Application in a timely manner. Thank you in advance for your cooperation.

If you have any questions regarding the Application or will be unable to submit your comments by May 1, please contact me at (904) 891-8850.

Sincerely,

A handwritten signature in cursive script that reads "Jeannette Curtis". The signature is written in black ink and is positioned above the printed name.

Jeannette Curtis
Environmental Administrator

cc: Hamilton S. Oven, Jr.
Martin Costello
Rob McGarrah



Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
March 27, 1997

Virginia B. Wetherell
Secretary

Mr. Brian Beals, Section Chief
Air & Radiation Technology Branch
Preconstruction/HAP Section
U.S. EPA- Region IV
100 Alabama Street, SW
Atlanta, Georgia 30303

Re: City of Tallahassee
Application for PSD Permit
New Combined Cycle Unit (Unit 8)

Dear Mr. Beals:

Enclosed for your review and comment is the above referenced application. Please forward your comments to my attention at the letterhead address.

The applicant has proposed BACT limits for CO and particulate matter. The applicant proposes to avoid PSD for NO_x by committing to a permanent shutdown of two existing gas/oil fired boilers (Units 5 and 6) and the establishment of a facility-wide annual cap for NO_x to limit the net emissions increase (future emissions) to the previous 2 year average rate. The NO_x cap will include annual emissions from two existing combustion turbines (GT1 and GT2), a Subpart Dc auxiliary boiler (currently under construction), an existing gas/oil fired boiler (Unit 7), and the new Unit 8. Although the vendor guarantee for NO_x is 9 ppmvd for Unit 8, the applicant is requesting the limit in Subpart GG only since BACT is avoided.

If you have any questions, please contact me at (904)488-1344 or by electronic mail (COSTELLO_M@DEP.STATE.FL.US).

Sincerely,

Martin Costello, P.E.
New Source Review Section

AAL/mc

Enclosures

Memorandum

Florida Department of
Environmental Protection

TO: Power Plant Siting Review Committee
FROM: Buck Oven, Siting Coordination Office *HSD*
DATE: March 17, 1997
SUBJECT: Purdom Unit 8, PA 97-35, Module 8046

RECEIVED

MAR 17 1997

BUREAU OF
AIR REGULATION

Attached please find a copy of the City of Tallahassee's application for certification of a new generating system at the Purdom Power Plant. Please review and comment on the sufficiency of the application and return your comments no later than April 18, 1997.

Attach:

Memorandum

Florida Department of
Environmental Protection

TO: Power Plant Siting Review Committee
FROM: Buck Oven, Siting Coordination Office *HSO*
DATE: March 17, 1997
SUBJECT: Purdom Unit 8, PA 97-35, Module 8046

RECEIVED

MAR 17 1997

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AIR REGULATION

Attached please find a copy of the City of Tallahassee's application for certification of a new generating system at the Purdom Power Plant. Please review and comment on the sufficiency of the application and return your comments no later than April 18, 1997.

Attach:

RECEIVED

MAR 17 1997

BUREAU OF
AIR REGULATION

Memorandum

Florida Department of
Environmental Protection

TO: Power Plant Siting Review Committee
FROM: Buck Oven, Siting Coordination Office *HSD*
DATE: March 17, 1997
SUBJECT: Purdom Unit 8, PA 97-35, Module 8046

RECEIVED
MAR 17 1997
BUREAU OF
AIR REGULATION

Attached please find a copy of the City of Tallahassee's application for certification of a new generating system at the Purdom Power Plant. Please review and comment on the sufficiency of the application and return your comments no later than April 18, 1997.

Attach:



CITY HALL
300 S. ADAMS ST.
TALLAHASSEE, FL
32301-1731
904/891-8100
TDD 1-800/955-8771

RON WEAVER
Mayor
SCOTT MADDOX
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
DEBBIE LIGHTSEY
Commissioner
STEVE MEISBURG
Commissioner

STEVEN C. BURKETT
City Manager
ROBERT B. INZER
City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

March 7, 1997

Mr. Cleve Holladay
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

RECEIVED
MAR 7 1997
BUREAU OF
AIR REGULATION

Dear Mr. Holladay:

Subject: City of Tallahassee
Purdum Unit 8 Project
Air Quality Dispersion Modelling Files

Please find enclosed two packages of 3.5" disks containing the air quality dispersion modelling files which support the PSD application for the subject Project. The application is being filed today under separate cover with Mr. Hamilton Oven. Also enclosed are explanations of the file naming conventions utilized for the dispersion modelling files and hard copy listings of the contents of each of the disks.

Should you have any questions on the disks, please feel free to call me at (904) 891-8850, or you may call Mr. Mike Bilello, of Foster Wheeler Environmental, directly at (770) 825-7143. Should you need paper copies of any of the model runs, we would be happy to provide them.

Sincerely,

Jennette Curtis
Environmental Administrator

Enclosure

cc.(w/o enc.)

H. Oven (FDEP)
R. McGarrah (COT)
K. Bauer (COT)
A. Morrison (HGSS)
D. Fulle (FWENC)
M. Bilello (FWENC)
File 363.501, 363.511, 363.705



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RICARDO FERNANDEZ
City Auditor

February 6, 1997

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CLAIR

FEB 12 1997

al

BUREAU OF
AIR REGULATION

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FEB 12 1997

DIVISION OF AIR
RESOURCES MANAGEMENT

CERTIFIED MAIL

Mr. Howard Rhodes, Director
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Mail Stop 5500
Tallahassee, Florida 32399-2400

Dear Mr. Rhodes:

**Commencement of Construction Notification
Auxiliary Boiler - Construction Permit No. 1290001-002-AC
Sam O. Purdom Generating Station**

This letter is being provided to inform you of the commencement of construction date in accordance with Chapter 40 of the Code of Federal Regulations (CFR) Part 60.7(a), as adopted by reference in 62-204.800, Florida Administrative Code (FAC). The City of Tallahassee commenced construction on January 7, 1997, on the above-referenced emission unit at the Sam O. Purdom Generating Station located at 667 Port Leon Drive, St. Marks, Wakulla County, Florida. The emission unit being constructed is a 16.74 million British thermal units per hour (mmBtu/hr) natural gas-fired auxiliary boiler subject to regulation under 40 CFR Part 60, Subpart Dc, as adopted by reference in 62-204.800, FAC.

If you have any questions regarding this commencement notification, please feel free to contact either myself at (904) 891-5534 or Ms. Jennette Curtis at (904) 891-8850.

Yours Truly,

Robert McGarrah, Superintendent
Electric Production Division

cc: Winston A. Smith, Director, EPA Region IV
B. Cowart, COT
G. King, COT
J. Curtis, COT

cc: C. Holladay, BAR



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JAMES R. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

Certified Mail No. P230 286 990

January 22, 1997

Mr. Hamilton S. Oven, Jr.
Siting Coordination Office
Department of Environmental Protection
2600 Blair Stone Road MS480
Tallahassee, FL 32399

Dear Mr. Oven:

Subject: Purdom Unit 8 Project
Revised Attachment 3 to my January 9, 1997 Letter

Attached please find a revised Attachment 3 to my January 9, 1997 letter to you regarding "Follow-up on Air Quality Approach." Messrs. Doug Fulle and Mike Bilello, of Foster Wheeler Environmental, have been discussing the letter and attachments with Mr. Cleve Holladay of FDEP's Air Division. During those conversations it was discovered that the preliminary air quality modelling at the St. Marks Class I area used to support Attachment 3 was inadvertently done using the proposed Unit 8 emissions rather than the proposed net increase in emissions. Revised modelling using the proper emissions has been done which indicates that only carbon monoxide will have a maximum 24-hour average impact in the Class I area of greater than 1 ug/m^3 . Therefore, it is only for carbon monoxide that the PSD significance criterion in Table 62-212.400-2 does not apply. The Applicable PSD Significance criteria for NO_x , SO_2 , Particulate Matter and PM_{10} revert back to the values in Table 62-212.400-2. These changes are reflected in the revised Attachment 3.

Please note that this change has no effect whatsoever on the pollutants subject to PSD, as indicated in the revised Attachment 3. These pollutants remain carbon monoxide, particulate matter (both TSP and PM_{10}), and fluorides.

RECEIVED

FEB 04 1997

BUREAU OF
AIR REGULATION

Should you have any questions, please feel free to call me at (904) 891-8850.

Sincerely,



Jennette Curtis
Environmental Administrator

Attachment

JC/ns

cc: ✓ A. Linero (FDEP)
V. Urban (USFWS)
E. Porter (USFWS)
A. Colaninno (USFS)
D. Wergowske (USFS)
D. Fulle (FWENC)
R. McGarrath (COT)
K. Bauer (COT)
F. Michel (RE&C)
A. Morrison (HGSS)
M. Bilello (FWENC)
D. Graziani (FWENC)
File 363.501, .511, .705

cc: Holladay
Costello

**REVISED ATTACHMENT 3
PURDOM PROJECT
PSD APPLICABILITY SUMMARY**

Pollutant	Net Increase in Emissions (tons/year)	Table 212.400-2 PSD Significance Criterion (tons/year)	Applicable PSD Significance Criterion (tons/year)	PSD Applicability Determination
Carbon Monoxide	127	100	0*	yes
Nitrogen Oxides	0	40	40	no
Sulfur Dioxide	0	40	40	no
Ozone (VOCs)	12	40	40	no
Particulate Matter	48	25	25	yes
Particulate Matter (PM ₁₀)	48	15	15	yes
Total Reduced Sulfur	NA	10	10	no
Reduced Sulfur Compounds	NA	10	10	no
Sulfuric Acid Mist	5.6	7	7	no
Fluorides	9.4	3	3	yes
Vinyl Chloride	NA	1	1	no
Lead	0.080	0.6	0.6	no
Mercury	0.0004	0.1	0.1	no
Asbestos	NA	0.007	0.007	no
Beryllium	0.00022	0.0004	0.0004	no

NA - No emissions information available or no emissions expected.

* Due to the proximity to the Class I area, lower criteria apply for those pollutants with a maximum projected 24-hour average impact of 1.0 microgram per cubic meter or more in the Class I area.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

WASHINGTON, D.C. 20240



ADDRESS ONLY THE DIRECTOR,
FISH AND WILDLIFE SERVICE

January 21, 1997

DEPARTMENT OF
ENVIRONMENTAL PROTECTION

JAN 26 1997

SITING COORDINATION

Mr. Hamilton S. Oven
Siting Coordination Office
Florida Department of Environmental Regulation
2600 Blair Stone Road, MS 480
Tallahassee, Florida 32399-2400

Dear Mr. Oven:

We have reviewed our copy of the January 9 letter from Ms. Jennette Curtis, City of Tallahassee, to you regarding the Purdom Unit 8 Project. We agree with Ms. Curtis that a regional haze analysis should not be required for this project. In addition, we agree that, in this case, the observer point for the VISCREEN analysis may be placed at the St. Marks Lighthouse.

If you have questions, please call me at (303) 969-2617.

Sincerely,

Ellen M. Porter
Environmental Specialist

cc:

Dave Wergowske
Air Resources Specialist
USDA Forest Service
2946 Chestnut St.
Montgomery, Alabama 36107

Ms. Jennette Curtis
City Hall
300 S. Adams St.
Tallahassee, Florida 32301-1731

cc: Cleve Halladay
Marty Costello



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Certified Mail No. P230 286 990

January 22, 1997

Mr. Hamilton S. Oven, Jr.
Siting Coordination Office
Department of Environmental Protection
2600 Blair Stone Road MS480
Tallahassee, FL 32399

Dear Mr. Oven:

Subject: Purdom Unit 8 Project
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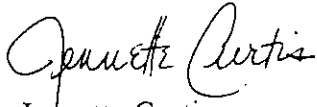
RECEIVED

FEB 04 1997

BUREAU OF
AIR REGULATION

Should you have any questions, please feel free to call me at (904) 891-8850.

Sincerely,



Jannette Curtis
Environmental Administrator

Attachment

JC/ns

cc: ✓ A. Linero (FDEP)
V. Urban (USFWS)
E. Porter (USFWS)
A. Colaninno (USFS)
D. Wergowske (USFS)
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File 363.501, .511, .705

cc: Holladay
Costello

REVISED ATTACHMENT 3
PURDOM PROJECT
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Sulfur Dioxide	0	40	40	no
Ozone (VOCs)	12	40	40	no
Particulate Matter	48	25	25	yes
Particulate Matter (PM ₁₀)	48	15	15	yes
Total Reduced Sulfur	NA	10	10	no
Reduced Sulfur Compounds	NA	10	10	no
Sulfuric Acid Mist	5.6	7	7	no
Fluorides	9.4	3	3	yes
Vinyl Chloride	NA	1	1	no
Lead	0.080	0.6	0.6	no
Mercury	0.0004	0.1	0.1	no
Asbestos	NA	0.007	0.007	no
Beryllium	0.00022	0.0004	0.0004	no

NA - No emissions information available or no emissions expected.

* Due to the proximity to the Class I area, lower criteria apply for those pollutants with a maximum projected 24-hour average impact of 1.0 microgram per cubic meter or more in the Class I area.



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City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

Hand Delivered

January 9, 1997

Mr. Hamilton S. Oven, Jr.
Siting Coordination Office
Department of Environmental Protection
2600 Blair Stone Road MS480
Tallahassee, FL 32399

RECEIVED

JAN 09 1997

**BUREAU OF
AIR REGULATION**

Dear Mr. Oven:

Subject: Purdom Unit 8 Project
Follow-up on Air Quality Approach

The purpose of this letter is to follow up on our meeting of September 25, 1996 at which we discussed our proposed air quality permitting approach to the Purdom Unit 8 Project. As you recall, we discussed the Project status, our Best Available Control Technology (BACT) and air quality modelling approaches, our plan to maintain annual emissions of SO₂ and NO_x the same as recent actuals through a "facility-wide cap," our expectations regarding increases in other pollutants, and obtained input regarding the air quality concerns of the Department of Environmental Protection (DEP), the U. S. Fish & Wildlife Service, and the U. S. Forest Service. We agreed at the meeting to provide more definitive emissions information for the Project as soon as it became available in order to allow DEP and the Federal Land Managers' (FLMs') representatives to make a final determination regarding the air quality analyses which would be required in the SCA/PSD/Title V application. This letter provides that emissions information, requests concurrence regarding the lack of need for a regional haze modelling analysis, and requests concurrence with our plan to conduct visible plume modelling within the St. Marks Wilderness Area Class I Area at a point near the St. Marks Lighthouse.

A summary of the existing emissions from the Purdom Plant was provided in Table 1-1 of the Preliminary Plan of Study dated September 10, 1996 and was revised slightly in the Final Plan of Study dated November 4, 1996. Since then there have been a few additional minor revisions in the existing emissions values due to reevaluations of some of the assumptions regarding emission factors, corrections of mathematical errors, etc. These changes have been made in an attempt to obtain the most accurate emission estimates possible. Our current estimates of the existing emissions from the Purdom Plant are contained in Attachment 1 (Revision 2 to Table 1-1 from the Plan of Study). A comparison with those in the Preliminary and Final Plans of Study will reveal that the changes from the earlier versions are not substantial.

The estimates of emissions from the proposed Project have taken some time to develop due to the "facility-wide cap" as well as the desire to maintain maximum fuel and unit operational flexibility within the restrictions of the cap. Further, there were delays in obtaining final emissions data from the combustion turbine vendor and from the cooling tower vendor. Finally, it was necessary to develop a series of operating scenarios for Unit 8, Unit 7, the existing combustion turbines (GT1 and GT2), the auxiliary boiler, and the cooling tower to identify the "worst-case" emissions on a pollutant by pollutant basis. Thus, it has taken us longer than anticipated to identify the emissions levels. However, the final emission levels have been identified and are presented in Attachment 2.

As you know, the determination of which pollutants trigger PSD for a major modification of a major stationary source is determined by whether the increases in emissions are "significant." Significance is determined by the values in Table 212.400 -2 of Rule 62-212.400 F.A.C. unless the increases would be at a source within 10 km of a Class I area and the increase would cause an impact in the Class I area of 1.0 ug/m^3 or more on a 24-hour average basis. The net increases in emissions (i.e., the difference between Attachment 1 and Attachment 2) as well as the appropriate significance criterion have been examined for each of the PSD regulated pollutants and the results are presented in Attachment 3. As indicated, there will be no net increase in emissions of SO_2 , NO_x , asbestos, vinyl chloride, reduced sulfur compounds, and total reduced sulfur. There will be net increases in emissions of VOCs, Pb, Be, Hg, and sulfuric acid mist, but they will not be significant. Finally, there will be significant net increases for PM, PM_{10} , CO, and fluorides. Thus, formal PSD review will be triggered by the proposed modification only for these four pollutants.

It was indicated at the September 25, 1996 meeting that the determination of whether a regional haze type visibility analysis would be requested by the U. S. Fish & Wildlife Service hinged on the net increase in emissions of particulates. As indicated in Attachment 3, the maximum net increase in particulate matter emissions is estimated to be 48 tons/yr, approximately 10.5 tons/yr of which is estimated to come from the cooling tower. We believe that this increase in particulate emissions is minor, especially since the cooling tower emissions are for the most part likely to be deposited with the drift droplets close to the source. Therefore, we request your concurrence that a regional haze analysis is not required.

Also with respect to visibility, a visible plume analysis is planned, as indicated in the Plan of Study and Modelling Protocol. This will be done using the VISCREEN model. As requested by the FLM's representative, a background visual range of 65 km will be used in the analysis as one of the input parameters. Another required input parameter is the minimum distance to the Class I area. As this distance is so small in this case (0.6 km), it is requested that the distance from the Plant to a point near the St. Marks Lighthouse (9.6 km) be used instead. We believe that this location is really the closest vantage point from within the St. Marks Wilderness Area from which people would actually be able to see toward the Plant. As requested by the U.S. Forest Service, a VISCREEN analysis will also be conducted for the Bradwell Bay Wilderness Area.

Mr. Hamilton S. Oven, Jr.
January 9, 1997
Page 3

For your information, a monitoring exemption request covering the PSD triggered pollutants (PM, PM₁₀, CO, and fluorides) is being prepared in accordance with Rule 62-212.400(3)(e). It will be submitted separately, but will indicate that preconstruction monitoring is not indicated for any of these pollutants.

Due to our pressing schedule, we are proceeding with the air quality analyses in accordance with the approaches outlined above. If you do not concur with these approaches, please let us know as soon as possible, preferably by January 17, 1997. Should you have any questions on this letter, please call me at (904) 891-8850.

Sincerely,



Jennette Curtis
Environmental Administrator

Attachments

cc: ✓ A. Linero (FDEP)
J. White (USFWS)
E. Porter (USFWS)
A. Colaninno (USFS)
D. Wergowske (USFS)
D. Fulle (FWENC)
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A. Morrison (HGSS)
M. Bilello (FWENC)
D. Graziani (FWENC)
File 363.501
File 363.511
File 363.705

cc: C. Holladay

ATTACHMENT 1 - REV 2 OF TABLE 1-1

TABLE 1-1
Recent Air Pollutant Emissions (Allowables and Actuals)^(1,2)
(tons/year)

Pollutant	UNIT 5				UNIT 6				UNIT 7				GTI & GTL ^(3,4)				UNITS 5, 6, 7 & GTIs	
	Actual Fuel Oil	Actual Nat. Gas	Actual Totals	Allowable Totals ⁽⁵⁾	Actual Fuel Oil	Actual Nat. Gas	Actual Totals	Allowable Totals ⁽⁵⁾	Actual Fuel Oil	Actual Nat. Gas	Actual Totals	Allowable Totals ⁽⁵⁾	Actual Fuel Oil	Actual Nat. Gas	Actual Totals	Allowable Totals ⁽⁵⁾	Actual Totals	Allowable Totals ⁽⁵⁾
Particulate Matter ^(1,6)	0.01	1.24	1.25	164.30	0.17	1.22	1.39	164.30	2.30	5.28	7.58	340.00	0.04	0.46	0.50	NR	10.72	668.60 ⁽¹⁷⁾
PM ₁₀	0.01	1.24	1.25	164.30	0.17	1.22	1.39	164.30	2.30	5.28	7.58	340.00	0.04	0.46	0.50	NR	10.72	668.60 ⁽¹⁷⁾
Sulfur Dioxide ⁽⁹⁾	0.30	0.22	0.52	1710.00 ⁽⁶⁾	3.53	0.22	3.75	1710.00 ⁽⁶⁾	74.60	0.93	75.53	5100.00	0.23	0.01	0.24	687.61	80.04	9207.61
Nitrogen Oxides ⁽⁶⁾	0.05	68.08	68.13	NR	1.44	139.22	140.66	NR	0 ⁽⁹⁾	0 ⁽⁹⁾	251.24	NR	0.50	6.86	7.36	NR	467.39	NR
Carbon Monoxide ⁽⁷⁾	0.01	9.90	9.91	NR	0.11	10.13	10.24	NR	2.24	42.24	44.48	NR	0.03	1.71	1.74	NR	66.37	NR
Volatile Organic Compounds ⁽⁸⁾	0.00	0.29	0.29	NR	0.02	0.30	0.32	NR	0.34	1.49	1.83	NR	0.01	0.37	0.38	NR	2.52	NR
Lead ⁽⁹⁾	3.3E-5	NA	3.3E-5	NR	0.001	NA	0.001	NR	0.01	NA	0.01	NR	0.00	N/A	0.00	NR	0.011	NR
Asbestos	NA	NA	NA	NR	NA	NA	NA	NR	NA	NA	NA	NR	N/A	N/A	N/A	NR	NA	NR
Beryllium ⁽¹⁰⁾	0.00	NA	0.00	NR	0.00	NA	0.00	NR	0.0003	NA	0.0003	NR	0.00	N/A	0.00	NR	0.0003	NR
Mercury ⁽¹¹⁾	5.4E-6	1.9E-7	5.6E-6	NR	1.0E-4	2.0E-7	1.0E-4	NR	0.002	8.2E-7	0.002	NR	6.59E-07	1.2E-08	6.66E-07	NR	0.002	NR
Vinyl Chloride	NA	NA	NA	NR	NA	NA	NA	NR	NA	NA	NA	NR	NA	NA	NA	NR	NA	NR
Fluorides ⁽¹²⁾	0.001	NA	0.001	NR	0.02	NA	0.02	NR	0.38	NA	0.38	NR	NA	NA	NA	NR	0.40	NR
Sulfuric Acid Mist ⁽¹³⁾	0.01	0.03	0.04	NR	0.13	0.03	0.16	NR	2.71	0.11	2.82	NR	NA	NA	NA	NR	3.02	NR
Hydrogen Sulfide	NA	NA	NA	NR	NA	NA	NA	NR	NA	NA	NA	NR	NA	NA	NA	NR	NA	NR
Total Reduced Sulfur	NA	NA	NA	NR	NA	NA	NA	NR	NA	NA	NA	NR	NA	NA	NA	NR	NA	NR
Reduced Sulfur Compounds	NA	NA	NA	NR	NA	NA	NA	NR	NA	NA	NA	NR	NA	NA	NA	NR	NA	NR

Period of Record: August 1994-July 1996. All actual fuel usage data for Units 5 and 6 and data through March 1995 for Unit 7 is obtained from monthly generation reports. Fuel usage data for Unit 7 after March 1995 is based on CEMS.

NR - No restrictions

NA - No emissions information available or no emissions expected.

⁽¹⁾ Allowable totals based on emissions limitations contained in State of Florida Permit Number A065-242831 and A065-242827

⁽²⁾ It is assumed that all PM emissions are that of PM₁₀.

⁽³⁾ Actual PM emissions from the boilers for fuel oil are based on the most recent PM test results during both normal and sootblowing operations and actual fuel usage. PM emission from the boilers for natural gas are based on an AP-42 factor and actual fuel usage.

⁽⁴⁾ Allowable SO₂ emissions based on requested SO₂ emissions limitation of 1.3 lb/mmBtu.

⁽⁵⁾ Actual SO₂ emissions for fuel oil are based on an AP-42 formula, percent sulfur in the fuel oil (as-burned analyses for the boilers) and actual fuel usage. SO₂ emissions for natural gas are based on the sulfur content (FGT data) and the actual natural gas usage.

⁽⁶⁾ Actual NO_x emissions for fuel oil and natural gas for Units 5 and 6 are based on an AP-42 factor and actual fuel usage. NO_x emissions for Unit 7 are based on CEMS lb/mmBtu data and total actual fuel usage.

⁽⁷⁾ Actual CO emissions are based on AP-42 factors and actual fuel usage.

⁽⁸⁾ Actual VOC emissions are based on AP-42 factors and actual fuel usage.

⁽⁹⁾ Actual lead emissions are based on AP-42 factors and actual fuel usage.

⁽¹⁰⁾ Actual beryllium emissions are based on AP-42 factors and actual fuel usage.

⁽¹¹⁾ Actual mercury emissions for fuel oil are based on AP-42 factors and actual fuel usage. Actual mercury emissions for natural gas are based on an EPRI factor (no AP-42 factor available) and actual fuel usage.

⁽¹²⁾ Actual fluoride emissions for boilers are based on available FCG factors (no AP-42 factor available) for hydrogen fluoride and actual fuel usage.

⁽¹³⁾ Actual sulfuric acid mist emissions for boilers on fuel oil are based on the AP-42 factor for sulfur trioxide and actual fuel usage; actual sulfuric acid mist emission for boilers on natural gas are based on ten percent of sulfur dioxide and actual fuel usage.

⁽¹⁴⁾ Actual emissions are based on current estimates and emission factors which are subject to change.

⁽¹⁵⁾ The CEMS data on which actual NO_x emissions are based does not distinguish between oil and natural gas consumption.

⁽¹⁶⁾ Actual fuel oil and natural gas emission rate values reflect the sum of emissions from both combustion turbines.

⁽¹⁷⁾ Actual emissions are based on AP-42 factors and actual fuel usage.

⁽¹⁸⁾ Allowable totals shown do not include the particulate emissions from the two combustion turbines since Permit A065-242827 has no limit for particulates.

**ATTACHMENT 2
PURDOM PROJECT
WORST-CASE ANNUAL POLLUTANT EMISSION RATES
(UNIT 7, UNIT 8, GT1, GT2, COOLING TOWER AND AUX BOILER)**

Pollutant	Annual Emissions (tons/year)	Scenario
Carbon Monoxide	194	9
Nitrogen Oxides	467	7
Sulfur Dioxide	80	6
Ozone (VOCs)	15.1	9
Particulate Matter	59.1	4
Particulate Matter (PM ₁₀)	59.1	4
Total Reduced Sulfur	NA	NA
Reduced Sulfur Compounds	NA	NA
Sulfuric Acid Mist	8.7	2
Fluorides	9.8	2
Vinyl Chloride	NA	NA
Lead	0.091	2
Mercury	0.0024	2
Asbestos	NA	NA
Beryllium	0.00052	2

NA - No emissions information available or no emissions expected.

Scenario 1	Unit 8 as controlling unit, operating 8,760 hours on natural gas/Unit 7 firing #6 oil SO ₂ limit 1.87 lb/mmBtu (Unit 7 hours limited by SO ₂ cap)
Scenario 2	Unit 8 as controlling unit, operating max hours on #2 fuel oil/no operation of Unit 7 (Unit 8 hours limited by SO ₂ cap)
Scenario 3	Unit 7 as controlling unit, max hours on #6 fuel oil 1.87 lb/mmBtu/no operation of Unit 8 (Unit 7 hours limited by SO ₂ cap)
Scenario 4	Unit 8 as controlling unit, operating 8,760 hours on natural gas/Unit 7 operating on #6 oil assume typical S content (approx 0.95 lb/mmBtu) (Unit 7 hours limited by SO ₂ cap)
Scenario 5	Unit 8 as controlling unit, operating 8,760 hours on natural gas/Unit 7 operation on natural gas (Unit 7 hours limited by NO _x cap)
Scenario 6	Unit 7 as controlling unit, max hours on #6 fuel oil assume typical S content (approx 0.95 lb/mmBtu)/ no operation of Unit 8 (Unit 7 hours limited by SO ₂ cap)
Scenario 7	Unit 7 as controlling unit, max hours on natural gas/ no operation of Unit 8 (Unit 7 hours limited by NO _x cap)
Scenario 8	Unit 8 as controlling unit, operating 8,260 hours on natural gas & 500 hr on #2 Oil/Unit 7 on #6 oil typical S content 1% (approx 0.95 lb/mmBtu) (Unit 7 hours limited by SO ₂ cap)
Scenario 9	Unit 8 as controlling unit, operating 8,260 hours on natural gas & 500 hr on #2 oil/Unit 7 on natural gas (Unit 7 hours limited by NO _x cap)
Scenario 10	Unit 8 as controlling unit, operating 7,021 hrs on natural gas & 425 hr on #2 oil/Unit 7 on #6 oil assume typical S content 1% (approx 0.95 lb/mmBtu) (Unit 7 hours limited by SO ₂ cap)
Scenario 11	Unit 8 as controlling unit (85% cap.) operating 7,021 hours on natural gas & 425 hr on #2 oil/Unit 7 on natural gas (Unit 7 hours limited by NO _x cap)

**ATTACHMENT 3
PURDOM PROJECT
PSD APPLICABILITY SUMMARY**

Pollutant	Net Increase in Emissions (tons/year)	Table 212.400-2 PSD Significance Criterion (tons/year)	Applicable PSD Significance Criterion (tons/year)	PSD Applicability Determination
Carbon Monoxide	127	100	0*	yes
Nitrogen Oxides	0	40	0*	no
Sulfur Dioxide	0	40	0*	no
Ozone (VOCs)	12	40	40	no
Particulate Matter	48	25	0*	yes
Particulate Matter (PM ₁₀)	48	15	0*	yes
Total Reduced Sulfur	NA	10	10	no
Reduced Sulfur Compounds	NA	10	10	no
Sulfuric Acid Mist	5.6	7	7	no
Fluorides	9.4	3	3	yes
Vinyl Chloride	NA	1	1	no
Lead	0.080	0.6	0.6	no
Mercury	0.0004	0.1	0.1	no
Asbestos	NA	0.007	0.007	no
Beryllium	0.00022	0.0004	0.0004	no

NA - No emissions information available or no emissions expected.

* Due to the proximity to the Class I area, lower criteria apply for those pollutants with a maximum projected 24-hour average impact of 1.0 microgram per cubic meter or more in the Class I area.



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Mayor Pro Tem

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City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

Certified Mail No. P230 286 989

January 15, 1997

Mr. Hamilton S. Oven, Jr.
Siting Coordination Office
Department of Environmental Protection
2600 Blair Stone Road MS480
Tallahassee, FL 32399

RECEIVED
 JAN 21 1997
 BUREAU OF
 AIR REGULATION

Dear Mr. Oven:

Subject: Purdom Unit 8 Project
Monitoring Exemption Request

As indicated in my letter to you dated January 9, 1997, the City of Tallahassee has had a preliminary air quality impact analysis conducted in support of a monitoring exemption request for the subject project. The analysis and the request for an exemption from the pre- and post-construction monitoring requirements of Rules 62-212.400(5)(f) and (g) F.A.C., respectively, as allowed under Rule 62-212.400(3)(e) F.A.C., are attached.

Please provide a written response to this request by the end of January, if possible. If a decision on post-construction monitoring cannot be made at this time, we would appreciate a timely decision on the pre-construction monitoring. Should you have any questions, please feel free to call me at (904) 891-8850.

Sincerely,

Jennette Curtis
Environmental Administrator

Attachment

JC/ns

cc: A. Linero (FDEP)
V. Urban (USFWS)
E. Porter (USFWS)
A. Colaninno (USFS)
D. Wergowske (USFS)
D. Fulle (FWENC)
R. McGarrah (COT)
K. Bauer (COT)

F. Michel (RE&C)
A. Morrison (HGSS)
M. Bilello (FWENC)
D. Graziani (FWENC)
File 363.501
File 363.511
File 363.705

cc: C. Holladay

OVENLTR.DOC/1/15/97

MONITORING EXEMPTION REQUEST

Preliminary Air Quality Modelling Assessment

In order to determine if the proposed project's impacts would be insignificant and therefore be eligible for pre- and post-construction monitoring exemptions under the Prevention of Significant Deterioration (PSD) rules (Rule 62-212.400(3)(e) F.A.C.), a modelling analysis was conducted. This analysis used procedures described in the Environmental Protection Agency's (EPA's) New Source Review Workshop Manual (Draft) (EPA 1990), as well as the project-specific modelling procedures and protocol accepted by the Florida Department of Environmental Protection (FDEP). The approach and results are described in the following paragraphs.

The Purdom site was determined to be a "rural" area for modelling based upon the technique for urban/rural determinations as documented in the EPA Guideline on Air Quality Models (EPA, 1996). The Industrial Source Complex - Short Term 3 (ISCST3) dispersion model, as described in a User's Guide (EPA 1995), was selected for application in the air quality impact analysis used to identify the need for monitoring. Version 96113 of ISCST3, downloaded from the EPA bulletin board, was used. Because of the general lack of variation in site elevation, the flat terrain option of the ISCST3 model was utilized. The regulatory default mode was also used. The ISCST3 model was used to determine the highest concentrations and the period of occurrence for 1-hour, 3-hour, 8-hour, 24-hour, and annual averaging periods at each of 632 receptors for each full year of hourly meteorological data used. Tallahassee surface and Apalachicola upper air meteorological data, supplied by the FDEP, for the years 1985-1989 were utilized.

Ambient concentrations were predicted for receptors in a polar grid consisting of 36 radial directions at 10 degree intervals at distances listed below (in kilometers) from the origin, the proposed Unit 8 stack location (UTM coordinates 769.611 km east, 3339.767 km north):

0.5	2.5	4.5	7.0
1.0	3.0	5.0	8.0
1.5	3.5	5.5	9.0
2.0	4.0	6.0	10.0

Receptors within the project site boundaries were not included but additional receptors were placed around the site boundary. Figure 1 presents the location of the preliminary modelling receptors.

A comparison of the Unit 8 stack with that allowed by the Good Engineering Practice (GEP) stack height regulations (Rule 62-210.550 F.A.C.) was made. The EPA Building Profile Input Program (BPIP) software program (EPA, 1995a) was used for this purpose and to provide building induced downwash parameters to the ISCST3 model. All the major existing and proposed structures at the Purdom site were included in the analysis. The proposed Unit 8 stack height of 60.97 meters was found to be above the calculated GEP height of 60.0 meters and within the allowable GEP height of 65 meters determined by the BPIP program and therefore in compliance with the FDEP stack height policy.

Cavity calculations were performed for the existing Unit 7, the two existing combustion turbines (GT1/GT2), and the new auxiliary boiler using the SCREEN3 Model. Cavity calculations were

Purdom Unit 8

not appropriate for Unit 8, as its stack will be GEP. The results indicate that the critical wind speed is greater than 20 m/s for Unit 7 and the existing GT1/GT2, and the model sets the cavity concentration to zero. The new auxiliary boiler will have a cavity which can extend 9 meters out from any side of the building, depending on the wind direction. The auxiliary boiler will be approximately 11 meters from the nearest site boundary.

In order to determine the "worst case" conditions, preliminary modelling runs were conducted using one year of meteorology at three ambient temperatures (95°F, 59°F, and 20°F) and three loads (100%, 75%, and 50%) for both natural gas and fuel oil. Thus, there were a total of 18 preliminary modelling runs conducted using the 1985 meteorological data set. Only Unit 8 was included in these preliminary runs. A summary of the preliminary modelling runs is presented in Table 1. As a result of these preliminary runs, it was determined that the 20°F at 50% load firing fuel oil case for Unit 8 produced the "worst case" impacts for all short-term averaging periods and pollutants.

In accordance with Rule 62-212.400(2)(f)3, F.A.C., only pollutants for which the net increase in emissions exceed certain applicability thresholds are subject to PSD preconstruction review (including the preconstruction air quality monitoring). The net changes in emissions for this project were determined and are presented in Table 2, along with the applicable thresholds. Based on these results, it was determined that only particulate matter (both PM and PM₁₀), carbon monoxide (CO) and fluorides (Fl) trigger PSD. For this application, emissions of PM (total suspended particulates) and particulate matter less than 10 microns in diameter (PM₁₀) were considered to be equal. As a result of this analysis, the remainder of this monitoring exemption request is restricted to PM₁₀, CO, and Fl. (There is no monitoring de minimus level for PM (TSP)).

After the "worst case" temperature/load condition was determined for Unit 8, the proposed project (including the retirement of Units 5 & 6) was modelled using all applicable sources on site. The net change in emission rates associated with the modification were determined by subtracting the current actual emission rates (Aug 1994 - Jul 1996) from the future emission rates. A summary of unit specific emission rates is included as Attachment 1. Each of the pollutants was modelled using five years of meteorological data and the receptors indicated in Figure 1. Table 3 presents the results of this preliminary modelling.

As indicated in the modelling protocol, an additional refined receptor grid was added, centered on the receptor which contained the highest predicted impact from the preliminary modelling runs. This refined grid contained 121 receptors spaced at 0.1 km. Figures 2 and 3 depict the locations of these receptors along with the original receptors.

These more refined receptor grids were used with the year of meteorological data which produced the highest preliminary impact. The "worst case" load and ambient temperature combinations described above were also used in the refined analysis. The results are presented in Table 4.

Monitoring Exemption Request

As indicated in Table 4, the maximum modelled ambient impacts of the project are below the monitoring de minimus levels, which indicates that pre- and post-construction monitoring exemptions for PM₁₀, CO, and FI should be granted in accordance with Rule 62-212.400(3)(e), F.A.C.

References

- U.S. Environmental Protection Agency. 1996. Guideline on Air Quality Models. 40 CFR51 Appendix W. Office of Air Quality Planning and Standards. Research Triangle Park, NC.
- U.S. Environmental Protection Agency. 1990. Draft New Source Review Workshop Manual. Office of Air Quality Planning and Standards. Research Triangle Park, NC.
- U.S. Environmental Protection Agency. 1995. Users Guide for the Industrial Source Complex (ISC3) Dispersion Models. Volumes I. EPA 4541B-95-003 a-b. Office of Air Quality Planning and Standards. Research Triangle Park, NC.
- U.S. Environmental Protection Agency. 1995a. Users Guide Profile Input Program (Revised Feb. 8, 1995). EPA 454/R-93-038. Office of Air Quality Planning and Standards. Research Triangle Park, NC.

Purdom Unit 8

**TABLE 1
PURDOM UNIT 8 PRELIMINARY MODELLING RESULTS USING 1985 MET DATA**

Fuel	Load (%)	Temp (°F)	Maximum NO ₂ (µg/m ³) Annual	Maximum SO ₂ (µg/m ³)			Maximum CO (µg/m ³)		Maximum PM ₁₀ (µg/m ³)	
				3-Hour	24-Hour	Annual	1-Hour	8-Hour	24-Hour	Annual
Natural Gas	100	95	0.06	0.26	0.06	0.005	4.3	0.9	0.14	0.010
Natural Gas	100	59	0.06	0.28	0.06	0.005	4.7	1.0	0.14	0.010
Natural Gas	100	20	0.06	0.29	0.07	0.005	5.0	1.1	0.14	0.009
Natural Gas	75	95	0.06	0.24	0.06	0.005	4.5	1.0	0.17	0.012
Natural Gas	75	59	0.06	0.25	0.06	0.005	4.9	1.1	0.17	0.012
Natural Gas	75	20	0.07	0.27	0.07	0.005	5.3	1.1	0.17	0.012
Natural Gas	≈55	95	0.06	0.30	0.06	0.005	12.1	2.6	0.21	0.015
Natural Gas	50	59	0.06	0.28	0.06	0.005	12.8	2.8	0.21	0.015
Natural Gas	50	20	0.07	0.32	0.07	0.005	13.6	2.9	0.21	0.016
Fuel Oil	100	95	0.26	5.0	1.3	0.08	14.1	3.0	0.26	0.02
Fuel Oil	100	59	0.30	5.5	1.4	0.09	15.4	3.2	0.26	0.02
Fuel Oil	100	20	0.31	6.3	1.4	0.10	16.7	3.1	0.22	0.02
Fuel Oil	75	95	0.30	4.5	1.2	0.09	17.6	3.7	0.30	0.02
Fuel Oil	75	59	0.34	5.0	1.3	0.10	18.1	3.8	0.30	0.02
Fuel Oil	75	20	0.36	5.4	1.4	0.10	18.9	3.9	0.30	0.02
Fuel Oil	50	95	0.29	4.0	1.2	0.09	34.9	8.7	0.39	0.03
Fuel Oil	50	59	0.33	5.9	1.3	0.10	45.4	9.3	0.38	0.03
Fuel Oil	50	20	0.37	6.3	1.4	0.11	46.4	9.9	0.39	0.03

Purdom Unit 8

**TABLE 2
PURDOM PROJECT
PSD APPLICABILITY SUMMARY**

Pollutant	Net Increase in Emissions (tons/year)	Table 212.400-2 PSD Significance Criterion (tons/year)	Applicable PSD Significance Criterion (tons/year)	PSD Applicability Determination
Carbon Monoxide	127	100	0*	yes
Nitrogen Oxides	0	40	0*	no
Sulfur Dioxide	0	40	0*	no
Ozone (VOCs)	12	40	40	no
Particulate Matter (TSP)	48	25	0*	yes
Particulate Matter (PM ₁₀)	48	15	0*	yes
Total Reduced Sulfur	NA	10	10	no
Reduced Sulfur Compounds	NA	10	10	no
Sulfuric Acid Mist	5.6	7	7	no
Fluorides (FI)	9.4	3	3	yes
Vinyl Chloride	NA	1	1	no
Lead	0.080	0.6	0.6	no
Mercury	0.0004	0.1	0.1	no
Asbestos	NA	0.007	0.007	no
Beryllium	0.00022	0.0004	0.0004	no

NA - No emissions information available or no emissions expected.

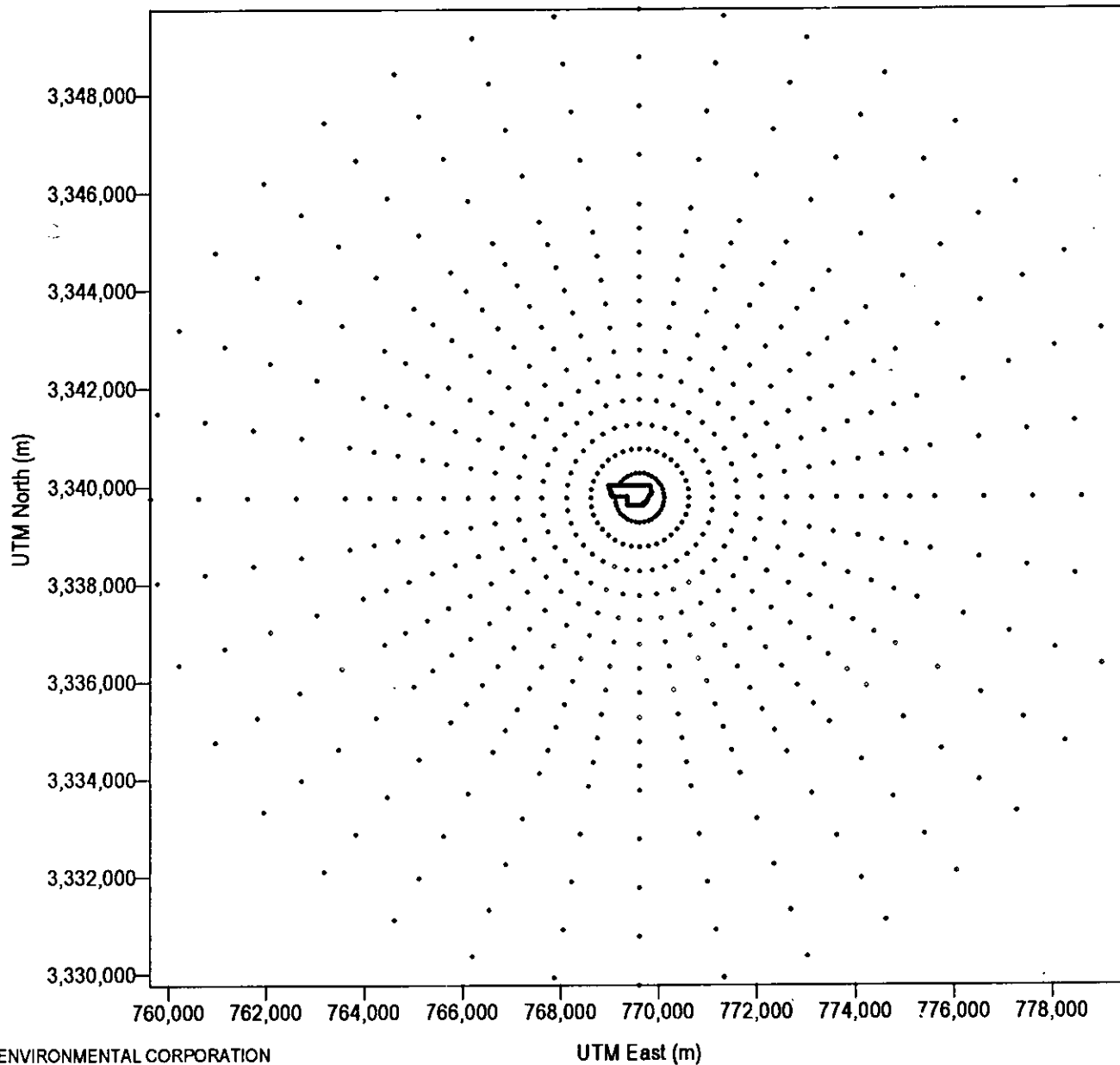
* Due to the proximity to the Class I area, lower criteria apply for those pollutants with a maximum projected 24-hour average impact of 1.0 microgram per cubic meter or more in the Class I area.

**TABLE 3
PRELIMINARY MONITORING EXEMPTION ANALYSIS
MODELLING SUMMARY**

Pollutant	Averaging Period	Monitoring Sig. Value (µg/m ³)	1985 (µg/m ³)	1986 (µg/m ³)	1987 (µg/m ³)	1988 (µg/m ³)	1989 (µg/m ³)
PM ₁₀	24-hr	10	3.8	6.5	5.4	5.5	3.9
CO	8-hr	575	3.4	4.6	5.1	4.2	4.3
FI	24-hr	0.25	0.08	0.11	0.12	0.09	0.09

**TABLE 4
REFINED MODELLING RESULTS FOR MONITORING EXEMPTION**

Pollutant	Averaging Time	Maximum Impact (µg/m ³)	Monitoring De Minimus Level (µg/m ³)	Monitoring Required
PM ₁₀	24-hr	6.5	10	No
CO	8-hr	5.4	575	No
FI	24-hr	0.13	0.25	No



SOURCE: FOSTER WHEELER ENVIRONMENTAL CORPORATION

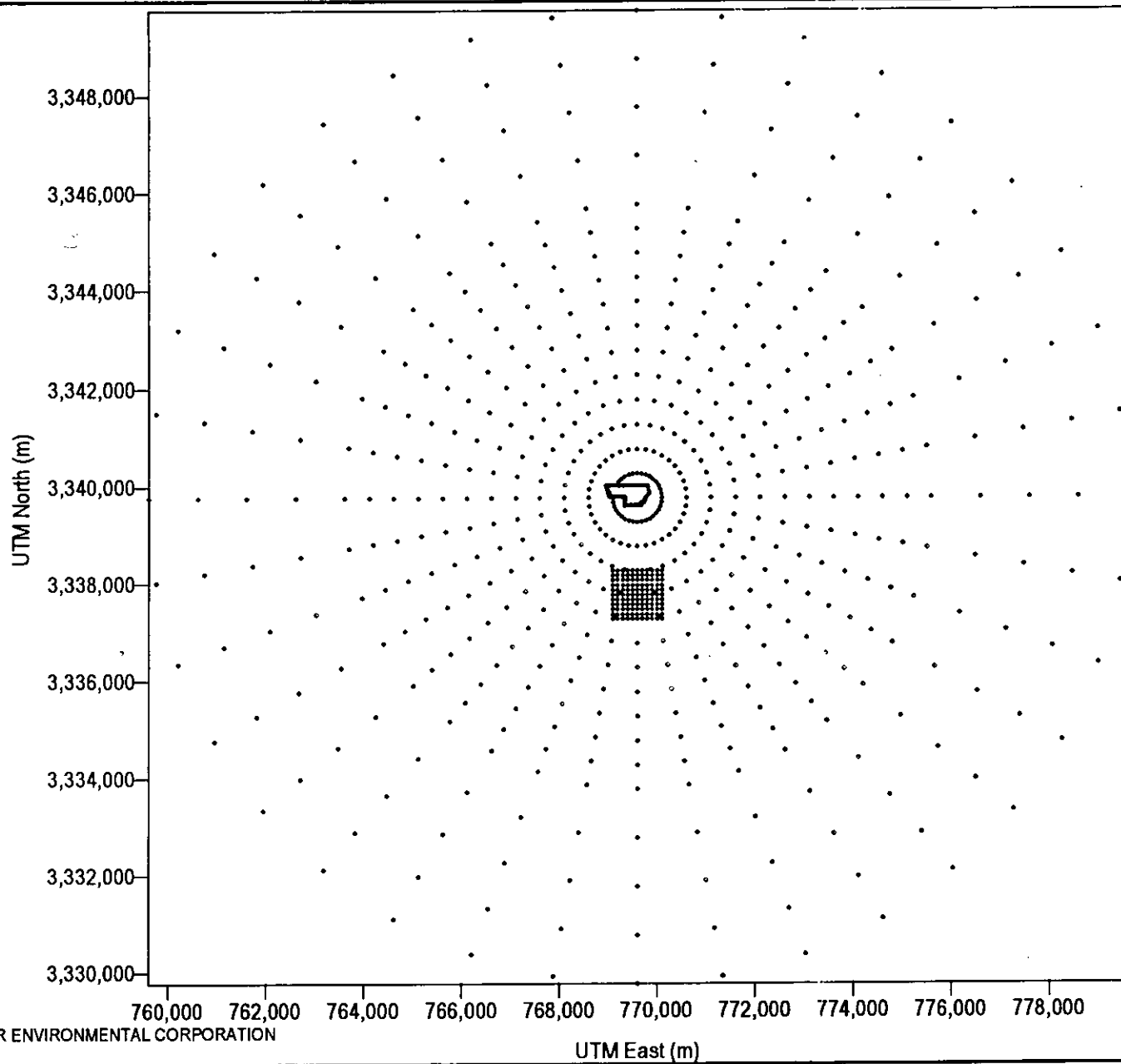
UTM East (m)



PURDOM UNIT 8 MONITORING EXEMPTION REQUEST
 PRELIMINARY ISCST3 MODELLING RECEPTORS

PURDOM UNIT 8 PROJECT - ST MARKS, FLORIDA

Figure
 1

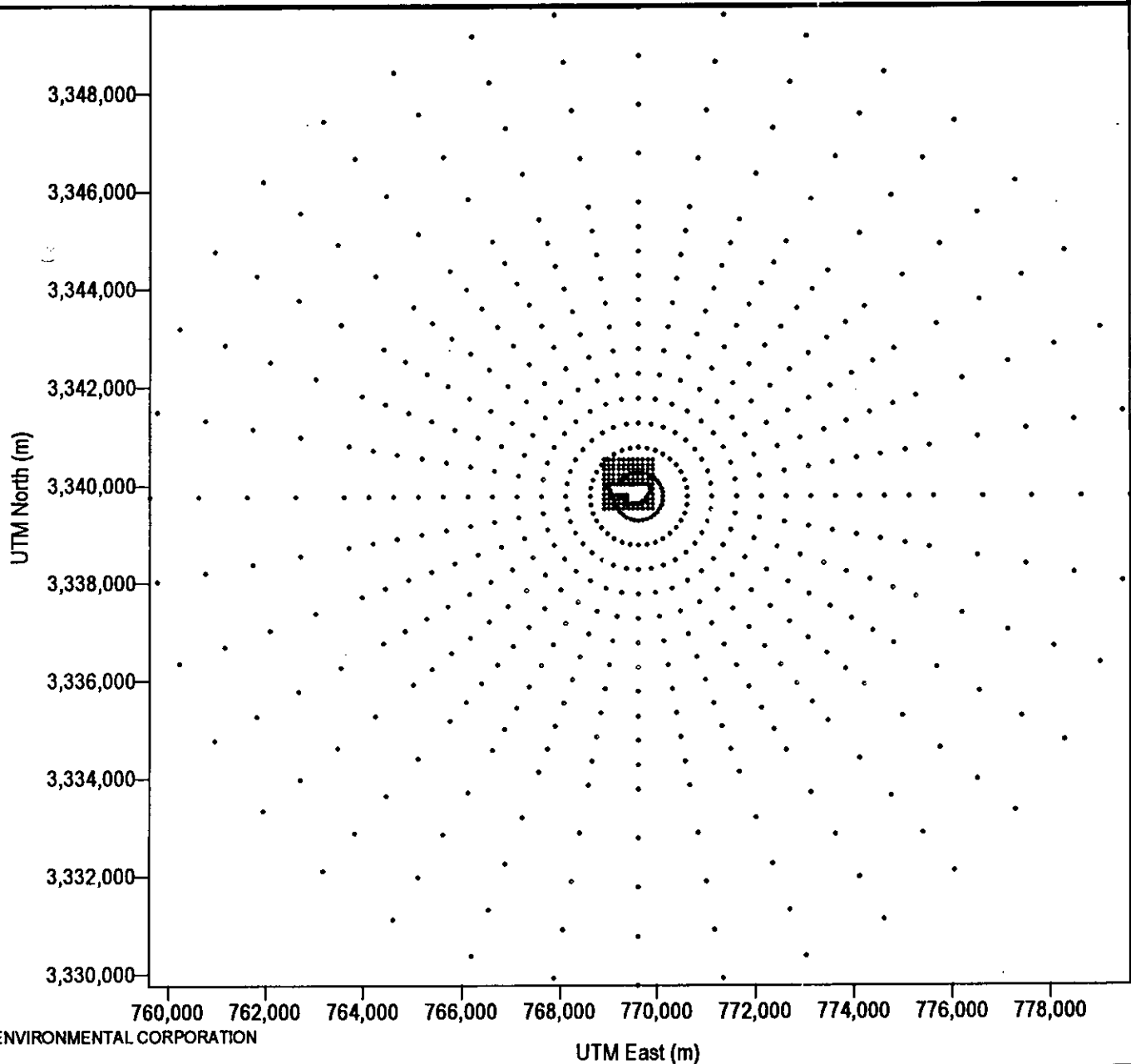


SOURCE: FOSTER WHEELER ENVIRONMENTAL CORPORATION

PURDOM UNIT 8 MONITORING EXEMPTION REQUEST
 CARBON MONOXIDE AND FLUORIDE
 ISCST3 PRELIMINARY AND REFINED RECEPTORS
 PURDOM UNIT 8 PROJECT - ST MARKS, FLORIDA

Figure
 2





SOURCE: FOSTER WHEELER ENVIRONMENTAL CORPORATION

PURDOM UNIT 8 MONITORING EXEMPTION REQUEST
 PARTICULATE MATTER
 ISCST3 PRELIMINARY AND REFINED RECEPTORS
 PURDOM UNIT 8 PROJECT - ST MARKS, FLORIDA

Figure

3



MONITORING EXEMPTION

EMISSION RATES BASED ON:

Future Emis (yr 2000) - Current Actual

	CURRENT ACTUAL PERIOD	UNIT 1-4				UNIT 5				UNIT 6				UNIT 7			
		SHEET #	FUTURE -CURRENT	=(g/s)		SHEET #	FUTURE -CURRENT	(g/s)		SHEET #	FUTURE -CURRENT	(g/s)		SHEET #	FUTURE -CURRENT	(g/s)	
PM SHORT	Aug94Jul96	NO-NO	0.00	0.00	0.00	NO - 6	0.00	4.73	-4.73	NO - 6	0.00	4.73	-4.73	4 - 6	9.79	9.79	0.00
CO SHORT	Aug94Jul96	NO-NO	0.00	0.00	0.00	NO - 6	0.00	1.26	-1.26	NO - 6	0.00	1.26	-1.26	4 - 6	2.61	2.61	0.00
FI SHORT	Aug94Jul96	NO-NO	0.00	0.00	0.00	NO - 6	0.00	0.2121	-0.2121	NO - 6	0.0E+00	2.1E-01	-2.1E-01	4 - 6	4.4E-01	4.4E-01	0.0E+00

MONITORING EXEMPTION

EMISSION RATES BASED ON:

Future Emis (yr 2000) - Current Actual

	CURRENT ACTUAL PERIOD	UNIT GT1			UNIT GT2			UNIT 8		UNIT Cooling Tower		AUXILIARY BOILER			
		SHEET #	FUTURE -CURRENT	(g/s)	SHEET #	FUTURE -CURRENT	(g/s)	SHEET #	(g/s)	(g/s)	SHEET #	(g/s)			
PM SHORT	Aug94Jul96	4 - 6	1.09	1.09	0.00	4 - 6	1.09	1.09	0.00	4	2.14	4	0.30	NA**	NA
CO SHORT	Aug94Jul96	4 - 6	1.38	1.38	0.00	4 - 6	1.38	1.38	0.00	4	12.11	NA	NA	NA**	NA
FI SHORT	Aug94Jul96	4 - 6	1.8E-01	1.8E-01	0.0E+00	4 - 6	1.8E-01	1.8E-01	0.0E+00	4	9.8E-01	NA	NA	NA**	NA

** aux Boiler will never operate with the other steam units (unit 7 & 8) so it is not included in any "short term" Modelling

NO = Not Operating