SOLID WASTE AUTHORITY

OF PALM BEACH COUNTY

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by
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November 29, 1989

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Mr. Hamilton Oven, P.E.
Power Plant Siting Coordinator
State of Florida
Department of Environmental Regulations
Division of Environmental Permitting
Twin Towers Office Building
26600 Blair Stone Road
Tallahassee, FL 32301

RE: **Solid Waste Authority of Palm Beach County**
North Country Regional Resource Recovery Project
Application for Modification of Conditions of Certification and Reissuance of Prevention of Significant Deterioration Permit

Dear Mr Oven:

Transmitted herewith are five (5) copies of the Solid Waste Authority's completed application for modification of Conditions of Certification (PA 84-20) and reissuance of the Prevention of Significant Deterioration (PSD) permit. This application is submitted in accordance with guidance provided by your office and the procedures provided for pursuant to Power Plant Site Certification.

As previously discussed, the changes requested pursuant to this application are minor in nature. Further, these changes are in full accord with the Authority's 1986 discussions with the Department of this topic, as detailed in the Introduction and Background Section of the application.

The Authority appreciates the guidance provided by the Department in preparation of this application and looks forward to working closely with you during its review.

We have gone to significant lengths in our attempts to ensure that the accompanying application contains all information necessary to allow for your Department's thorough evaluation of its content. In the event, however, that

5-10-91

The State of Florida Department of Environmental Regulation Comments on the following Title V issues as solicited by EPA in the May 10, 1991 Federal Register:

40 CFR Part 70 Operating Permit Program; Proposed Rule; Notice of Opportunity for Public Hearing - Selected Comments:

II. Implementation Principles

M. Promote Possibilities for Integrated Permit Programs, p. 21715, 1st column, last paragraph:

The EPA intends that the Title V rulemaking provide the basis for opportunities to establish a permit program to consolidate the review of a source's impact with respect to the Clean Air Act and to other environmental media. In particular, the Agency encourages close coordination of the preconstruction and operating permit review programs for air to minimize duplication and delay. Comments are specifically solicited as to how integrated permitting can be promoted and not inhibited by this rulemaking.

The Florida Department of Environmental Regulation (FDER) currently issues both (pre)construction and operating permits within 90 days of receipt of a "complete" application. The FDER requires that the applicant publish notice of the FDER's intent to issue a construction permit or permit modification, and the FDER allows a 14-day public comment period (30-day if PSD applies) before issuance. When issued, the construction permit allows the permittee to construct the source and informs the permittee what the emission limitations and compliance requirements will be once the source is in operation. In addition, the construction permit allows the source to operate for a limited time (e.g., 30 days) in order to test the emissions and prove the source is capable of meeting the emission limitations. After construction is completed, any required tests have been performed, and the results made available, the permittee applies for an operating permit for the source. The operating permit application form is the same as the construction permit application form so, if no changes were made since the construction application was submitted, an abbreviated "Completion of Construction" form can be submitted in lieu of the longer operating permit application form. The FDER does not regularly require an applicant to publish notice of the FDER's intention to issue an operating permit as the public was given notice prior to the construction of the source. However, for some controversial projects, or if significant changes were made since the construction permit was noticed, the FDER will require the applicant to publish notice of the FDER's pending issuance of an operating permit and allow a public comment period before issuance. The FDER does not wish to require public notices for every operating permit issued, as the project is always noticed prior to the applicant receiving a construction permit . The public, if affected, may petition for an administrative hearing any time a permit is issued by the FDER.

N. Promote Simple and Streamlined Regulations, p. 21715, 2nd column, 2nd paragraph:

It is EPA's intent to simplify and streamline these regulations to the maximum extent possible. To this end, the Agency solicits comment as to how this proposal might be simplified and/or streamlined.

Many states already have functioning and comprehensive operating permit programs and have experience in interpreting and implementing operating permit regulations. After soliciting and receiving comments from these programs, the Agency should consider their advice in promulgating the final rules.

III. Proposal Summary

E. Permit Content, p. 21718, 2nd column, last paragraph:

(8) A provision that nothing in the permit or compliance plan issued pursuant to Title V of the Act shall be construed as affecting allowances [408(b)].

The operational flexibility provision contained in Title V must be implemented carefully and fairly so that a source can respond quickly to changing business opportunities while, at the same time, the permitting authority is assured that the source will meet all the applicable requirements of the Act. Before considering EPA's proposed provisions on operational flexibility, however, it should be recognized that the nature of a permit is to allow anything that it does not expressly prohibit. That is, a source may not only do what its permit specifically allows, but also what the permit terms do not specifically prohibit. Thus, when section 502(b)(10) speaks of changes that do not result in exceedances of the emissions allowable under the permit, this means any change that does not violate an express prohibition in the permit is allowed. Several approaches to achieving this flexibility in permits are described in section IV.F.(5). The EPA solicits comments on these and any other suggested approaches.

The nature of a permitting process is for a regulatory agency to perform a review of all applicable laws and inform the permittee what rules apply to a particular source. By allowing a source the flexibility implied above, the regulatory agency's review process is circumvented. The agency should be the one to determine if emission limitations will be exceeded or not, not the permittee. The FDER has a "fast track" review process in place for permit amendments and does not plan to allow amendments "by default".

Repeated changes to the operation could result in a source becoming something unrecognizable from that described in the permit and permit application making regulatory oversight difficult.

If a source requires a lot of operational flexibility due to the nature of the business, various options should be anticipated by the applicant and they should be addressed and incorporated into the permit at the time of issuance. With enough foresight and permit provisions, a source is able to respond to quickly changing

business opportunities. In any event, as all businesses would be subject to the same method of permit amending, there would be no unfair disadvantage to requiring regulatory review of requests for permit amendments.

F. Permit Issuance and Review, p. 21719, 2nd column, 3rd paragraph:

(5) Permit Shield and Reopenings

The EPA is soliciting comment on the potential scope and effect of the permit shield. It is possible to read the shield provision narrowly, limiting its protection to those requirements the permit explicitly addresses. The EPA believes, however, that the shield provision should be interpreted broadly, thus protecting a source from enforcement of a whole class of Act requirements if the permit addresses any one of those requirements.

Under either interpretation, EPA may limit the scope of the permit shield by rules. While EPA is proposing a broad interpretation of the shield in today's notice, the Agency intends to prohibit use of the shield in cases where the source initiates changes that result in requirements becoming applicable to the source beyond those contained in the permit (until such changes are later incorporated into the permit) or where an applicable requirement is omitted from a permit.

The FDER favors a narrow interpretation of the shield, limiting its protection to those requirements the permit explicitly addresses. An overall goal of the Title V permitting program is to clearly define a permittee's responsibilities under the Clean Air Act. Broadly interpreted requirements are difficult for a regulatory agency to protect or enforce.

H. Permit/SIP Relationship, p. 21721, 2nd column, 2nd paragraph:

Where appropriate, EPA intends to promote the implementation of the permit program through the use of model permits for critical source types. The FDER supports this concept.

EPA solicits comments on ways to accomplish an upgrade of the SIP demonstration (relative to the results of the permit process) without making the SIP's so detailed as to limit future permit changes at affected sources. One concept proposed for comment would allow, as a substitute for having to incorporate every tighter permit requirement into the SIP, a single broad SIP provision. This provision would reflect the aggregate effect of tighter limits achieved in the permit program, but only to the extent necessary to demonstrate attainment and maintenance of the NAAQS or to meet any other requirement related to Reasonable Further Progress.

The FDER agrees that a single broad SIP revision could substitute for having to incorporate every tighter permit requirement into the SIP. As the operating permit conditions will be federally enforceable, it is not necessary to duplicate them in

the SIP.

IV. Detailed Discussion of the Key Aspects of the Proposed Regulations

C. Section 70.3 - Applicability
(1) Section 70.3(a) - Sources Subject to Permitting

p. 21724, 3rd column, 4th paragraph:

The EPA solicits comment on whether or not to combine sources according to 2-digit SIC code when determining if those stationary sources constitute a major source under the Title V permit program.

The FDER agrees that the sources should be combined according to 2-digit SIC code when determining if those stationary sources constitute a major source. This aggregation by SIC code should be done in a manner consistent with established NSR procedures.

p. 21725, 1st column, 3rd paragraph:

EPA also solicits comment on whether the Agency should exempt from permitting requirements those sources that are "major" by virtue of the quantity of their emissions of particular pollutants, but whose emissions are not in any way actually regulated by a standard or other requirement under the Act. Arguably, issuing permits for such sources would serve no useful purpose under the Act.

If emissions inventories are desired for nonregulated pollutants, permits might be issued which would require annual submission of emissions data. FDER has some permits in this category.

p. 21725, 2nd column:

The EPA will determine potential emissions using the maximum capacity of a source to emit a pollutant, taking into account any federally enforceable physical or operational limitation on that capacity (including any air pollution control equipment).

Including the federally-enforceable limitations on a source in the definition seems to be a circular definition problem. A source which enforceably restricts its emissions below the threshold for major stationary sources may be able to exempt itself from the permitting requirement, assuming no other provision of the Act captures that source in the program.

The EPA takes comment on the possibility of allowing such sources the option to submit to the appropriate permitting authority (with a copy to the EPA Regional Office) a commitment containing specific physical or operational conditions that would restrict the source's potential emission to a level below the applicability thresholds stated in section 70.3(a). It must be signed by a responsible officer of the source with authority to make legally-binding commitments for the source. A commitment of

this type must ensure that participating sources conduct adequate monitoring and submit monthly reports describing pollutant emissions to the permitting authority. The permitting authority and EPA could then continually verify the source's compliance with its commitment, and the source would not be required to obtain a Part 70 permit.

The commitment must include an agreement that the source would submit a Title V permit application within a short time (e.g., 30 days) after it determines that its emissions exceed the appropriate Title V applicability threshold for the previous 12-month period. Failure by a source to meet its agreement and submit a Title V permit application would make the source subject to appropriate enforcement penalties.

In addition, comment is solicited on: (1) applicable methods for ensuring the Federal Enforceability of such commitments, (2) ways of providing adequate public review and comment on these commitments, and (3) ways that State programs can cover the costs of administering such a program.

The FDER would not exempt a source from permitting requirements on the basis of a responsible officer of the source making a commitment containing specific physical or operating conditions that would restrict the source's potential emissions to a level below the applicability thresholds stated in Section 70.3(a).

The "commitment" described is, in essence, a permit and the FDER does not desire to have two such similar regulatory documents (permits and commitments) when permits alone will suffice.

A true source exemption does not require any further agency interaction or tracking unless future rule development changes the exemption criteria.

If these "commitments" are not used, enforceability of conditions and restrictions will be ensured, adequate public review and comment will be provided, and costs will be covered - by issuing permits.

(2) Section 70.3(b) - Source Category Exemptions

p. 21726, 1st column, 2nd paragraph:

EPA requests any more detailed information and comments on its conclusion that including all sources (instead of just major sources) in the permitting process during the initial glut (first five years) of application processing would be impracticable and infeasible.

The FDER currently issues operating permits to minor sources as well as major sources, however the it is agreed that during the first five years of the Title V program, it would be impracticable for the FDER to submit all of these minor source permits to the EPA for review.

p. 21726, 2nd column, 2nd paragraph:

The EPA solicits comment and information concerning which source categories might especially appropriate for permanent exemptions (notwithstanding the possible use of general permits), such as asbestos demolition and renovation operations under the NESHAP program and woodstoves under the NSPS program. The Agency also asks for comment on any other criteria that should be used to judge the effect of permanently deferring nonmajor sources, including the burden on sources and permitting authorities, and the aggregate effect on air quality of any permanent exemption.

The FDER agrees that the asbestos demolition and renovation operations should be exempt from permitting.

p. 21726, 2nd column, last paragraph:

A State with an ozone SIP that relies on emission reductions from nonmajor sources will have to make a special showing to defer such sources from the program. The EPA solicits comment on the appropriateness of limiting the scope of the nonattainment exemption demonstration to only the larger of the nonmajor sources (i.e, no demonstration is needed for deferred applicability if nonmajor sources are below a certain size) otherwise subject to Title V or only those that would not qualify for general permits. (Nonmajor sources will still be subject to NSPS or NESHAP regulations.)

The FDER has no objection to limiting the scope of the nonattainment exemption demonstration to only the larger of the nonmajor sources otherwise subject to Title V or only those that would not qualify for general permits.

p. 21726, 3rd column, 4th paragraph:

In connection with the deferral of nonmajor sources from the program for the first 5 years, EPA is soliciting comment on the waiver of EPA authority to review the permits for such sources if States choose to include them in the program. Some states may decide to include them in the program. Section 505(d) authorizes EPA to waive the requirement that the permitting authority notify EPA or neighboring States of each permit for nonmajor sources. The EPA could use this authority to reduce the administrative burden on the permitting authority, EPA, and the neighboring States. The EPA invites comments on the advantages and disadvantages of this approach. The proposed regulations do not provide for such a waiver, under the assumption that most States will take advantage of the deferral for nonmajor sources.

The FDER encourages the EPA to waive the requirement that the permitting authority notify EPA or neighboring States of each permit for nonmajor sources to reduce the administrative burden.

D. Section 70.4 - State Program Submittals and Transition

(2) Section 70.4(b) - Elements of the Initial Program Submission, p. 21727, 3rd column, 5th paragraph:

The EPA solicits comment on whether the State statutes that authorize the regulations and provide for judicial review of final permit decisions should also be part of the submittal.

The FDER believes that the statutes provide basic authority and should be included in the submittal.

p. 21728, 3rd column, last paragraph:

EPA is proposing to require that the State permit program include a requirement under State law that, in the event that a timely and complete application for a permit renewal is submitted to the permitting authority before expiration of the permit term, (1) the permit itself shall not expire until the renewal permit has been issued or denied, or (2) the permit can expire but all its conditions and requirements shall remain in effect until the renewal permit has been issued or denied. The EPA solicits comment on these and other proposed ways of dealing with the lapsed permit problem.

The FDER takes approach (1), the permit itself shall not expire until the renewal permit has been issued or denied.

p. 21729, 1st column, 2nd paragraph:

The EPA believes that a transition plan for processing the first wave of permits is also a necessary part of the State program submittal. This plan should provide a phased schedule for acting on the initial submission of all permit applications during the first year after program approval. The EPA solicits comment on other acceptable strategies for initially processing permits and for keeping the original information current and appropriate for processing.

Processing of permits could be accomplished by permitting classes of sources in phases. A phased schedule could then be created so that the applicants and the regulatory agencies will know when the permits should be ready for issuance. Otherwise the applicants will be constantly contacting the regulatory agencies to try to determine the status of their application.

p. 21729, 2nd column, last paragraph:

Grant funds provided for by section 105 of the Act have been provided to support program build-up. These funds are meant to give programs in part the boost needed until permit fee provisions become effective and State permitting efforts become self-sufficient through the permit fee revenues. The EPA solicits

comment on other ways to accomplish "ramp up" of State capabilities. These might range from interim program approvals to an initial registration of subject sources coinciding with an early partial fee collection [IV.I.].

Interim program approval would support a FDER attempt to increase permit fees to be in accordance with Title V guidelines.

p. 21730, 1st column, 2nd paragraph:

Public comment is solicited on how to resolve two issues, whether, and to what extent, EPA can or should approve, (1) more expansive source coverage than required by Title V; and, (2) State provisions which limit the flexibility of source owner or operators to less than that provided for in Title V.

The FDER maintains that a state may require more stringent permit conditions than Title V requires. Also, the FDER maintains that its current system of providing flexibility by the permit amendment process imposes no undue hardship upon the permittee. Therefore, it is consistent with the intent of section 502(b)(10), and the agency should review the effectiveness of this amendment process before automatically refusing to grant complete program approval.

(3) Sections 70.4(c), (d), and (e) - Partial Programs, Interim Approval, and EPA Review of Program Submittals

p. 21731, 1st column, 3rd paragraph:

The EPA believes, as a minimum, the purposes of the permit program could be fulfilled if the following minimum criteria for interim approval are met: (a) Adequate Fees, (b) Applicable Requirements, (c) Fixed Term, (d) Public Participation, (e) EPA Review, (f) Permit Issuance. Public comment is solicited on which of those critical program elements that are required for full approval need not be met for interim approval. Any additional criteria beyond the six proposed should represent a deficiency that this approach is consistent with section 502(f).

A minimum list of applicable requirements should be made available for interim approval. Some Title V requirements such as the proposed flexibility, may not be resolved during the interim period.

The EPA may not be prepared to handle permit reviews even though the permitting agency is ready to submit them. If this should happen, the permitting agency should not be prevented from obtaining interim approval.

p. 21735, 3rd column, last paragraph:

E. Section 70.5 - Permit Application

(6) Data Management

The EPA solicits comments on the data management aspects of the permit program, particularly the potential use of AIRS for this purpose, and any enhancements the system might need.

The FDER operates a comprehensive mainframe computer database, the Air Program Information System (APIS), which covers data storage, retrieval, and analysis for all of the Air Division's program areas. This database is organized such that all of the permitting, compliance, enforcement, emissions, monitoring, test, complaint and text-oriented data involving each facility and its air emissions units is identified by a unique identification number. APIS also contains the stationary source monitoring data sets, the chlorofluorocarbon inventory, ozone SIP inventory, area source and mobile source data sets for each county, and the asbestos database. The toxics database will also reside in APIS when it is completed. Information from these subsystems is routinely batch-fed into the EPA's multiple data systems.

The FDER prefers housing data from the various air program areas under one database and manager in order to eliminate the necessity of maintaining multiple databases and the accompanying support personnel. This also eliminates the need for duplication of facilities and data entry. The database is accessed and updated statewide by FDER and Local Air Program personnel. This ensures quality control of the data entered, provides accountability of resident data, and allows protection of confidential information. Documentation and calculations supporting each permit application are thoroughly reviewed by the FDER or Local Program for correctness before the data is entered into APIS. Similar quality-assurance programs are practiced for the other program areas as well.

A wide variety of reports is available to the public (for the cost of retrieval) to deliver APIS data in many formats. The FDER believes this system to be the most effective comprehensive air database currently in use in the country. This is supported by numerous recommendations among information gatherers, both public and private.

The FDER uses the PATS (Permit Application Tracking System) to ensure that permits are issued within the allowed timeframe. In addition, the FDER uses a wordprocessing system that can generate standard permit conditions.

Copies of the FDER APIS (Air Program Information System) and PATS (Permit Application Tracking System) manuals are submitted as attachments to these comments.

p. 21737, 3rd column, 1st paragraph:

F. Section 70.6 - Permit Content

(2) Program Specific Elements

At the discretion of the permitting authority, operating permits could require additional information that could be used in inventory development. The EPA solicits comment on whether, and how, such coordination should occur.

This coordination could occur by designing the permit application to request information on emissions. In addition, the permits should require emissions data to be submitted on a routine (annual, quarterly, e.g.) basis.

(3) Applicable Requirements of the Act and the SIP

p. 21738, 2nd column, 2nd paragraph:

(b) SIP Ambiguity

To promote and expedite permit decisions by State review authorities that address SIP ambiguity, EPA believes that the concept of a model permit appears promising. The EPA solicits comment on this concept and on how best to develop and implement it.

The concept of a model permit is a good one. It should include all federal requirements applicable to the particular source category. In addition, the state regulatory agency may include state requirements which are more stringent.

p. 21739, 2nd column, 4th paragraph:

(4) Relationship between the Permit and the Application

Public comment is solicited as to what type of information contained in the application should be incorporated into the permit. In addition, EPA solicits comment on whether applications (as well as permits) can cross reference applicable regulations and other requirements instead of repeating them.

The permit should include the name, address, location, and description of the source. It should include process rate limits, emission limits, hours of operation, monitoring and testing requirements, and compliance requirements. The complete permit application and applicable regulations should be incorporated by reference.

(6) General Permits

p. 21739, last column, 2nd paragraph:

(a) Determining Where To Use General Permits

The EPA solicits comment on which categories would be most appropriate for the development of general permits. In particular the EPA solicits comment on the idea that such permits be prepared for woodstoves, gas stations, dry cleaners, and several of the source categories subject to the radionuclide NESHAP to the extent that these sources would not be exempt from review.

The FDER believes that general permits may be appropriate for categories made up of numerous, small, and nearly identical sources such as gas stations and dry cleaners.

p. 21740, 1st column:

(b) Issuing General Permits

The EPA is considering an alternative approach for applying general permits to individual sources. Under this alternative, rather than issue individual permits to applicants, the permitting authority might simply construct the general permit so that it applies automatically to any source within the source category covered by the general permit. The individual source must submit an application identifying and describing the source, so that the permitting authority and the public could determine whether the general permit applies to the applicant, but the authority would not need to notify the source through an individualized permit that the general permit applies. Of course, the permitting authority might still notify some applicants that the general permit did not apply to them. Beyond that, a source could opt out of this approach by requesting that the permitting authority issue a specific individual permit for the source. The EPA solicits comment on whether it should allow State programs to employ this or other streamlined methods of general permitting in light of their advantages and disadvantages, or whether individual permits need to be issued to each source covered by the terms of a general permit.

The EPA should allow State programs to employ methods of general permitting. Even if individual permits are not issued, there should be an adequate database system in place to track these sources.

G. Section 70.7 (and Section 70.6(d)) - Permit Issuance, Renewal, and Reopenings

(2) Public Comment

(a) Public Information and Notice

p. 21742, 2nd column, 2nd paragraph:

The proposed regulations require that the State provide public notice "by advertisement in the area affected" [70.7(i)(2)]. The EPA solicits comment on public notice procedures, including any currently used by State programs, that might be less administratively burdensome than individual newspaper publication, while still meeting the requirements of Title V. This issue is of particular importance to this program because of the large number of permits involved and the fact that most permitting actions incorporate SIP limits that have already undergone public review, and should therefore be noncontroversial. Options to be considered include the use of State publications analogous to the FEDERAL REGISTER and of bulk processing of notices.

The FDER places the burden of publishing notices on the applicant.

p. 21742, 2nd column, 4th paragraph:

Mechanisms for waivers of the EPA notification requirements are discussed in section IV.H. In addition, the notification requirement might be streamlined pursuant to section 505(a)(1)(A), which requires the submittal to EPA of permit applications "or such portion thereof... as the Administrator may require" to carry out EPA's responsibilities. The EPA solicits comment as to the extent of this flexibility and how this information submittal process can be streamlined to agree with EPA's responsibilities as guarantor of the permitting process. Examples of such practices might include summary sheets with certifications (instead of comprehensive submittals) for certain routine permitting, or the use of electronic submittals.

The FDER favors the practice of using permit summary sheets with certifications instead of comprehensive submittals for routine permitting. It would be possible to submit these summaries to EPA on computer disks instead of submitting them in bulky paper form.

p. 21742, 3rd column, 2nd paragraph:

Section 505(a)(2) requires the permitting authority to notify all States "whose air quality may be affected and that are contiguous" to the subject State, or that are within 50 miles of the source, of each permit application or proposed permit forwarded to the Administrator. One area where clarification might be necessary is in the definition of the term "may be affected" in section 505(a)(2)(A). The 50-mile geographic trigger, contained in section 505(a)(2)(B), appears to provide adequate protection for virtually any case and would be relatively simple to administer; compared, for example, to alternatives that attempt to define a significant ambient impact. The EPA solicits comment on whether any other trigger would provide any further safeguard, beyond the 50-mile test, needed to implement the "may be affected" test for certain pollutants.

In most cases the 50-mile test is the preferred notification trigger. However, if a neighboring state's Federal Class I area is within 100 km (62 mi) of a source, it would be prudent to notify the state.

p. 21743, 1st column, 2nd paragraph:

(b) Opportunity for a Hearing

The EPA solicits comment as to the degree of discretion that State agencies should have to condition the opportunity for a hearing upon certain reasonable criteria. These might include the relevance of the issues presented by the requesters, and whether factual issues (in contrast to issues of law) are presented.

The FDER's granting of a request for a hearing to a person whose substantial interests are affected by a permit is linked to the quality of the information provided by the requester to support

the request. The FDER requires the following information be provided:

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the FDER Permit File Number and the county in which the project is proposed;
(b) A statement of how and when each petitioner received notice of the FDER's action or proposed action;
(c) A statement of how each petitioner's substantial interests are affected by the FDER's action or proposed action;
(d) A statement of the material facts disputed by Petitioner, if any;
(e) A statement of facts which petitioner contends warrant reversal or modification of the FDER's action or proposed action;
(f) A statement of which rules or statutes petitioner contends require reversal or modification of the FDER's action or proposed action; and
(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the FDER to take with respect to the FDER's action or proposed action.

p. 21743, 1st column, 3rd paragraph:

(c) Publicly Available Records

Title V places considerable emphasis upon providing public access to permit information. Section 502(b)(8) requires that the permitting authority make available to the public any permit application, required compliance plan for noncomplying sources, permit, and monitoring or compliance report, subject to the provisions of section 114(c). [The EPA notes that section 114(c) governs information to be provided to EPA, not to a State, and thus the provision does not apply where the State is the permitting authority. The Agency interprets Congress's reference to section 114(c) as authorizing the States to use the same, or substantially similar, confidentiality criteria, otherwise the reference would be meaningless except where EPA is the permitting authority. The EPA solicits comment on this interpretation.]

The FDER concurs with EPA's interpretation.

p. 21744, 1st column:

(5) Permit Shield and Reopenings

(a) Shield

The Act describes a number of situations which are not protected by the permit shield. First, section 504(f), which provides for the shield, precludes the shield from being applied when implementing section 303. Section 303 gives the Administrator emergency powers to respond to pollution that produces imminent and substantial endangerment to the health of persons. Second, section 504(f) gives the Administrator the authority to exempt, by rule, certain situations from the shield. Pursuant to this authority, the Administrator is proposing that a permit shield not afford any protection from liability to a source that is not in compliance

with a standard or regulatory requirement of the Act at the time an operating permit is issued. Further, the EPA is proposing that the permit shield would apply to any permit provisions added or modified by any type of permit revision. For a minor permit amendment made under the "fast track" approach, the shield would apply immediately when the revision becomes effective, i.e., when the permitting authority fails to object.

In addition, if any applicable requirements were omitted from the permit during the permit issuance process (i.e, not addressed as opposed to misinterpreted), the source will not be shielded from enforcement of those requirements. Otherwise, emissions subject to omitted regulations, including hazardous air pollutants, could be emitted entirely unrestricted until the permitting authority or EPA reopens the permit. The Administrator is requesting comments on these proposals and any additional recommendations as to other situations which should be exempted from the shield, by rule, under section 504(f).

The FDER would include its version of the "fast track" minor permit amendment under the permit shield, but would not include the EPA's version of the "fact track" minor permit amendment under the permit shield.

The FDER concurs with the Agency that if any applicable requirements were not addressed during the permit issuance process, the source will not be shielded from enforcement of those regulations.

p. 21744, 2nd column, 3rd paragraph:

The Agency also solicits comment on how comprehensively to interpret the scope of the shield. For example, if all the applicable requirements of section 112 are met in a Part 70 permit at the time of permit issuance, and are explicitly identified in the permit as meeting section 112, the source could be shielded by the permitting authority from any future section 112 requirements for the term of the permit. Section 502(b)(9) provides support for this interpretation by calling for the automatic reopening of a major source permit with a term of 3 or more years in order to incorporate applicable new standards and regulations promulgated under the Act after the issuance of a permit. On the other hand, section 504(f) can be read to shield the source only from those requirements (read narrowly) that were the subject of the permit-issuance process and included in the permit. Under this interpretation, the section 502(b)(9) provision for reopenings would be viewed as a requirement to ensure the timely incorporation into the permit of major, new regulatory requirements in order to maintain the permit as the consolidated repository of all applicable Act requirements.

The EPA interprets the shield broadly by distinguishing between the applicable "provisions" of the Act and the applicable "requirements" of the Act. For example, if the permit imposes the specific "requirements" of an applicable MACT standard, or determines that there are no such requirements under section 112, then the source is protected from application of the "provisions"

of section 112 for the duration of the permit term.

The regulations as they are now structured follow this broad interpretation of the shield. The proposed shield provisions in section 70.6(h) protects a source from new requirements that become applicable after issuance of the permit.

The FDER agrees that the shield protects a source from new requirements that become applicable after issuance of the permit, but only until such time that the permit is reopened and the new requirements included.

p. 21745, 1st column, 1st paragraph:

(b) Permit Reopening

The EPA is requesting recommendations for events and situations which provide cause for both the EPA and a permitting authority to reopen permits.

The FDER concurs with the EPA that causes for permit reopenings include: a substantial error made in the permit processing or data submittal whose correction cannot wait until renewal; where fraud on the part of the source has been found; and to incorporate the NOx limits for affected sources under the acid rain program. In addition, the permitting authority should reopen permits to newly incorporated standards and regulations.

(7) Operational Flexibility and Permit Revisions

p. 21746, 3rd column, 2nd paragraph:

(b) Flexible Source Operation Under CAA section 502(b)(10)

Where the change would not be allowed in the permit but would not exceed allowable emissions under the permit, EPA interprets section 502(b)(10) to require that the source give at least 7 days advance written notice to both the permitting authority and EPA. This notice must contain sufficient information to determine what new requirements of the Act apply (if any) to the changed operations. Of course, the permitting authority must incorporate any new requirements upon renewal. The EPA is therefore taking comment on its proposal to require an update of the permit after notification has occurred, provided that the new version of the permit be made publicly available.

As previously stated, the FDER does not support the notion of a source obtaining minor permit amendments by default. The source should supply sufficient information to the FDER so that the FDER may make the determination as to whether the change constitutes a minor amendment or a modification. The 7 day waiting period is too short a period in which to review the information. If the FDER were forced to always approve or object to the notice of a proposed change within 7 days, the FDER may resort to routinely objecting to avoid processing "after-the-fact" permit amendments. In any event, the FDER updates the permit after the FDER decides to amend or modify the permit.

p. 21747, 2nd column, 3rd paragraph:

(c) Minor Permit Amendment

EPA will review the procedures for revising permits proposed by states in their permit programs in conjunction with EPA's review of the applicable implementation plan. No particular form of procedures for revising permits is required. The basic test is whether a state's procedural system, taken as a whole, can assure that the national ambient air quality standards and other substantive requirements of the Act will be maintained and enforceable. EPA solicits comment on what are the appropriate criteria for EPA to use in approving state procedures for revising permits.

Procedures for revising permits should not cause undo delay to the source, but they also should not cause any undo hardship upon the regulatory agency.

p. 21747, 3rd column, 3rd paragraph:

(d) Administrative Permit Amendments

The Agency requests comments on whether the permit administrative amendment procedures are appropriate for requiring more frequent monitoring, and for exempting a unit from permitting requirements where emissions from the unit have terminated, so long as the termination of emissions from that unit does not result in an increase in emissions from any other unit or units. The EPA invites the public to propose other types of changes that should be handled by the administrative permit amendment process and comment on these suggestions.

The FDER concurs with EPA that administrative permit amendment procedures, rather than permit modification procedures, should be used to require more frequent monitoring, and for exempting a unit from permitting requirements where emissions from the unit have terminated.

p. 21748, 1st column, 2nd paragraph:

EPA solicits comment on whether the reviewing authority could issue a separate permit incorporating both preconstruction review and Part 70 requirements for those activities involved in the modification.

The FDER routinely issues permits for a single source as well as permits for an entire facility that list all sources at a facility. If the question the Agency is asking is "Can a separate source permit be issued to address just the source being modified?" the FDER's answer is yes.

If the Agency is asking "Should the revision of the operating permit for the modified source trigger the public notice requirements of Part 70 if the public was previously noticed during

the preconstruction modification permitting process?", the FDER's answer is no, unless the change would be of public concern (e.g., using a hazardous waste fuel).

p. 21748, 3rd column, 6th paragraph:

(f) Designing Flexible Permits

The EPA is evaluating administrative mechanisms that would provide for permit drafting such that a source could, in the course of normal operation, readily change production methods without needing to apply for a modified permit for each change. Various types of candidate approaches are described below. Public comment is solicited on these and other approaches to implement the requirement to provide operational flexibility.

(i) Permit in the Alternative: The permit can list the pollutants and control requirements for the anticipated operating scenarios. The permit would specify the source's pollution control requirements for each anticipated process or product line to be used. For example, the permit for a chemical batch processing facility can allow for various configurations and operating practices that the facility plans to use, obviating the need for obtaining additional approval when the changes are made.

(ii) Permit by Classes of Chemical: State programs often provide that groups of chemicals can be treated interchangeably for certain purposes. For example, a State's requirements for VOC emissions from storage facilities may be based on classes of compounds, classified by vapor pressure, rather than single compounds, e.g., the most volatile compounds could be stored only in pressurized tanks, those of intermediate volatility could be stored in floating roof tanks with double seals, while those of lowest volatility could be stored in fixed roof tanks. One State reports that it uses this approach in addressing the needs for operational flexibility in permitting extensive tank farms providing contract storage of chemical and petroleum products at a port and pipeline terminal. The State clearly specifies control requirements based upon five classes of chemicals, allowing the facility complete freedom to store any chemical in any tank with the required, or higher, level of control. This is enforceable because it allows a field inspector to determine compliance unambiguously for any chemical stored in any tank, without burdensome restriction on the facility's freedom to manage its operations efficiently.

(iii) Permit in Anticipation of the Most Restrictive Case: A State may appropriately allow considerable flexibility if the worst case emissions scenarios are dealt with in the permit, or if the source agrees to specific controls or other limitations, such as those on capacity utilization. For example, a source might be given great flexibility in the type of VOC emitted, if it agreed to provide emissions controls consisting of both carbon adsorption and incineration. Another example reported by a State involves a chemical storage facility that routinely is asked to store any of numerous types of chemicals, often on short notice. The source and State came to an agreement whereby a very wide range of chemicals could be stored, if stored in pressurized tanks and the emissions

were flared.

The FDER favors using all three of these approaches to provide flexibility. If used effectively, they should eliminate the need for "fast track" 7-day notices of process changes.

(2) Waiver of EPA Review

p. 21750, 1st column, 3rd paragraph:

The EPA is not proposing any categories of sources for national waiver from review. Comments are invited, however, with respect both to potential categories for such a waiver and to the appropriate use of waivers at the state level, and on means of implementing them, such as through agreements with the States. Similarly, EPA seeks information on the use of waivers on a State-specific basis and the use of various mechanisms, such as audits and agreements between EPA and the States regarding coordination of activities, to efficiently implement such waivers or to set priorities for EPA review of State permitting.

The FDER believes that if standard or general permits are used for classes of sources EPA review should not be necessary. Two potential categories might be dry cleaners, service stations, and cement silos.

p. 21750, 1st column, last paragraph:

The EPA also solicits comment on the potential use of various review practices for quality-assuring the permitting process and carrying out the Administrator's responsibilities under section 505. Although EPA wishes to minimize administrative burdens, the Agency takes seriously its responsibility for quality assuring permitting, for which it shares enforcement responsibility.

The EPA should perform audits of state and local programs for quality control.

p. 21750, 2nd column, 2nd paragraph:

Public comment is also solicited on the legal availability and appropriateness of waivers of notification for particular classes of sources, on a State-specific basis, after approval of a permit program. Section 505(d)(1) provides that the Administrator may waive this requirement "at the time of approval of a permit program under this title." Although this clause could be read as referring only to initial approval of the State program, it seems consistent with good oversight practice and the spirit of Title V itself that such waivers could be granted through EPA rulemaking whenever appropriate. Such practice would not be inconsistent with any of the statutory safeguards and, indeed, waivers may be more effectively tailored once a State has established a track record and a working relationship with the EPA Regional Office with respect to permitting various types of sources.

The FDER believes that EPA waivers of notification for particular classes of sources are appropriate.

p. 21750, 3rd column, 1st paragraph

(3) EPA Veto

(a) Inadequate Information Provided by Permitting Authority

When EPA objects to issuance of a proposed permit because the State has not provided enough information, it will accompany the objection with a statement of what additional information is needed. The State would then be responsible for forwarding the additional information to EPA within 90 days. Once this needed information is supplied to EPA, the Agency's 45-day review period will begin anew. If the additional information is not supplied, EPA will deny the permit or issue it with whatever changes are necessary to ensure compliance with the Act. The EPA solicits comment on this approach to obtaining adequate information and its authority for so implementing it.

The FDER concurs with this approach.

p. 21751, 3rd column, 3rd paragraph:

I. Section 70.9 - Fee Determination and Certification

(1) Section 70.9(a) - Fee Requirement

If the State program fails to provide an adequate fee schedule, or does not implement its fee program properly, EPA is authorized in section 502(b)(3)(C)(i) to assess an amount appropriate to cover EPA's costs associated with administering an EPA-promulgated permit program. The EPA also solicits comment on whether the Agency may assess fees to cover other costs such as the State costs in developing and administering the permit program. The EPA also solicits comment on whether, additionally, EPA may assess and return to the State, a sum to cover air program costs related to the State, sum to cover air program costs related to the permit program (e.g., the portion of SIP-development costs related to Part 70 sources). The EPA may undertake the action stated above regardless of whether it or a State agency ultimately issues the permit. Penalties and interest may be collected as appropriate.

The FDER will seek legislative approval to provide an adequate fee schedule and implement its fee program properly. However, for those State programs which don't, it is appropriate for EPA to do so.

p. 21753, 1st column, 3rd paragraph:

(2) Section 70.9(b) - Fee Schedule Adequacy

The presence of the $25/ton minimum amount indicates that Congress presumed that this amount would suffice to recoup the costs. The EPA takes comment, however, on whether it should interpret the Act to require a State to show that the fee amount recoups State costs.

A state should only have to justify the fee amount if it is higher or lower than the $25/ton fee amount determined by Congress.

p. 21753, 1st column, 4th paragraph:

The statute is ambiguous as to exactly when a substance becomes a "pollutant regulated under section 111 or 112," as that phrase is used in section 502(b)(3)(B)(ii). For example, for hazardous pollutants, a pollutant listed in the statute under section 112(b) might be considered to become a "regulated pollutant" for purposes of Title V at any of the following times: (1) at the time of enactment of the 1990 Act Amendments, (2) when EPA first promulgates a MACT standard for that pollutant, or (3) when a MACT standard for that pollutant first becomes applicable to the permitted source. The term "regulated pollutant" is susceptible to each of these readings, and neither the statute nor the legislative history of the Act Amendments provides guidance as to which of these three possibilities was intended by Congress.

The EPA is proposing to adopt the second of the above options, because it considers a substance to be truly regulated when a standard is first promulgated that addresses that pollutant. The EPA considers the other two options to be viable, however, and therefore solicits comment on whether it should instead adopt either one of them. Similarly, following the second option described above, EPA proposes that a pollutant becomes a "regulated pollutant" when it is first addressed by a section 111 standard but solicits comment on whether it should be considered regulated for purposes of Title V only when the standard becomes applicable to the permitted source.

To consider a pollutant regulated before a MACT Standard is promulgated is premature because though the source knows a emission reduction is necessary, there is no goal yet established. When the MACT standard is promulgated, that goal is established. Therefore, the DER favors the interpretation that a hazardous pollutant becomes regulated when EPA first promulgates a MACT standard for that pollutant. This should not be delayed until the standard becomes applicable to the permitted source, as the source has a goal to work towards as soon as the MACT standard is promulgated.

p. 21753, 2nd column, last paragraph:

(As the fees are to be based on actual emissions,) after the initial startup of the program, the permitting authority could rely on actual emissions data developed and reported by the permittee (presumptively required as a permit condition) to define the basis for assessing fees for the next year.

Alternatively, EPA could use the definition of actual emissions used in EPA's NSR regulations. This definition defines actual emissions with reference to emissions during the 2-year period preceding the relevant permitting date, or any 2-year period that falls within 5 years of that date, "upon a satisfactory determination that is more representative of normal source

operation." EPA solicits comment on using this alternative, for at least affected sources under Title IV, to determine actual emissions for purposes of calculating fees under Title V.

The fee should be based on allowable emissions rather than on actual emissions because:

1. There is still an incentive to reduce emissions. If a permittee were to voluntarily lower allowable emissions, then a reduced fee could be paid.

2. Using actual emissions could cause fee income to vary considerably from year to year, making program budgeting difficult.

3. Disagreement between the permittee and the regulatory agency as to how the actual emissions, on an annual basis, were calculated could be avoided. Normally, a major facility performs one three-hour emission test per year. This is not enough data to be the basis for the fee.

p. 21754, 1st column, last paragraph:

(3) Section 70.9(c) - Fee Adjustment

The EPA solicits comments on problems associated with providing State agencies with the authority up front to revise permit fees and on what factors should constrain future increases beyond those needed to account for CPI changes. Specifically, EPA would like information on the way permit fee revisions are currently handled and whether revisions to the permit fees required under this title should be handled in a similar fashion.

State permit fee revisions must be approved by the state legislature. Future state Title V permit fee revisions will be handled in the same way.

p. 21754, 3rd column, 2nd paragraph:

(6) Transition Problems

The EPA believes that an understanding on fee assessment and collection needs to be reached at the State level before program submission, and that local agencies should be compensated in a manner commensurate with their level of permit activities. The EPA proposes that there does not need to be one uniform State fee structure, particularly where one would unnecessarily disrupt existing programs. Further, EPA feels that consultation with State and local agencies prior to plan submission will help to resolve potential problems. Given these concerns, comments are solicited on how EPA input should be coordinated.

EPA should provide input to the State, and then the State will coordinate the local programs.

p. 21754, 3rd column, last paragraph:

Other types of transition issues relate to the early collection of fees. Section 502(b)(3)(A) requires that "sources subject to the requirement to obtain a permit" pay an annual fee, or the equivalent over some other period, sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program. The EPA proposes to interpret these provisions to authorize the imposition of fees on sources that State reasonably expects to be permit applicants, and to impose those fees prior to the date the source is required to submit an application. If these permit fees were restricted to the date the program becomes effective or the sources are required to submit an application, potentially insurmountable transition problems could exist for States trying to build up their capabilities to allow for effective implementation of the program. Given the clear mandate in Title V for the timely submittal of State permit programs, EPA believes that States should be allowed reasonable opportunities to collect fees which fund the development of their required Part 70 program. One approach might be to collect such fees during an early identification or registration of subject sources. Other reasonable strategies might involve fee payment by sources subject to a State program which has received interim EPA approval. The EPA solicits comment as to what approaches are appropriate for agencies to collect fees prior to program approval.

The FDER already has a permit fee collection system in operation and foresees no insurmountable transition problems.

p. 21755, 1st column, 2nd paragraph:

(7) Small Source Fees

The Act requires the establishment of a technical and environmental compliance program for small businesses. Part of the goal of this program is to alleviate the financial burden placed on small businesses by the new requirements embodied in the Act. The EPA is promoting, and solicits public comment on, establishing a relaxation or waiver in permit fees for small businesses where necessary. This $25 per ton is essentially an accounting technique, not a presumptive fee requirement. The EPA invites comments on other adjustments to the fee schedule for small sources that may be necessary.

The FDER agrees that adjustments to the fee schedule may be necessary for some small businesses.

V. Additional Topics of Discussion

A. Implementation Agreements Between State Agencies and EPA

(1) General

The implementation agreement identified in this section can come in any format and does not have to take the specific form of an MOA (memorandum of agreement). It need only cover the types of issues described in the next section. The EPA solicits comments on

the need for a model MOA and its anticipated usefulness.

Though it may be a helpful outline, a model MOA is not necessary. The implementation plan just needs to cover all of the issues, regardless of format.

p. 21758, 2nd column, last paragraph:

States might issue permits that depart from the SIP without securing advance EPA approval of those permits as case-by-case SIP revisions, namely, the case of permits that establish new, more restrictive requirements on a subject source. The Agency believes that the process for inserting new limits established within permits into the SIP need only occur periodically and not for each permit upon its issuance. The envisioned process would be a relatively straightforward incorporation of the new permit restrictions into the SIP as new applicable requirements that all future versions of the permit must meet. In addition, the State, presumably at the same time, would update its SIP demonstration under Title I based on the reductions and/or clarifications it has implemented using Title V permits. The EPA solicits comment on this approach for using permits to complement the existing SIP program.

The FDER concurs that the process for inserting new limits established within permits into the SIP need only occur periodically and not for each permit upon its issuance. Some sources might accept lower limits than in the SIP in order to pay smaller fees.

p. 21759, 1st column, 2nd paragraph:

The agency takes comment on the possibility of approving into the SIP a provision which would ensure an aggregate effect from tightenings accomplished within the permit program, provided that no aspect of the underlying SIP would be relaxed. The provision would necessarily contain tracking requirements to assess the progress achieved, periodic and refined updates of the demonstration to verify results, and other safeguards as needed to guide EPA when to use its veto authority on an individual permit basis. The EPA solicits comment on use of such a generic permits provision.

The EPA solicits comment on these and any other options for streamlining SIP's so as to minimize the need for SIP revisions to accommodate permits and permit revisions.

The SIP should provide the basic plan for how air quality is to be protected or improved. Though Congress does not want permits to override the SIP, this might be interpreted to mean that the permits should not allow requirements less stringent than what the SIP currently allows. If, however, permits contain more stringent and/or detailed requirements than what the SIP currently allows, this can be interpreted as enhancing the SIP, as opposed to

overriding it.

p. 21759, 3rd column, 2nd paragraph:

C. Implications For Acid Rain Program
Public Comment is invited at this time regarding the impact of this general permit program rulemaking on the acid rain permit program. Public comment in response to the acid rain rulemaking proposal will, however, only be accepted with regard to the provisions proposed at that time. Comments will not be considered at that time reopening matters addressed by this rulemaking.

The permit data management system should be capable of tracking the trading of allowances throughout the nation.

p. 21761, 1st column, 1st paragraph:

(2) Review of EPA Action
The Agency is proposing to require, as a criterion for approval of the State operating permit program, that each State have a provision in their administrative procedures act placing a bar on when permits or conditions of permits may be challenged after issuance. The purpose is to ensure that permittees do no attempt to escape liability for violations of permit conditions by challenging those conditions after they are in violation or after the State or EPA attempts to take an enforcement action. To provide States with flexibility, the Agency solicits comment on allowing time bars on permit challenges of up to 4 months.

Currently, the FDER allows a permittee 14 days from receipt of the issued permit in which to challenge the permit.

E. Implications for Section 112
(2) Section 112(l) Programs
Where section 112(l) identifies additional program requirements [such as those relating to enforcement of MACT or GACT requirements at non-permitted sources or the handling or storing any substance listed pursuant to section 112(r)], States are free to submit these as provisions within their Title V permit programs in order to meet section 112(l). Implementation of these provisions would then be a cost appropriate for recovery from the required fee schedule [IV.I.]. Accordingly, EPA solicits comment on today's proposal to consolidate section 112(l) programs with Title V permit programs.

In order to avoid a separate but similar program, the FDER concurs that section 112(l) programs should be consolidated with Title V permit programs.

(4) Alternative Emissions Limitations for Early Reductions

p.21762, 3rd column, 2nd paragraph:

For permit applications involving early reduction demonstrations according to section 112(i)(5) of the Act, it is proposed that the permitting authority be required to issue the permit within 9 months of receipt of a complete application. The agency takes comment on this proposed position.

The FDER will definitely issue these permits within 9 months of receipt of a complete application. Under current state law we must issue within 90 days.

p. 21763, 1st column, 2nd paragraph:

The EPA intends to delegate the technical and administrative responsibility where possible for developing enforceable agreements or Part 71 permits (as applicable) to States who request such authority prior to the approval of their Part 70 programs. The EPA solicits comments on how this approach for accomplishing early implementation of the section 112(i)(5) requirement can be accomplished.

As the FDER already has a functioning operating permit program, implementation of section 112(i)(5) requirements can be accomplished by incoporating them into existing operating permits.

p. 21763:

G. Relationship of Permit Fees to Section 105 Grants

EPA has interpreted the Act (Title VIII, section 802) as requiring States to continue to satisfy their maintenance of effort (MOE) provisions. States will, therefore, need to report that portion of their permit fee revenue that will be used to help meet their annual MOE obligation. EPA plans to provide further clarification through its upcoming revision of the air portion of the Part 35 regulations governing financial assistance to State and local agencies for continuing environmental programs. The EPA is taking this opportunity to solicit comment on its interpretation of the interrelationship of permit-fees, grants and the MOE requirement.

If fees varied year to year, the MOE could be less in a given year than the preceeding year.

VI. Federal Operating Permit Program

p. 21764:

B. Part 71 Default Program

For a Part 71 program, EPA must spell out details of these requirements or procedures just as the State must do in its program submittal. The EPA solicits comments on preliminary thoughts as to

the nature of the approaches that EPA would take on these items.

(1) SIP Ambiguity

The EPA reserves the right to issue a source-specific FIP (in the event a State fails to correct SIP deficiencies) which would then be implemented in the subsequent permit. Public comment is solicited on this approach.

(2) Complete Application/Data Elements

The EPA will specify the elements of a standard application form and include such a form in an appendix to Part 71. Criteria will be provided for filling out the form and specifying what constitutes a complete application. Public comment is solicited on the contents of an application.

A copy of FDER's currently used application form, and a proposed new application form with instructions are included as attachments.

STATE OF FLORIDA
DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES

ESE - PBCPHU

May 24, 1991

C. H. Fancy
Chief, Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Re: Permit Modification for NPBC Resource Recovery Facility, PSD-FL-108A

Dear Mr. Fancy:

The Palm Beach County Public Health Unit received the above referenced application on May 6, 1991, and has no comment on the proposed permit.

Sincerely,

For the Division Director
Environmental Science and Engineering

Jeffery F. Koerner
Engineer II, PBCPHU

FJG/JFK/lh

cc: M. Baig

DISTRICT IX
PALM BEACH COUNTY PUBLIC HEALTH UNIT • P.O. BOX 29 • WEST PALM BEACH, FLORIDA 33402

LAWTON CHILES, GOVERNOR

Barry Andrews

SOLID WASTE AUTHORITY

OF PALM BEACH COUNTY

7501 North Jog Road
West Palm Beach, Florida 33412
Telephone (407) 640-4000

October 5, 1990

MEMORANDUM

TO: Distribution

FROM: Marc C. Bruner MCB
Director of Planning & Env. Programs

SUBJECT: 9/26/90 Meeting Minutes
Air Permit Modification

Attached for your information and review are minutes from the above referenced meeting. If any attendees have additions or corrections, let me know no later than 10/12/90, and I will issue a revision sheet if necessary.

If there are any questions or comments concerning the meeting, please contact me.

MCB/dp

Distribution List

Meeting Attendees
Tim Hunt, SWA
Mark Hammond, SWA
Don Lockhart, SWA
John Booth, SWA
Don Sisson, SWA
Tom Lammers, B&W
Neil Monroe, B&W
Tom Tittle, DER

MEETING MINUTES

Review of NCRRRF Permit Modification Request

September 26, 1990 - 2:00 PM

Department of Environmental Regulation
1900 S. Congress Avenue, W.P.B.

Attendees:

Rod Williams	Babcock & Wilcox
George Woodward	Babcock & Wilcox
Douglas Burnham	Babcock & Wilcox
Ajaya Saytal	P.B.C. Health Unit
Jeffery Koerner	P.B.C. Health Unit
Barry Andrews	DER/Tallahassee
Isidore Goldman	DER/W.P.B.
Marc Bruner	Solid Waste Authority
Donna Pecchia	Solid Waste Authority

Agenda

1. Introductions: All attendees introduced themselves.

2. Background: M. Bruner provided a general review of the background concerning the request for permit modification. Included history of meetings and submittals. Basis for this meeting is comments submitted by DER-WPB and Health Unit in response to June 8, 1990 submittal by Authority to DER-Tallahassee. Agenda is point by point discussions of these comments.

3. Discussion of Comments:

   3.1 **Boiler Capacity** - M. Bruner recommended changing condition to reflect maximum, capacity of 412.5 mmBTU/hr and deleting reference to pounds of fuel per hour.

   AJ Saytal asked what capacity we were currently running, response was at permitted rate of 360 mmBTU. D. Burnham stated boiler is designed at 412.5.

   Nameplate was discussed. M. Bruner stated nameplate rating is 412.5.

Agreed by all to put in 412.5 mmBTU as maximum capacity.

B. Andrews asked if we will be putting more refuse through the system. Response was yes.

Fuel loading rate was discussed. R. Williams and M. Bruner stated that the weight of fuel is not monitored. Steam flow is the criteria used to charge and operate the boiler, and heat capacity is derived from steam flow.

M. Bruner stated that Method 9 "F" factors could be added to stack test conditions to document heat input calculations. This was done in first stack test as requirement of EPA PSD permit.

R. Williams would like to perform upcoming stack test at 412.5 mmBTU. Test is tentatively scheduled for October, unless an extension is possible until permit questions are resolved.

ACTION ITEM: B. Andrews will look into getting extension on test to allow testing to be done at 412.5.

3.2 **Fluoride** - Agreed by all to leave as is in current condition.

3.3 **VE - Method 9** - Agreed by all to leave Method 9 as is in current condition.

3.4 **Time/Temp.** - M. Bruner commented that least efficient way to monitor time/temp is time/temp. indicator.

AJ Saytal emphasized the importance in achieving the 1800F because of the public's concern regarding dioxin. AJ Saytal would like some form of documentation to demonstrate compliance to the public. Suggested running a one time test so something would be documented.

M. Bruner suggested we produce a report on boiler time/temperature. D. Burnham said such a test was run to evaluate design, so by reviewing existing numbers we can determine compliance. AJ Saytal stated again that he would like test on temperature. M. Bruner suggested that we first produce report for AJ Saytal to review.

B. Andrews said current recovery plant permits require exit gas temperature monitoring. R. Williams expressed concern about day to day reliability of gas temp monitors. B. Andrews will send us a copy of permit from Pasco County.

ACTION ITEM: D. Burnham will prepare report on time/temperature curves for the boilers, based on actual data collected during acceptance test.

ACTION ITEM: B. Andrews will provide copy of Pasco County permit language concerning exit gas temperature monitoring.

3.5 **H_2SO_4 Mist** - Agreed by all to delete sulfuric acid from acid gas control permit language.

3.6 **SO_2** - M. Bruner stated that difficulty arises when 65% removal is required and SO_2 levels are very low.

B. Andrews stated that Pasco permit addressed this issue of numerical limits and percent removal and he will get information from Pasco.

ACTION ITEM: B. Andrews will provide copy of Pasco County permit language concerning SO_2 limits and percent removal.

3.7 **Lead and Mercury** - M. Bruner suggested that the current permit limits in lbs/mmBTU be retained.

All agreed to let the present emission limits stand.

M. Bruner requested that the reference to sludge, and the 3200 grams/day limit be taken out of the mercury emission limit, and only lbs/mmBTU be used. B. Andrews stated that the limits could be based on lbs/mmBTU.

B. Andrews asked if any tests have been done on mercury removal efficiency. M. Bruner commented that we are removing a lot of batteries in the RDF process. B. Andrews asked how our RDF information compared with others. D. Burnham responded that not much data is published on RDF; we believe it is good by review of unpublished data.

3.8 **NO_x** - M. Bruner advised B. Andrews that we do not meet our current permit limit of .32 lbs/mmBTU. Highest number we produced in stack testing is .37 lbs/mmBTU. Comments had suggested .56 limit requested may be high. R. Williams commented on the need for a reasonable number to operate with to take into account variability in the fuel.

M. Bruner suggested a limit of 0.50 lbs/mmBTU would provide sufficient cushion. B. Andrews suggested .48. M. Bruner said there could be a problem because .50 is what B&W will guarantee in the commercial contract.

AJ Saytal would like to look at our data in comparison with data from other companies.

B. Andrews concluded that DER would work with SWA. M. Bruner proposed that if 0.50 lbs/mmBTU could be set as the limit, we would be willing to monitor NO_x continuously.

4. Additional Matters

4.1 **CEMs** - B. Andrews asked what we are currently monitoring using CEMs.

Current permits specify particulate and O_2. Other monitors are installed for CO, SO_2, and NO_x.

B. Andrews noted that no monitoring is being done on CO_2. D. Burnham noted that CEM is usually required for CO or CO_2, but not both.

5. Meeting adjourned at 3:30 PM.

SOLID WASTE AUTHORITY

OF PALM BEACH COUNTY

7501 North Jog Road
West Palm Beach, Florida 33412
Telephone (407) 640-4000

July 17, 1991

Mr. Barry Andrews
Professional Engineer Administrator
Permitting and Standards Section
Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED
JUL 18 1991
Division of Air
Resources Management

Dear Mr. Andrews,

The Solid Waste Authority and the NCRRRF operator, B&W have reviewed DER's proposed permit modifications (PSD-FL-108A) as transmitted in their May 2, 1991 correspondence to the SWA, and offers the following comments.

In overall review, the SWA is concerned that DER's presentation of relevant technical information, project background material, and chronology of events is in some cases inconsistent with our records. In addition, the imposition of some of the new EPA guidelines at a time before the effective date of the rules and before the DER has formally adopted the guidelines or rules or has proposed rules that would incorporate those EPA guidelines is premature. The SWA therefore requests that those sections which reference the EPA rules not in effect or which are not yet adopted by the DER be removed from the permit. When the DER formally promulgates new rules which incorporates the EPA regulations or adopts the EPA rules by reference, the SWA will comply with the schedule for modification of existing facilities as specified by the DER.

The technical comments are noted as follows: (These comments correspond to numerical references marked on the attached DER documents).

Intent to Issue

1. The stated application date is in error and should be corrected to read November 29, 1989.

2. Technically, we are getting a modified construction permit, an operating permit, or are both implied?

3. By stating "... modification of the construction permit for an increase in capacity..." seems to indicate that physical changes to the facility are being authorized. We suggest that the specific reference to "for an increase in capacity" be deleted or that further clarifications be added in order to avoid any unnecessary, negative reaction during the public comment period.

4. Pursuant to a telephone conversation between Barry Andrews, DER and Richard Statom, SWA, the SWA position is that even though the "Intent to Issue" has been signed, dated an recorded that the enclosed documents are in draft form and the time clock has not started.

5. Same comment as stated in Item 3 above.

6. A considerable amount of the information presented in the DER's Technical Evaluation and Preliminary Determination is not consistent with our records and is potentially confusing. SWA recommends consideration of the following substitute wording under Items I. Application, and II. Project Description as follows:

I. Application

A. Applicant

Solid Waste Authority of Palm Beach County
North County Regional Resource Recovery Facility
7501 North Jog Road
West Palm Beach, Florida 33412

B. Project and Location

This project is a resource recovery facility where approximately 2,000 TPD of municipal solid waste is received and processed into refused derived fuel (RDF) for energy recovery and into recoverable ferrous and aluminium materials. The facility is located near the intersection of Beeline Highway and the Florida turnpike in Palm Beach County, Florida.

II. Project Description

The resource recovery facility consists of three major plants: the RDF manufacturing plant, the boiler plant and the electric generating plant.

The facility will process 2,000 TPD of municipal solid waste (MSW) with an annual throughput of 624,000 tons. Excess capacity and redundancy were built into the facility to assure that the throughput requirements can be met with both planned and unplanned outages which occur as part of normal facility operation.

The facility is equipped with three RDF processing lines, any two of which can process 2,000 TPD of MSW. Two boilers are provided, each with a capacity to burn 900 TPD of RDF at a reference heating value of 5,500 Btu/lb. The turbine-generator is rated at a nominal 62 MW and is matched to the full output of the boilers. The SWA anticipates the expansion of this facility to process 3,000 TPD of MSW with the addition of a third boiler and a second turbine-generator in the future, however, this future expansion is not included as a part of the current permit modification request.

Modifications Requested

In July 1986, the Florida Power Plant Siting Board issued a certification (No. PA 84-20) and EPA issued a permit (No. PSD-FL-108) in December of 1986 for the above referenced facility.

However, since the original permit was issued prior to completion of the final facility design, the following permit modification have been requested to reflect the actual design capability of the facility. The Department received a permit modification request dated November 29,

1989 for an increase in plant capacity along with a revision of the emission limits for NOx, CO, lead, mercury and sulfuric acid mist. A comparison of the current permit and the requested modification is as follows:

7. Under item III. Rule Applicability, it states that "this facility will be subject to the new CFR 110.29." We have not been able to locate or even verify the existence of this regulatory reference. As such, DER is requested to provide a copy of this regulation for our review.

8. This statement is potentially misleading since some, but not all, of EPA's Subpart Ca guidelines have been considered.

Permit

9. On pages 1 and 2 of 10 of the PSD permit, we question the apparent need to include a detailed description of the facility and associated equipment since no major physical modifications have occurred since the facility was built. If DER considers this information to be appropriate and necessary, much of the stated information needs to be revised for consistency and accuracy. In such case, SWA recommends DER's consideration of the following wording, starting with paragraph 2 on page 1 of 10.

   The North County Regional Resource Recovery Facility is authorized to increase the operating capacity of two (2) existing RDF boilers to their maximum design input rating of 412.5 MMBtu's per hour with a maximum steam rating of 324,000 lbs. per hour, subject to the General and Specific Conditions stated herein.

   The resource recovery facility consists of three major plants: the RDF manufacturing plant, the boiler plant and the electric generating plant.

   The facility is designed to process 2,000 TPD of municipal solid waste (MSW) with an annual throughput of 624,000 tons. The RDF manufacturing plant is equipped with three MSW processing lines, and two of which can handle 2,000 TPD of incoming MSW. Excess capacity and redundancy were built into the processing plant to assure that the throughput requirements could be met with one processing line down for planned or unplanned maintenance.

   The boiler plant includes two B&W boilers, each designed to combust up to 900 TPD of RDF with a reference heating value of 5,500 Btu/lb (412.5 MMBtu/hr). Actual RDF heating values typically range from 4,500 to 6,200 Btu/lb with moisture contents ranging from 40 to 15 percent respectively.

   Emissions from each boiler are controlled by a Joy Technologies spray dryer absorber followed by a Joy/BSH Kerfield four field electrostatic precipitator. Each precipitator has a gas flow rating of 198,000 ACFM and is designed to operate with three of four fields in service.

   Flue gas emissions (opacity, O2, SO2, CO and NOx) from each unit are monitored with an Enviroplan CEM system.

   The turbine-generator plant has a nominal output rating of 62 MW, and is matched to the full output capacity of the boilers.

10. The reference to annual capacity factor limitations for natural gas usage per 40 CFR 60.43b (d), along with the modified unit heat input/output limits should be stated as part of the Specific permit conditions.

11. Under general condition 8 on page 3 of 10, the term immediately requires further definition and/or clarification. We would propose to retain the wording in the existing PSD permit which requires EPA notification in writing within (5) working days or the State conditions of certification which requires DER and PBCPHU notification by telephone within a working day and confirmation in writing within 72 hours.

12. Under general condition 14b on page 5 of 10, it states that records shall be retained for a minimum of three years, whereas the existing PSD permit and new EPA guidelines specify a minimum of two year retention period. SWA requests that the existing two year retention period by maintained in the modified permit.

13. Under specific condition 3b on page 6 of 10, if continuous NOx monitoring is required for compliance determinations, an averaging time needs to be specified. We recommend a 24 hour block average consistent with EPA's new guidelines.

14. The proposed compliance averaging periods for NOx, CO, SO2, O2, opacity, steam flow, temperature into the ESP, etc. need to address periods of start up, shutdown, and malfunctions. We recommend utilizing a (3) hour exemption period consistent with the provisions in EPA's new guidelines.

15. The SO2 averaging period needs further clarification to be consistent with EPA's new guidelines, which are based on a 24 hour geometric mean.

16. HCL compliance should be based on annual stack testing consistent with EPA's new guidelines (i.e.: 3 run test average) and not on a 24 hour average.

17. Due to the existing location of the opacity monitors in the ESP outlet flues, false high opacity reading may occur when the entire boiler system is down. A visual emissions test was performed during such conditions with the Southeast District office and it was concluded that false high opacity conditions could indeed occur during times when the boiler was down (immediately after boiler shut down). We need to address this issue to avoid future compliance problems.

18. Under specific condition 4, the annual testing requirements need further clarification. Since continuous monitors will be required for O2, NOx, SO2, CO and opacity, annual CEM certifications will be conducted and redundant annual stack compliance tests should not be required. Also, since it is likely that modifications to the Continuous Emissions Monitors Data Acquisition System will be necessary to comply with the new permit, it is unreasonable to specify that the units shall be tested within 90 days of issuance of this permit. We would propose to conduct testing within 180 days of actual operation at the revised heat input limit.

19. Under special condition 4, we request specific reference to alternate EPA methods: 4c.- EPA Method 3A in addition to EPA Method 3
4g.- EPA Method 6C or 8 in addition to EPA Method 6
4h.- EPA Method 7A, 7B, 7C, 7D, or 7E in addition to EPA Method 7

20. Under special condition 6, the proposed gas temperature requirement of 1,800 degrees F at a height of 20 feet above the last overfire air port cannot be achieved based on actual test data results.

In the November 29, 1989 permit modification request, (item 1, page 13), SWA stated that based on the unit design and RDF characteristics, a combustion gas temperature of 1,800 degrees F or greater would occur up to 20 feet above the last overfire air port. This statement was offered as support that the units would be in substantial compliance with EPA's proposed good combustion practice guidelines of 1,800 degrees F at a fully mixed height in the furnace (note that EPA dropped this requirement from their final NSPS and Subpart Ca guidelines). At that point in time, our statement was based on a theoretical heat transfer model which has since been demonstrated to be overly optimistic. Research & Development tests conducted at West Palm Beach and other MSW combustion facilities have shown that the original model over predicted gas temperatures by several hundred degrees. During the NCRRRF R&D tests, a 1,800 degrees F gas temperature was measured approximately 20 feet above the stoker at a cumulative gas residence time over 1 second. Note that this R&D test data was supplied to DER as a result of our September 26, 1990 meeting with the agency. While not specifically identified in this test data, the last overfire air port is located approximately 15 feet above the stoker, therefore, an 1,800 degrees F gas temperature actually occurred 5 feet above the last overfire air port. At 20 feet above the last overfire air port, (35 feet above the grate), gas temperatures were measured at approximately 1,600 to 1,700 degrees F.

Measuring and/or maintaining a specific (e.g.: 1,800 degrees F) temperature at any specific point in the furnace of a water wall, heat recovery type furnace is generally acknowledged as being impractical if not impossible. Furnace temperatures at any given point in the furnace will change as a function of fuel moisture and Btu content, unit operating load, etc. This, in part, prompted EPA to drop the proposed furnace time/temperature requirements in their final regulations for MSW combustors. After considerable study, EPA determined that CO was the single best parameter to monitor in order to demonstrate good combustion control.

The SWA request that Specific Condition #6 be deleted from the permit.

21. SWA does not understand the relevance of imposing a %CE requirement since this is the same concept as a CO limit corrected to a base CO2, or O2. The proposed %CE = 99.5, 8 hour average, is equal to a 600 ppm CO limit corrected to 12% CO2 (approximately = 7% O2). This requirement also implies that CO2 must be continuously monitored (in addition to O2) and would necessitate the addition of (2) new monitors to the existing CEM system. Given that 400 ppm (1) hour and 200 ppm (24) hour CO limits are already proposed, we do not see the justification for the DER's %CE requirement.

22. Under items 8 & 9 of the special conditions, the requirement to achieve 1,800 degrees F furnace temperatures during start up and shutdown periods appears good in theory but may be impossible in practice. Again, the problem becomes trying to measure a discrete temperature at a specified point in the furnace (presumably 20 ft. above the last overfire air port).

    The auxiliary burner system was designed primarily for warming up the furnace, (raising pressure), and for igniting the RDF fuel during start up operations. The peak furnace temperature which can be achieved with all burners operating at full input is currently unknown.

    The additional requirement stating that the spray dryer and ESP shall be in operation and functioning properly during periods of start up and shutdown may also present a problem since the spray dryer cannot be put into service until the inlet gas temperatures approach 350 degrees F. It is not currently known if gas firing alone can raise the dry scrubber inlet temperatures high enough to place the scrubber in service, prior to refuse firing.

23. Under special condition 10, the proposed requirement to maintain a negative air pressure in the tipping area is not feasible based on the NCRRRF facility design. Therefore, this requirement should be deleted from the permit.

24. Under special condition 11, would the future use of landfill gas as an auxiliary fuel necessitate another revised permit?

25. Under special condition 13, an averaging period needs to be specified. SWA recommends a (4) hour block average for steam flow consistent with EPA's Subpart Ca guidelines. Further, we feel that the proposed steam pressure and temperature monitoring is unnecessary since the facility steam flow instrumentation is already corrected for pressure and temperature.

26. The SWA does not see the necessity of installing a CO2 continuous emission monitor as this information is only required for the combustion efficiency calculation which is addressed under comment # 21. The SWA request clarification on the requirements for notification of the training schedule.

27. The background information presented in this BACT evaluation is not totally accurate nor consistent with information provided on page 9 of the SWA's 11/29/89 permit modification request. SWA recommends the use of the wording previously offered under comment #9.

28. This statement is not totally true since the need to revise the permit limits (including capacity) was identified and discussed with the regulatory agencies in May 1986, prior to formal issuance of the current permit.

29. The correct BACT application date is November 29, 1989.

30. This is misleading since some, but not all, of EPA's Subpart Ca guidelines have been considered.

31. The NOx issue was identified well in advance of actual facility operation and our 0.56 #/MKB request was consistent with other permits

recently issued in Florida at that time. Actual compliance test data confirmed that the 0.32 lb/MMBtu limit was not realistic.

32. The two facilities referenced should be identified.

33. This discussion of CO does not attempt to explain the fact that we offered to lower the CO limit, partially as justification for the higher NOx limit (reference the NOx/CO discussion presented on pages 2 and 3 of our 11/29/89 permit modification request).

34. The stated lead limit of 0.004 lb/MMBtu should be corrected to read 0.0004 lb/MMBtu.

35. SWA did not specifically request any change to the current SO2 permit limit rather, we discussed the need to clarify the wording to reflect a % reduction requirement or a numerical limit, whichever is achieved first.

36. The HCL limitations should be clarified to state compliance based on a yearly test (e.g.: 3 run test average).

37. This paragraph implies that we are requesting an increase in capacity above the original design limits of the boiler. This is not true and needs to be reworded since the facility was originally designed to operate at the requested capacity.

38. Please see comment #21 and #26 for SWA comments on combustion efficiency and CO2 continuous emission monitoring.

The SWA requests a meeting be scheduled as soon as possible in order to discuss our comments concerning the proposed permit modifications. Please contact Richard Statom at 407/640-4000 to set up a meeting time and date for the meeting.

If there are any questions or comments please do not hesitate to contact myself or Richard Statom.

Sincerely,

Marc C. Bruner, PhD.
Director of Planning & Environmental Programs

cc. J. Booth, SWA
R. Statom, SWA
M. Hammond, SWA
B. Conko, G&A
D. Burnham, B&W
R. Williams, B&W
G. Woodward, B&W
T. Lammers, B&W
N. Monroe, PBEA

STATE OF FLORIDA
DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES
DISTRICT IX

ESE-WPB

October 8, 1990

Mr. Barry Andrews, P.E., Admininstrator
Permitting Section
Division of Air Resource Management
Fla. Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee FL. 32399-2400

Re: Palm Beach Solid Waste Authority Municipal Waste Incinerator

Dear Mr. Andrews:

This letter is written in reference to a joint meeting we had with Solid Waste Authority of the Palm Beach on September 24, 1990 at the South East District Office. This agency has no further comment at this time on agreed upon proposed language changes on SO_2, NO_x, CO, Pb/Hg, method 9 mmBTU/HR and Fluoride limit. We will assist you with further comment should there be a significant change over what was agreed upon.

Please recall that Solid Waste Authority of Palm Beach agreed to look into the design criteria and initial testing of the incinerator to see if the incinerator achieves 1800^{O}F temperature for flue gas with one second residence time. Soild Waste Authority also agreed to continously monitor the exhaust stack gas temperature and extrapolate back the temperature value to find flue gas temperature in the incinerator. Presently there is no requirement in the permit to monitor 1800^{O}F at one second residence time. Since this is a critical assurance for control of dioxions and furan this agency strongly recommends that at least one testing for temperature and residence time be required for this incinerator. If the Soild Waste Authority of Palm Beach feels that the
temperature testing could be a financially unfeasiable, we suggest that the incinerator be tested for dioxions and furans.

Recently there has been a great public concern about the emissions from this municipal waste burning facitily. It is difficult to relate to the public that CO concentration limitation is a good assurance for complete combustion and therefor 1800^{O}F is presumably met.

Thank you for giving us an opportunity to comment on this matter. Please call us at (407) 355-3070 or Suncom 237-3070 if you have any question.

Sincerely,

For Division Director
Environmental Science and Engineering

Ajaya K. Satyal

Ajaya K. Satyal, Environmental Supervisor
Air Pollution Control Section

FJG/AKS/lh

cc: Clair C. Fancy, P.E., Bureau Chief, BAR, DARM
Tom Tittle, Fla. DER Southeast District
Mark C. Brunner, Ph.D., SWA, Palm Beach

SOLID WASTE AUTHORITY
OF PALM BEACH COUNTY
7501 North Jog Road
West Palm Beach, Florida 33412
Telephone: (407) 640-4000 • Fax:(407) 683-4067

LETTER OF TRANSMITTAL

DATE	CONTRACT NO.
1/31/91	

ATTENTION: Barry Andrews

RE: Palm Beach County
Solid Waste Authority
Resource Recovery Facility

RECEIVED
FEB 4 1991
DER - BAQM

TO Mr. Barry Andrews, Air Permitting
Dept. of Environmental Regulation
Twin Towers Office Bldg., 2600 Blair Stone Rd.
Tallahassee, FL 32399-2400

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Drawings ☐ Documents ☐ CSA # _____ ☐ CS # _____ ☐ Specifications

☐ Copy of letter ☐ Change Order # _____ ☐ _____

ITEM	COPIES	DESCRIPTION
1	1	Letter to M. Bruner, SWA, Discussing assurance of a one second
		residence time at 1800°F for the boilers at the North Central Regional
		Resource Recovery Facility.

THESE ARE TRANSMITTED as checked below:

☒ For your information ☐ For your signature ☐ For your files

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☐ For your use ☐ Approved as noted ☐ Please return to my attention

☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints

☐ For review and comment ☐ For your action ☐ _____

☐ FOR BIDS DUE _____ 19_____ ☐ PRINTS RETURNED AFTER LOAN TO US

COMMENTS: _____

COPY TO _____

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE.

SIGNED: Richard A. Stratom

TITLE: Asst. Director - Environmental Programs

SWA-EN-1002-07/90

Babcock & Wilcox

a McDermott company

Power Generation Group

20 S. Van Buren Avenue
P.O. Box 351
Barberton, OH 44203-0351
(216) 753-4511

December 3, 1990

Solid Waste Authority of Palm Beach County
7501 North Jog Road
West Palm Beach, FL 33412

Attn: Mr. Marc C. Bruner
Director of Planning & Environmental Programs

Dear Mr. Bruner:

This correspondence provides revised time/temperature data on the NCRRRF boilers, and supersedes the information transmitted in my October 26, 1990 subject letter.

Figure 1 has been revised to correct several minor errors which were discovered in the previous flue gas residence time calculations. Additionally, the "predicted" furnace temperature profile has been removed from the graph in order to avoid any potential misunderstandings relative to the actual test data.

Actual flue gas temperature measurements were acquired as a part of a B&W research and development program conducted on Unit #1 during the week of February 26, 1990. For further information on the typical temperature measurement techniques utilized during this R&D test, please refer to B&W's technical paper entitled "The Determination of the Thermal Operating Characteristics in the Furnace of a Refuse-Fired Power Boiler".

For the NCRRRF boilers, specific flue gas time/temperature relationships can be determined from the attached Figure 1 as follows:

1. Enter the left hand Y axis at the desired reference temperature (e.g.: 1800°F). Move horizontally across until intersecting the temperature curve labeled (0).

2. From the temperature curve drop down vertically until intersecting the residence time curve labeled (*). Note: Continuing vertically down to the X axis indicates the height in the furnace where the selected reference temperature occurs (e.g.: 20 feet).

3. At the intersection of the residence time curve, move horizontally across to the right hand Y axis and read the cumulative gas residence time (e.g.: 1.4 seconds).

The test data presented in Figure 1 shows that the average flue gas residence time above 1800°F in the NCRRRF boilers is approximately 1.4 seconds. From several different reference points, the following additional time/temperature information can be determined.

1. The average flue gas residence time above 2000°F is approximately 1 second.

2. The average flue gas residence time above 1500°F is approximately 3.5 seconds.

3. The cumulative gas residence time in the furnace approaches 5 seconds at temperatures above 1400°F.

Please note that the data presented in Figure 1 was acquired at the current input limit of 360 MMBtu per hour. The flue gas time/temperature relationships will shift with changes in boiler operating load.

Based on data from other refuse fired boilers, furnace residence time at a given reference temperature generally increases as boiler operating load decreases. This relationship has also been verified through theoretical performance modeling which shows that, as furnace heat input rates are reduced, combustion flue gas volumes decrease faster than the flue gas temperatures drop. Therefore, at reduced operating loads, furnace residence time at temperature tends to increase. Conversely, as boiler operating loads increase, flue gas residence time at a given temperature will tend to decrease.

In order to evaluate the impact of operating the NCRRRF boilers at high loads, (e.g.: design heat input of 412 MMBtu/hr versus the current 360 MMBtu/hr limitation), B&W utilized their computerized furnace performance model to analyze the change in gas residence time at 1800°F. The results of this analysis show a decrease in flue gas residence time of between 0.10 and 0.20 seconds at the higher 412 MMBtu/hr input rate.

Based on actual test data at the 360 MMBtu/hr input rate, the gas residence time above 1800°F was approximately 1.4 seconds. Therefore, future operation at the 412 MMBtu/hr input rate would result in a slight decrease in gas residence time above 1800°F to between 1.2 and 1.3 seconds.

Hopefully, the enclosed information is sufficient to demonstrate compliance with the permit "design" objective of 1 second residence time at 1800°F.

Should you have any additional questions or comments, please feel free to contact this writer at 216-806-6794.

Sincerely,

THE BABCOCK & WILCOX COMPANY

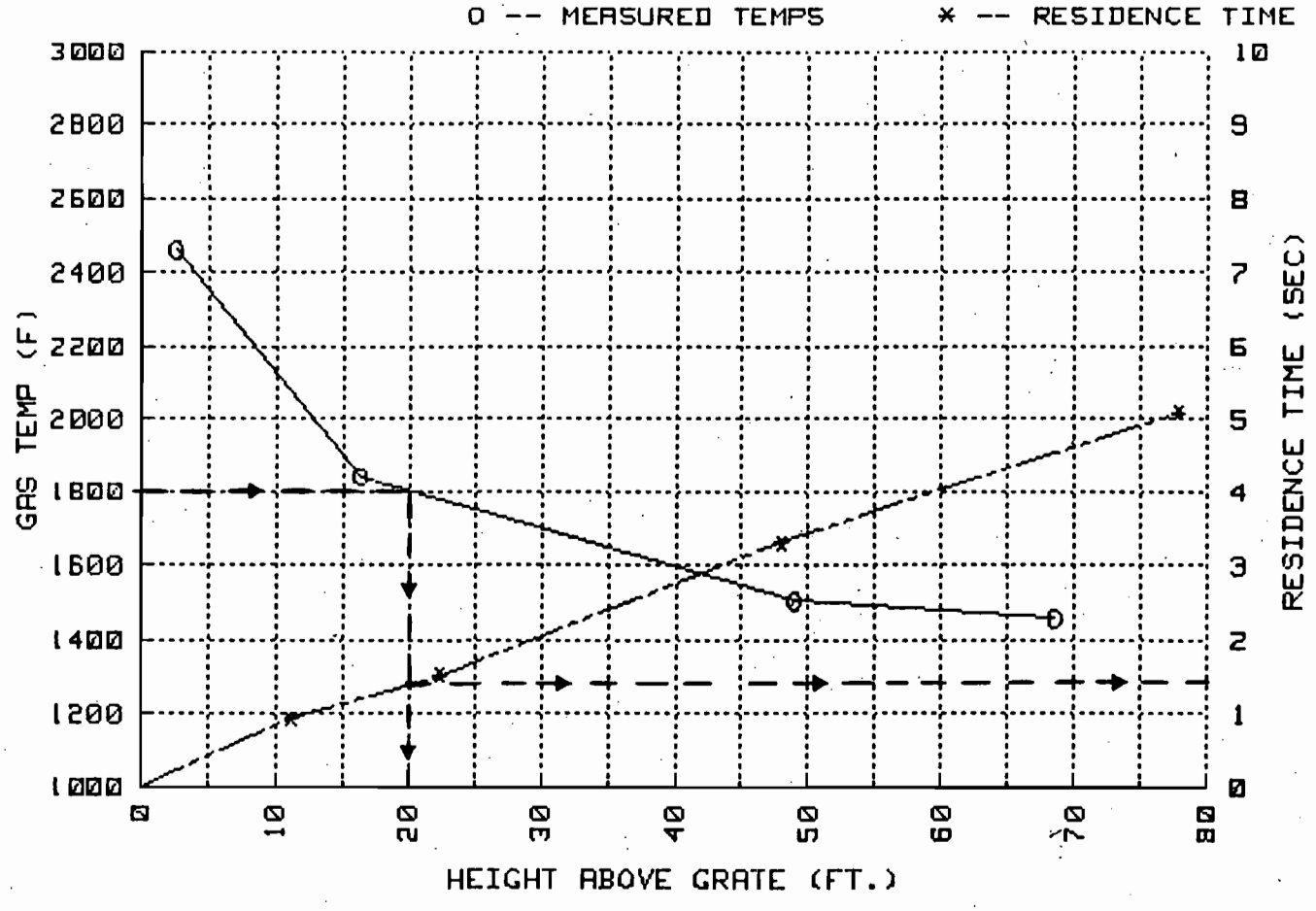
Douglas E. Burnham

Douglas E. Burnham

DEB007/lak

cc: T. F. Lammers - BVCB3H
R. Williams - WPB Site

FIGURE 1
FLUE GAS TIME/TEMPERATURE PROFILE
UNIT #1 - NCRRRF



WEST PALM BEACH UNIT #1 - TEST R20 - 02/28/90 14:42 --> 17:52

STEAM FLOW - 265 MLB/HR
HEAT INPUT - 363 MMBTU/HR
EXCESS AIR - 56.5 %

Technical Paper

The determination of the thermal operating characteristics in the furnace of a refuse-fired power boiler

S. A. Scavuzzo
J. R. Strempek
Fossil Power Division
The Babcock & Wilcox Company
Barberton, Ohio

L. Strach
Wheelabrator Technologies Inc.
Danvers, Massachusetts

Presented to
ASME 14th National Waste
Processing Conference and Exhibit
June 3-6, 1990
Queen Mary, Long Beach, California

Babcock & Wilcox
a McDermott company

BR-1376A

The determination of the thermal operating characteristics in the furnace of a refuse-fired power boiler

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BR-1376A

Abstract

Recent concerns over the emission of trace organic compounds from solid waste incineration have led to governmental regulations affecting the design, operation, and maintenance of Refuse-to-Energy facilities. Many state environmental agencies are now implementing time-at-temperature criteria into their operating permits. These criteria vary from state to state but are based on the belief that the destruction of organic compounds is a function of furnace gas residence time-at-temperature in the presence of oxygen in a well-mixed state. Extensive testing is often required to verify permit compliance capabilities and/or to develop correlations for on-line continuous monitoring. This paper discusses the procedure and equipment used to perform time-at-temperature testing at facilities located in Millbury, Mass., and Bridgeport, Conn., and covers typical results of such analyses.

Introduction

The passage of Section 102 of the Hazardous and Solid Waste Amendments (HSWA) of 1984 was a response to a new level of public concern over the emission of trace organic compounds from municipal waste combustors. This act mandated the Environmental Protection Agency (EPA) to prepare and submit to Congress a report setting forth the combustor design criteria and operating practices deemed appropriate for controlling these emissions(1). Anticipating this legislation, state permitting agencies began to specify various measurable quantities which, on a design basis, were thought to represent "good combustion practices". Good combustion practices are believed to mitigate emissions of trace organic compounds. Associated with these practices are criteria that include considerations for providing a high combustion gas temperature (1500 - 1800°F) (816 - 982°C) for a sufficient length of time (1 - 3 seconds). It was presumed that a combustor designed to these requirements would be capable of operating at high combustion efficiencies.

As a condition of the operating permits for the 1500-tons/day (1361 metric tons/day) facility at Millbury, Mass., and the 2250-tons/day (2041 metric tons/day) facility at Bridgeport, Conn., it was necessary to demonstrate compliance to these criteria in actual field tests. The field tests were conducted from December 1987 to June 1988.

Background

The units tested at Millbury and Bridgeport are two identical balanced-draft Babcock & Wilcox Stirling Power Boilers integrated with Von Roll refuse grate systems (Figure 1). Each unit utilizes a mass-burn water-wall technology designed to process 750-tons/day (680 metric tons/day) of Municipal Solid Waste (MSW) and to generate 192,000 lb/hr (87090 kg/hr) of superheated steam at conditions of 900 psig (633 kPa) and 830°F (433°C). Each unit is top supported and is arranged with water-cooled furnace walls of gas-tight membrane construction, a three-pass pendant superheater, a modular generating bank, and

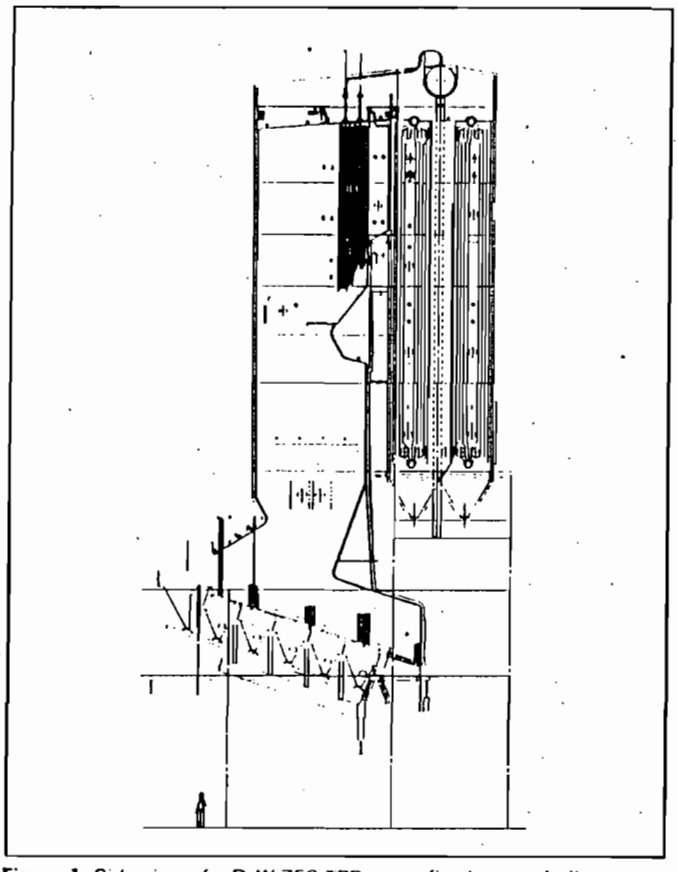

Figure 1 *Side view of a B&W 750 TPD mass-fired power boiler.*

a modular economizer. The boilers are an integral part of each facility operated by Wheelabrator Technologies Inc. (Figure 2).

In the combustion process, refuse fuel is converted to heat, gas, and residue by a combination of the "three T's" of combustion: time, temperature, and turbulence(2). The extent to which combustion may be optimized is a function of the mechanical ability of the combustion system to mix air with fuel. In this case, the combustion system is comprised of the refuse grate system, the air system, the control system, and the furnace(3).

Fuel and air are admitted in a controlled manner by which heat and gaseous products are liberated. As these hot gaseous products pass through the furnace, a portion of their heat is transferred to the surrounding furnace waterwall enclosure. Though control system adjustments can be made to the refuse grate and air systems during operation to optimize combustion conditions, no operational adjustments can be made to the fixed furnace walls. Therefore, the as-built furnace must be capable of successfully handling a wide range of operating conditions(4).

For a given size furnace, the velocity of the gaseous combustion products passing through it is mainly determined by the flow rate of gas present. In turn, the velocity of the gas has a profound effect on:

a) aerodynamic suspension and transport of particulate matter, and

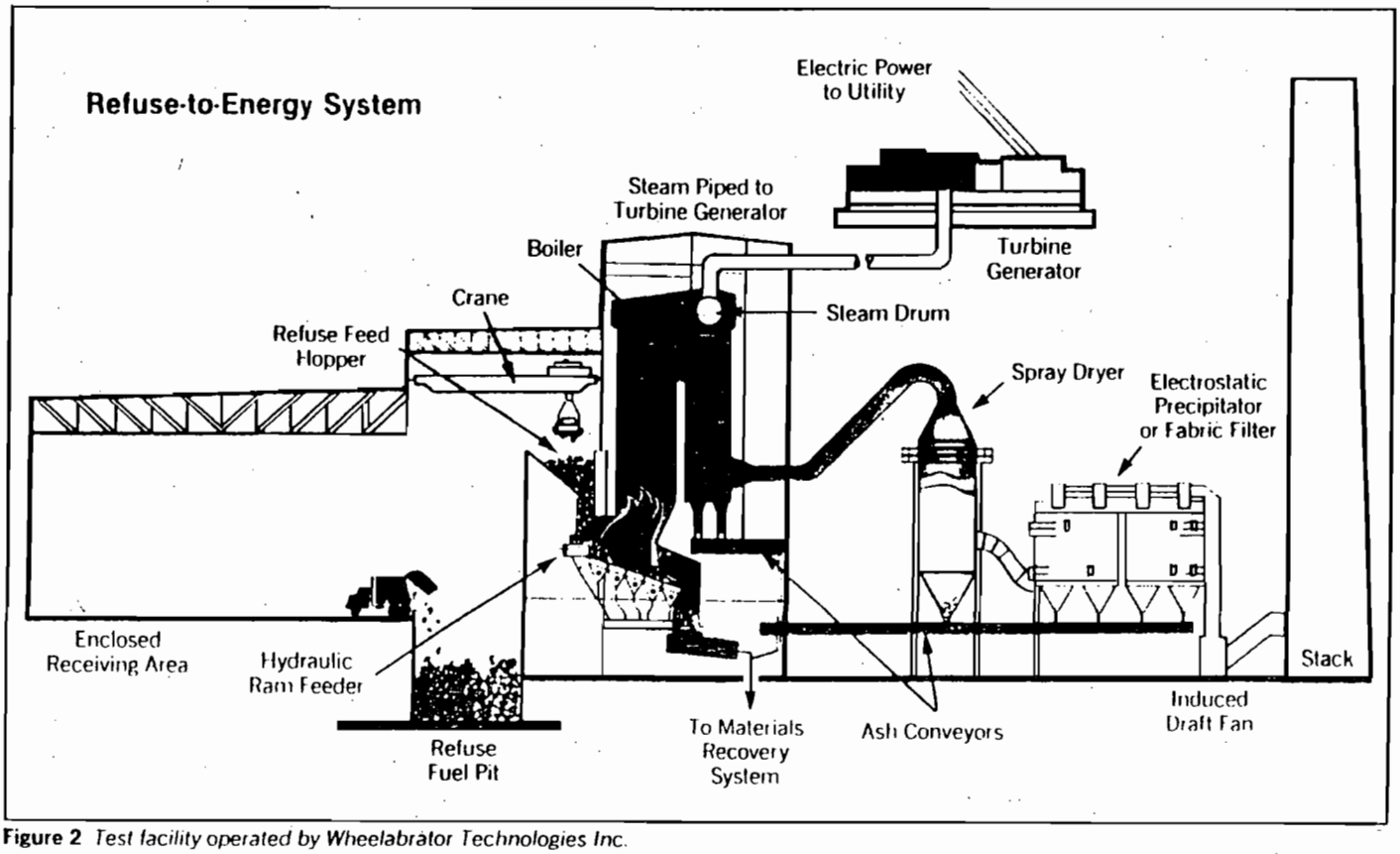

Figure 2 *Test facility operated by Wheelabrator Technologies Inc.*

b) the time available for the gas to reside in the furnace at a temperature sufficient to complete combustion.

The concept of furnace gas residence time-at-temperature is described by the simultaneous liberation of heat from the combustion of the refuse and the absorption of heat by the furnace waterwalls as the gas moves through the furnace. The combined effects of conduction, convection and radiation heat transfer within the furnace, together with the energy associated with gas mass transfer, can be used to predict the temperature and location of a furnace gas control volume at any given moment in time. When considered over the entire furnace volume, this analysis can be used to generate a thermal operating characteristic, more commonly referred to as a time/temperature curve. This curve provides the design engineer with a basis for evaluating the adequacy of a particular furnace relative to its intended refuse handling capacity(5).

Theoretical prediction of residence time-at-temperature

The methodology used to predict furnace gas residence time-at-temperature relies upon field-proven methods to determine furnace absorption rates for bare tube and refractory covered enclosure surfaces. Adjustments are incorporated to account for some ash coating. The furnace model is divided into zones to account for the fuel and air introduction locations as well as refractory versus bare tube surface. A computer model is used to calculate temperature, quantity, and composition of gas entering and leaving each zone from the given fuel analysis and excess air. To simplify the model for the complex natural gradients that occur in actual practice, gas temperature and flow are considered to be evenly distributed at each zone boundary. The volumetric gas flow rate for each zone is then determined from gas weight and density at the average temperature of the zone. Finally, the zone residence time is calculated by dividing zone volume by the volumetric gas flow rate.

The residence time calculation for each zone in the furnace is as follows:

$$RT_i = \frac{V_i}{G_i} \quad (1)$$

where: RT_i = Residence time in zone i, seconds.
V_i = Volume of zone i, cubic feet.
G_i = Volumetric gas flow rate through zone i, cubic feet per second.

$$Tavg_i = \frac{(T1_i + T2_i)}{2} \quad (2)$$

where: $Tavg_i$ = Average temperature in zone i, °F.
$T1_i$ = Temperature entering zone i, °F.
$T2_i$ = Temperature leaving zone i, °F.

The volumetric gas weight, G_i, can then be determined from:

$$G_i = \frac{Wg_i}{\rho_i * 3600} \quad (3)$$

where: Wg_i = Gas weight entering zone i, lb/hr.
ρ_i = Gas density at average zone temperature, $Tavg_i$, lb/ft³.
3600 = Conversion, sec/hr.

By substituting, equation (1) can be rewritten as:

$$RT_i = \frac{V_i * \rho_i * 3600}{Wg_i} \quad (4)$$

The cumulative residence time in the furnace (RT), at any point, is the algebraic sum of the residence times of the preceding zones, or:

$$RT = \Sigma_{i=1}^{n} RT_i \quad (5)$$

where: n is the number of furnace zones.

The time/temperature curve is then derived by plotting the gas temperature and cumulative residence time with the corresponding location of each zone boundary.

Field measurement of residence time-at-temperature

Furnace conditions

Prior to any testing, the units were commissioned in accordance with the manufacturer's recommendations and run at full load, firing refuse for several weeks to allow the heat absorbing surfaces to attain "commercially clean" conditions. During this time, the automatic combustion controls were tuned and the required plant instrumentation was calibrated.

All tests were conducted at steady state conditions with automatic controls holding a steam flow setpoint. No sootblowers, rappers, or auxiliary burners were operated during the tests.

Test equipment

To obtain on-line furnace time/temperature results, an automated data acquisition and analysis system was employed. A data acquisition computer was interfaced with all temporary test instrumentation, the plant's Network 90®* data highway, and the furnace temperature

* *Network 90 is a registered trademark of The Bailey Controls Co.*

measuring system to provide real-time access to all necessary instrumentation. Sensors were scanned on a 15-to-60 second time interval, depending on the transient nature of the process, to capture enough data to measure the natural transients that occur in the unit. Multiple scans were then averaged over 10-minute-time intervals and the data were reduced to develop on-line residence time/temperature curves. The curves were then displayed on the CRT of the data analysis computer. All test data were also archived for future use.

Furnace temperature measurement

A necessary parameter for the calculation of furnace residence time-at-temperature is the temperature profile in the combustion zone. It is also one of the most difficult parameters to measure due to the dynamic nature of the combustion process. Historically, water-cooled high velocity thermocouple (HVT) probes have been used to measure gas temperature in high temperature zones. The disadvantages of HVT traverses are that they are manpower-intensive; they take a long time to complete; and they give single-point readings which are often not representative of the conditions during the entire traverse period.

To satisfy the need for instantaneous furnace temperature measurement at multiple locations, a combination of optical pyrometry and acoustic pyrometry was employed.

Acoustic pyrometry is a technique for determining gas temperature based on the propagation speed of acoustic waves(6). For a given gas composition, the propagation speed varies as the square root of the absolute temperature. The basic objective of this technique is to generate and transmit a unique pattern of acoustic waves, detect their arrival, and accurately measure the transmitter-to-receiver flight time. By knowing the transmission path length and flight time, an acoustic velocity is computed. The specific heat ratio and molecular weight of the flue gas are then used to determine the average temperature along the propagation path.

Pyrosonic 2000®**, which employs the acoustic techniques already described, was installed to measure the furnace gas temperature at six locations on five separate elevations. The measurement locations were selected to avoid regions of stratified gas/air which would otherwise have had an adverse effect on the results. HVT traverses were used to verify pyrosonics at all locations prior to testing. A two-color optical pyrometer was used to obtain the temperature just above the grate because test ports for acoustic pyrometry were not available at this location. Figure 3 shows the location of gas temperature measurements made using the three techniques already described.

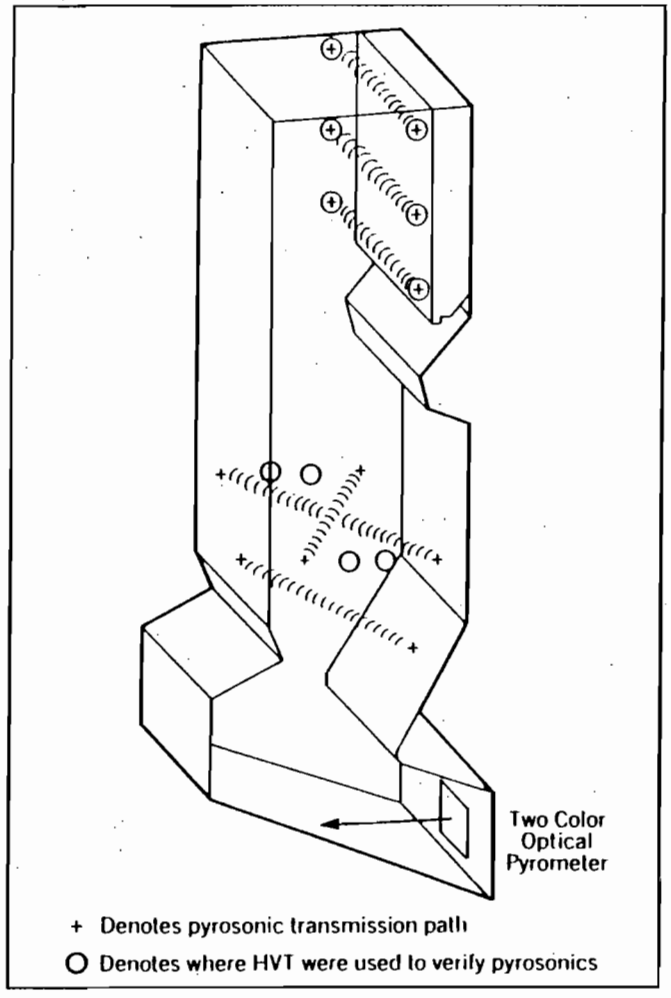

Figure 3 *Furnace temperature measurement locations.*

Flue gas flow measurement

The actual flue gas flow was measured on-line by a grid of probes designed to measure static and total pressure (Figure 4). The grid was calibrated by performing manual flow traverses of the flue over the practical load range of the boiler to develop a calibration factor. This factor was used to relate the velocity pressure from the grid to the actual flue gas flow rate. The manual flow traverses were done in general accordance with ASME PTC 11 Fans, using a three-hole, calibrated Fechheimer probe.

Flue gas moisture measurement

Flue gas moisture was obtained in accordance with EPA methods 1, 2, and 4 by traversing the economizer outlet/spray dryer absorber (SDA) inlet flue (reference Figure 4 for test port locations). The moisture content measured during each test was used for the final calculation of flue gas flow and as a variable input to pyrosonics.

** *Pyrosonic 2000 is a registered trademark of The Babcock & Wilcox Company.*

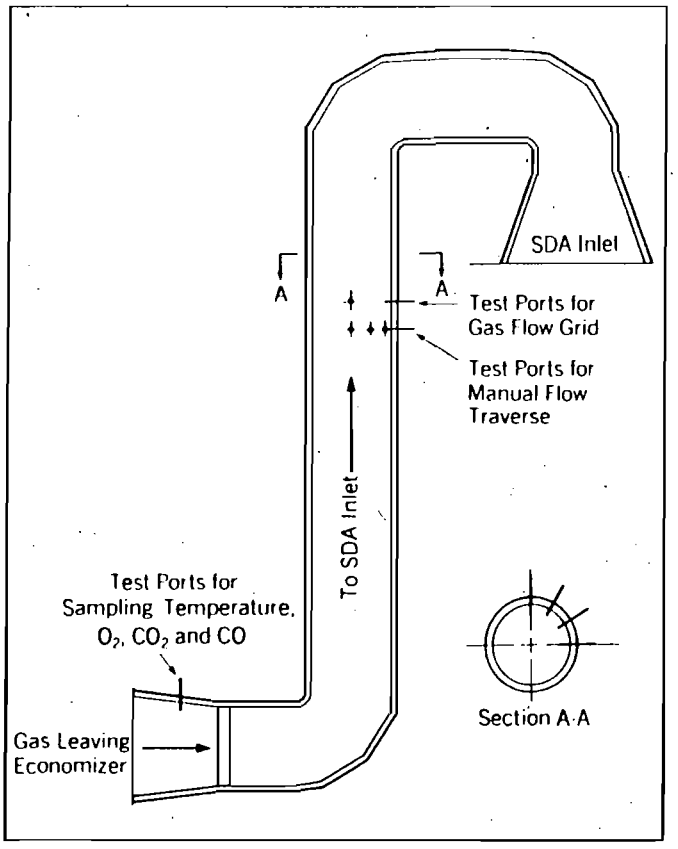

Figure 4 *Gas sampling locations at economizer outlet.*

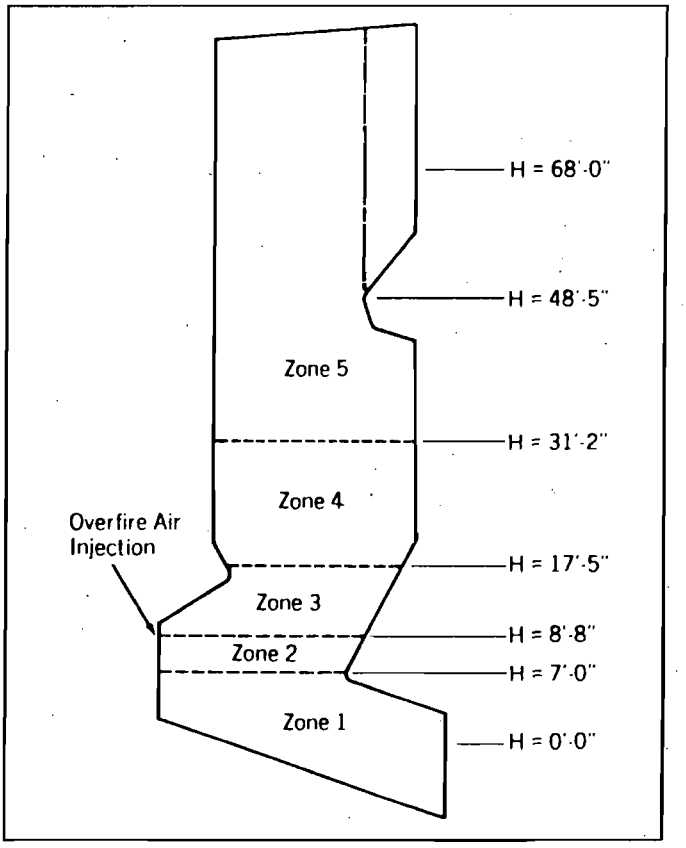

Figure 5 *Furnace zones for residence time calculations.*

Flue gas analysis

A multipoint sampling grid was installed at the economizer gas outlet in general accordance with ASME PTC 19.10. The grid was used to obtain a representative measurement of flue gas temperature and gaseous constituents.

The gas samples were extracted, mixed in composite bubblers, and continuously analyzed for dry volume percentages of O_2, CO_2, and CO. The resulting flue gas analysis was used as a variable input to pyrosonics; to calculate gas density; and to calculate the gas weight below the elevation of overfire air (OFA) injection. Figure 4 denotes the locations of the sampling grids used to determine gas constituents.

Determination of residence time/temperature curves

The furnace was divided into zones as defined by location of temperature measurement devices and the location of OFA injection, as shown in Figure 5. The gas temperatures at the upper boundaries of zones 1 and 2 were interpolated from temperatures measured at the zero reference elevation and the upper boundary of zone 3. The zero reference elevation (0 feet) is defined as the elevation at which a vertical line drawn from the tip of the front wall arch intersects the grate. The reference elevation is arbitrary and has no effect on the results.

Because approximately 45% of the combustion air enters the furnace through the OFA ports, it is necessary to account for the lower gas weight below this elevation. The furnace gas weight, below OFA injection, was approximated by subtracting OFA from the measured gas weight at the boiler exit. The measured undergrate to overfire air ratio was obtained from the plant's permanent instrumentation.

The gas density was calculated using gas analysis from the economizer outlet and the average measured temperature in each of the furnace zones. The gas residence time in each zone was then determined using Equation (4).

Presentation and interpretation of results

Steady state tests, of four-hour duration, were conducted at several boiler steam loads representing the practical operating range of the units. The data recorded during each of the test runs was averaged and reduced to develop time-at-temperature relationships. Test results obtained from both of the units were in close agreement.

Figure 6, produced from full-load test data recorded at the Bridgeport facility, is a graphical representation of the algorithm used to interpolate the gas temperature and cumulative residence time at any given elevation in the furnace. As an example, Figure 6 can be used to interpolate the residence time to be 1.9 seconds at an ele-

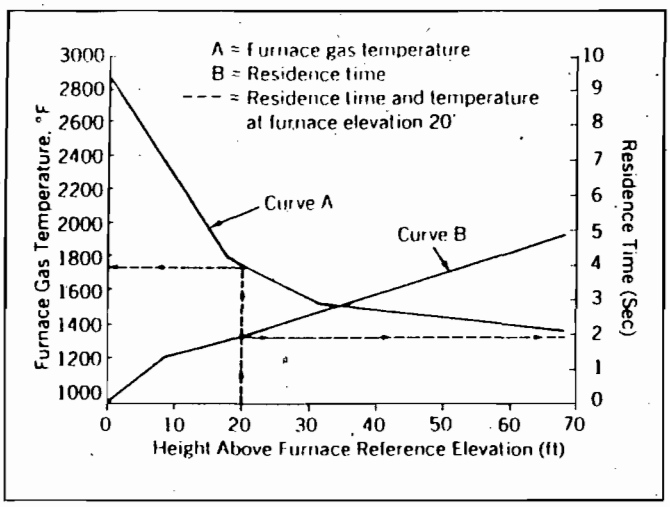

Figure 6 *Gas temperature and residence time vs furnace height at full load.*

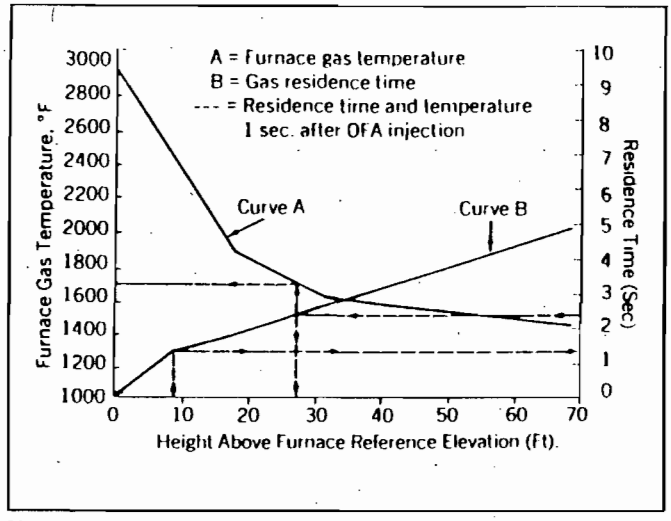

Figure 7 *Gas temperature and residence time one second after OFA injection.*

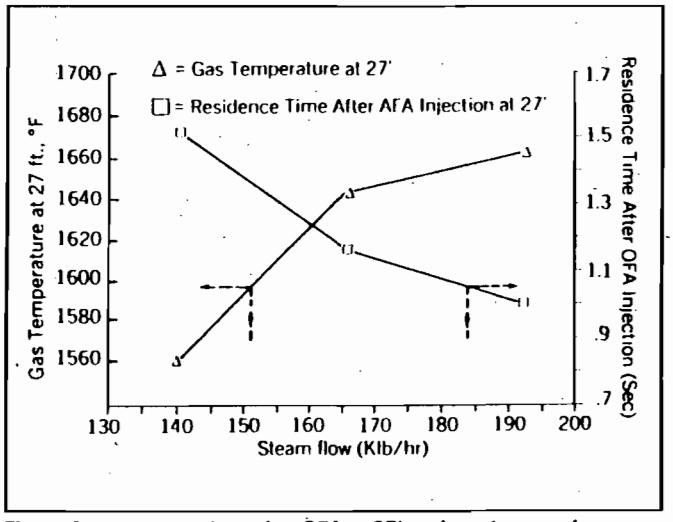

Figure 8 *Residence time after OFA at 27' and gas temperature vs. steam flow.*

vation of 20 feet (6.1m). The corresponding gas temperature of 1775°F (968°C) may then be read from the temperature ordinate.

The residence time and associated gas temperatures between any two elevations may also be determined with time/temperature curves. Figure 7 is identical to Figure 6 except that tutorial lines have been added to show how to interpolate the gas temperature one second after OFA injection. Beginning on the abscissa at 8.7 feet (2.65m), follow a vertical path to the intersection of the residence time curve B. The value read from the residence time ordinate, 1.3 seconds, is the residence time at the elevation of OFA injection. Add one second to determine the time at one second after OFA injection, 2.3 seconds. Following a horizontal path back to the residence time curve B, the elevation at one second after OFA injection is determined, 27 feet (8.2m). A vertical path is then followed until it intersects with the gas temperature curve A and the gas temperature one second after OFA injection may be read from the gas temperature ordinate.

The test data show that the elevation of a given temperature plane within the furnace changes as boiler load and other factors change. Similarly, the gas temperature at a given residence time downstream of a reference point changes as boiler load and other factors change. To illustrate this point, reference Figure 7 to find the elevation of the plane where gas residence time is one second after OFA injection, 27 feet (8.2m). Figure 8 is a plot of gas temperature and residence time at elevation 27 feet (8.2m) versus steam flow. Note that as unit load decreases, gas temperature at elevation 27 feet (8.2m) decreases as expected, and residence time at 27 feet (8.2m) increases substantially. This example clearly demonstrates that it is not possible to install a temperature monitor on the furnace wall at a position representing one second of residence time after OFA injection for all possible operating conditions.

Figure 9 is a comparison of the gas temperature at one second residence time after OFA injection for two different load points. It is identical to Figures 6 and 7 except that the time/temperature curves developed from the low steam load test at 140,000 lb/hr (63,500 kg/hr) have been included. Although it seems logical that the gas temperature at a given residence time should decrease with load, Figure 9 shows that the gas temperature at one second after OFA injection is actually higher at the low load condition than at the high load condition. This occurs because at low load, the reduced gas weight has more of an effect on residence time-at-temperature than does the generally lower gas temperatures. This further illustrates the dependence of residence time-at-temperature on unit operating conditions.

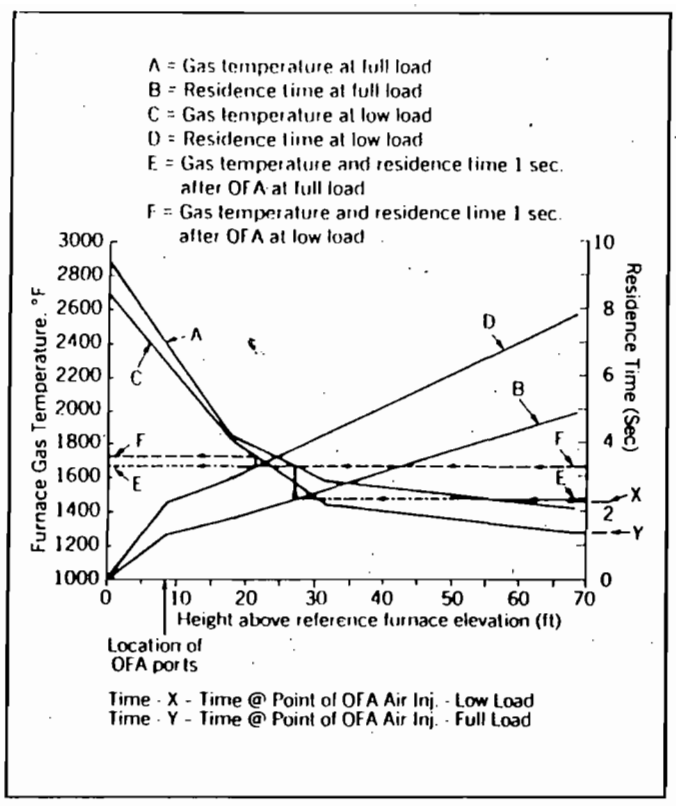

Figure 9 *Gas temperature at 1 sec. residence time after OFA injection vs. furnace height.*

In order to evaluate the influence of varying operating conditions on residence time-at-temperature, a second test was conducted at the full load condition presented in Figures 6, 7, and 9. This test was conducted several days later to allow for potential changes in fuel and furnace conditions; additionally, the unit was operated with approximately 25% lower excess air. Figure 10 is a plot of the time/temperature curves developed from the two full load tests which shows that both gas temperature and residence time were affected by changes in operating conditions.

Based on the analysis of the Millbury and Bridgeport test data, the following is noted:

- The thermal operating characteristics of a refuse-fired power boiler can be monitored on-line.
- Acoustic pyrometry is an effective means of measuring instantaneous temperatures at multiple locations in the combustion zone.
- Both of the units tested satisfied the permit requirements for residence time-at-temperature.
- There is not a single location in the furnace representative of one second residence time for all operating conditions.
- Residence time-at-temperature is affected by a number of variables including unit load and excess air.

The test results were submitted to the respective State authorities and final operating permits were subsequently granted.

Furnace temperatures and residence times are continuously monitored utilizing permanent thermocouples (located behind the superheater) and graphs developed from this test program.

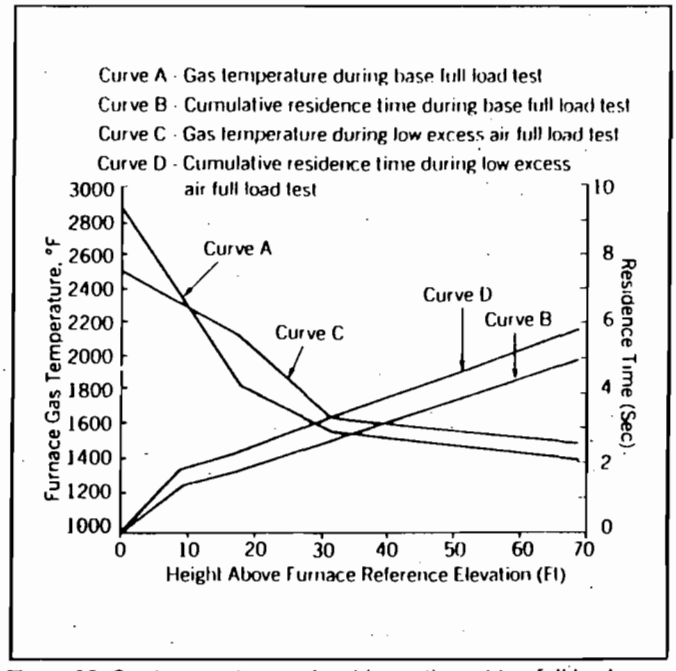

Figure 10 *Gas temperature and residence time at two full load conditions.*

Summary

The dynamic nature of flow and temperature conditions in the furnace of a refuse-fired power boiler requires rigorous measurement and analytical techniques. The application of fundamental heat transfer and gas dynamics principles, together with state-of-the-art measurement and data acquisition, provides the technology to determine the actual thermal operating characteristics. This technology has been successfully used to demonstrate compliance with furnace gas residence time-at-temperature requirements at two commercial Refuse-to-Energy facilities. The test results confirm the theoretical basis used in the prediction of residence time-at-temperature, and will enable subsequent predictions to be made with greater confidence.

Acknowledgements

The authors gratefully acknowledge the contributions of J. D. Blue, T. C. Heil and R. E. Smolenski, whose efforts made this paper possible.

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