



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

26 JUN 1987



MEMORANDUM

SUBJECT: Operational Guidance on Control Technology for New and Modified Municipal Waste Combustors (MWCs)

FROM: Gerald A. Emison, Director *Gerald A. Emison*
Office of Air Quality Planning and Standards (MD-10)

TO: Air Management Division Directors
Regions I, III, V and IX

Air and Waste Management Division Director
Region II

Air, Pesticides, and Toxics Management Division Directors
Regions IV and VI

Air and Toxics Division Directors
Regions VII, VIII and X

As you know, numerous questions regarding the selection of appropriate pollution control requirements for MWCs have arisen during recent years in major source permitting proceedings under the prevention of significant deterioration (PSD) provisions of Part C of the Clean Air Act and the nonattainment new source review (NSR) provisions of Part D of the Act. Accordingly, the attached operational guidance is being issued to promote consistency in making best available control technology (BACT) determinations under PSD and lowest achievable emission rate (LAER) determinations under nonattainment NSR, and to reduce delay and confusion in the permitting process. This guidance requires reviewing authorities, in considering the range of potential control options during the BACT determination process for MWCs, to consider a dry scrubber and a fabric filter or electrostatic precipitator as BACT for sulfur dioxide (SO₂) and particulate matter (PM), and combustion controls as BACT for carbon monoxide (CO).

The Administrator remanded to Region IX on June 22, 1987, their previous concurrence on a PSD permit for the H-Power MWC to be constructed in Honolulu, Hawaii. Petitioners had argued that, (a) BACT for this facility did not adequately justify the failure to require the use of an acid gas scrubber, and (b) the permitting authority did not evaluate the effectiveness of acid gas scrubbers in reducing emissions of unregulated pollutants, as required

by the June 1986 North County Resource Recovery Associates PSD Appeal decision (or North County remand). In remanding the H-Power permit application to Region IX for further proceedings, the Administrator made it clear that the Agency considers acid gas scrubbers to be an available technology for excess air MWCs that fire refuse-derived fuel (RDF) such as the H-power facility. The attached operational guidance states that this type of post-combustion control is one component of available technology for modular, starved air MWCs and massburn, excess air MWCs, in addition to RDF-fired, excess air MWCs.

As stated above, the operational guidance includes a second component of available technology, which is combustion control for the criteria pollutant CO. Since the effectiveness of the two components of available technology in controlling unregulated pollutants is an important consideration in individual BACT determinations (per the North County remand), the attached guidance states that (a) acid gas scrubbers followed by fabric filters or electrostatic precipitators are effective in controlling potentially toxic organic and metal pollutants, as well as acid gases other than sulfur dioxide, and (b) combustion controls are effective in controlling potentially toxic organic pollutants.

The technical basis for the operational guidance is documented in five reports which are a part of the Agency's comprehensive study of MWC. These volumes are listed in the References section of the guidance. You will note that the guidance indicates "specified values" should be selected on a site specific basis for several design and operating parameters of the facility and for emissions of criteria pollutants. A thorough discussion of the factors to be considered in choosing the "selected values" is included in the five reports from the comprehensive MWC study.

As noted under Section V, this guidance should be transmitted to all State and local agencies to which PSD permitting authority has been delegated under 40 CFR Section 52.21(u). The transmittal letter should specify that the delegation agreement is amended to include this guidance. States which have received SIP approval of a PSD program under 40 CFR Section 51.166 (formerly Section 51.24) should also be informed of this guidance and of EPA's expectation that it be followed.

Attachment

cc: James DeMocker (ANR-443)
 Gregory Foote (LE-132A)
 Steve Greene (WH-565)
 Joseph E. Lees (ANR-443)
 J. Craig Potter (ANR-443)
 John C. Ulfelder (A-101)
 Marcia Williams (WH-562)

6/26/87

OPERATIONAL GUIDANCE ON CONTROL
TECHNOLOGY FOR NEW AND MODIFIED
MUNICIPAL WASTE COMBUSTORS

I. The Need for Guidance.

The combustion of municipal waste represents an increasingly important element of the solid waste disposal problem in the U.S. However, the operation of municipal waste combustors (MWCs) releases potentially harmful pollutants to the air. Human exposure can occur directly or indirectly, and there is also concern that the environment could be vulnerable to long-term accumulation of emitted pollutants. EPA is addressing these issues in a comprehensive, integrated Municipal Waste Combustion Study and with this operational guidance.

Numerous questions regarding the selection of appropriate pollution control requirements have arisen during recent years in major source permitting proceedings under the prevention of significant deterioration (PSD) provisions of Part C of the Act and the nonattainment new source review (NSR) provisions of Part D of the Act. Uncertainty over these questions has led to conflict over minimum legal requirements and consequent delay in the permitting and construction of MWCs. Hence, there is a need for guidance to resolve controversies which may arise as to facilities seeking permits. Accordingly, EPA is issuing this operational guidance for use in making best available control technology (BACT) determinations under PSD and lowest achievable emission rate (LAER) determinations under nonattainment NSR. EPA believes that this guidance will promote consistency in control requirements, and reduce delay and confusion in the permitting

process. At the same time it will allow permitting authorities to give appropriate consideration to local factors in making case-by-case BACT determinations as required under law.

II. Administrative History.

Section 169(3) of the Act provides that BACT determinations in PSD permits must be "based on the maximum degree of reduction of each pollutant subject to regulation under this [Act] . . . which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable." EPA's regulations track this language. See 40 C.F.R. 52.21(b)(12), 40 C.F.R. 51.166(b)(12). In addition, in two administrative appeals involving resource recovery facilities, EPA has further refined the analysis which permitting authorities must conduct in making BACT determinations.

In North County Resource Recovery Associates, PSD Appeal No. 85-2 (June 3, 1986), the Administrator issued a Remand Order which held that, in making BACT determinations for a regulated air pollutant, the permitting authority must consider the effect of that decision on emissions of pollutants not regulated under the Clean Air Act. North County provided that the final BACT decision should address these environmental impacts, and that the permitting authority may ultimately choose more stringent emissions limitations for the regulated pollutant than it would otherwise have chosen if it would have the collateral benefit of restricting emissions of the unregulated pollutant. In the North County case, the permitting authority had required the use of a dry scrubber and fabric filter as BACT for sulfur dioxide, but had failed to consider the effect of that decision on emissions

of certain unregulated pollutants -- dioxins and furans, heavy metals, and acid gases -- on the grounds that it lacked authority to do so. Various persons petitioned the Administrator under 40 C.F.R. Part 124. In response to the Administrator's subsequent remand order, the permitting authority analyzed the effect of various control options on these three classes of pollutants, and found that no other controls on regulated pollutants would be more effective in reducing emissions of the unregulated pollutants. The Administrator then ruled that the permitting authority had satisfied the requirements of the remand order, and denied the petitions. See North County Resource Recovery Associates, PSD Appeal No. 85-2, Order Denying Review (September 4, 1986).

The Administrator ruled in Honolulu Resource Recovery Facility ("H-Power"), PSD Appeal No. 86-6, Remand Order (June 22, 1987), that a PSD permitting authority has the burden of demonstrating that adverse economic impacts justify the failure to require as BACT the most effective control technology which is available. He also found that acid gas scrubbers are an available control technology for sulfur dioxide (SO₂). The H-Power decision also provided that the economic impacts must be specific to the source in question and substantial. Thus, because the Administrator agreed with EPA Region IX that Hawaii had not adequately demonstrated the basis for its conclusion that economic factors justified the absence of flue gas treatment as BACT for SO₂, he remanded the matter for further proceedings.

EPA today also draws upon the technical data referenced below, and its experience in issuing, reviewing, and enforcing PSD permits for MWCs. Recent emission test data have demonstrated that particulate matter (PM), SO₂, and other air pollutants (including organics, heavy metals, and acid gases) can be controlled effectively by acid gas scrubbing devices (dry scrubbers) equipped with efficient particulate collectors. Over 20 MWC facilities in Europe are known to be operating with dry scrubbers and particulate collectors, and at least 37 such facilities are known to exist in Japan. In the United States, three facilities currently are in operation and at least 15 have been permitted to construct with dry scrubbing and particulate control devices as the specified technology. Thirteen of these facilities are expected to be operating by December 1988.

Based on this information, it is clear that a dry scrubber followed by either a fabric filter or electrostatic precipitator are "available" technologies for effective control of the SO₂ and PM emitted by MWCs, and that these technologies also are effective in controlling emissions of potentially toxic organic and heavy metal pollutants, and acid gases other than SO₂. In addition, the data show that these technologies are reliable and reasonably affordable. Similarly, combustion controls are an available technology for the control of carbon monoxide (CO) emitted by MWCs, and are effective in controlling that criteria pollutant and potentially toxic organic pollutants. EPA's information indicates that this technology also is reliable and reasonably affordable.

III. BACT Guidance for SO₂, PM, and CO.

Accordingly, in considering the range of potential control options during the BACT determination process for MWCs, the reviewing authority must consider a dry scrubber and a fabric filter or electrostatic precipitator as BACT for SO₂ and PM, and combustion controls as BACT for CO. In order to justify a BACT determination calling for a lesser degree of emissions control than can be achieved using these technologies, the permitting authority must demonstrate, based on information contained in the permit file, that significant technical defects, or substantial adverse economic, energy, or environmental impacts or other costs would arise that are specific to the MWC in question. Permitting authorities remain free to make case-by-case judgments in accordance with today's guidance. However, based on the above-referenced information regarding legal requirements and the availability, effectiveness, and cost of these technologies, EPA expects that proper application of this guidance will result in few, if any, BACT determinations entailing application of pollution control technologies less effective than those called for herein.

Today's guidance is general; it is limited to describing types of post-combustion control equipment and to establishing general criteria for combustor design, combustor operating practices, emission monitoring, and operator training. It does not set specific emission limits. Detailed information regarding the maximum degree of emissions control achievable with these technologies is available in the referenced technical documents, the BACT/LAER Clearinghouse, or from EPA. Such information should be used by applicants and permitting authorities setting specific emissions

limits for PSD permits. In addition, today's guidance only addresses control technologies currently in widespread use for MWCs, and establishes minimum criteria for BACT determinations. Permitting authorities are not relieved of their responsibility to consider, on a case-by-case basis, whatever available technologies may be anticipated to provide a greater degree of control than those addressed today. Similarly, because control technologies and the other factors in forming BACT determinations are constantly evolving, the technology providing the greatest degree of emissions control taking economic, energy, and environmental impacts into account may likewise change over time. As one example, flue gas treatment technology for the criteria pollutant nitrogen oxides (NO_x) is in operation at one MWC in the U.S., and this technology should be considered by permitting authorities in making BACT determinations. In addition, emerging technologies in flue gas cleaning may develop which can attain the level of multipollutant control currently demonstrated by dry scrubbing/particulate matter controls, and technologies such as these should be considered in future BACT determinations. Permitting authorities and applicants must keep abreast of new developments. Of course, EPA will assist in this endeavor.

IV. LAER Guidance for Nonattainment Areas.

The technologies discussed herein for control of SO₂, PM, CO, and NO_x have all been successfully implemented, and thus have been "achieved in practice" by MWCs within the meaning of section 171(3) of the Act. Hence, in nonattainment areas where NSR requirements apply and major new sources and modifications must apply LAER, no less effective pollution control technologies may be imposed as LAER.

V. Implementation.

Today's guidance applies to all ongoing PSD and NSR proceedings, as well as to all new permit applications. In consideration of the needs for program stability and equity to sources which have in good faith relied on pre-existing permitting guidelines, this guidance does not apply to PSD and NSR permit proceedings for which, as of June 26, 1987, final permits have already been issued and, with respect to PSD permits issued by EPA, agency review procedures under 40 C.F.R. Part 124 have been exhausted.

This operational guidance applies to PSD permits issued by EPA directly through its Regional offices and indirectly through State and local agencies pursuant to delegation agreements made under 40 C.F.R. 52.21(u). Such agencies will be notified by letter of this guidance. It will constitute an amendment to the pre-existing delegation agreements. EPA Regional offices will review all draft permits for MWCs issued by delegate agencies during the public comment period to insure proper application. Further program evaluation will take place under the National Air Audit System (NAAS). If delegate agencies should fail to adhere to this guidance, EPA staff may initiate administrative appeal proceedings under 40 C.F.R. Part 124 in appropriate cases. Such action would be appropriate where, for example, failure to follow the guidance results in a finding of fact or conclusion of law which is clearly erroneous, or involves an exercise of discretion or an important policy consideration which the Administrator should review. See 40 C.F.R. 124.19(a). Action would also be appropriate where failure to follow the guidance resulted in an inability to determine,

based on the record, whether a clear error occurred. If necessary, EPA may also revoke the delegation of PSD authority to the State or local agency.

With respect to State PSD permits issued pursuant to a State implementation plan (SIP) program approved by EPA under 40 C.F.R. 51.166 (formerly 51.24), and State NSR programs approved under Part D of the Act and 40 C.F.R. 51.165 (formerly 51.18(j)), EPA expects States to follow today's guidance in generally the same fashion as delegate agencies. EPA will use the guidance as a reference point in its oversight of State MWC permit actions. As with delegated permits EPA will participate in permit proceedings and conduct NAAS evaluations. If agencies processing NSR permits or PSD permits under approved State programs should fail to adhere to this guidance, EPA may initiate administrative and/or judicial action under sections 113 and/or 167 of the Act in appropriate cases. Such action would be appropriate where, for example, failure to follow the guidance results in a finding of fact or conclusion of law which is clearly erroneous, or in an inability to determine whether a clear error occurred. If necessary, EPA may also call for SIP revisions under section 110(a)(2)(H).

Insofar as today's guidance addresses minimum legal requirements for BACT determinations, it simply implements existing regulations and policy, including Agency actions already made by the Administrator in the North County and H-Power cases. To the extent the guidance addresses the technical issues of availability, effectiveness, and cost of control technologies for MWCs, it expresses EPA's view regarding the proper usage, in permit proceedings under existing EPA regulations and SIP programs, of the factual data contained

in the five documents referenced below. Those documents present information on the alternative controls available for MWCs, the performance capabilities and costs of those controls, and the methods for monitoring and measuring emissions from MWCs. Factors to be considered in choosing the "specified values" to be included in permits, as noted in the guidance, such as maximum concentration of CO in emissions and minimum value of furnace temperature, are contained in these references. Thus, the guidance does not constitute rulemaking within the meaning of section 307(d) of the Act or under the Administrative Procedure Act. Accordingly, it is not necessary to implement this guidance, as to EPA permits issued by Regional offices or State and local agencies, through changes in the PSD regulations at 40 C.F.R. 52.21. Likewise, regarding approved State PSD programs, it is not necessary to revise 40 C.F.R. 51.166 and require corresponding SIP revisions.

VI. Technical Guidance.

Today's operational guidance applies to three types of MWCs: massburn, excess air MWCs; excess air MWCs that fire refuse-derived fuel; and modular, starved air MWCs. It applies to those MWCs that operate with energy recovery and those that operate without energy recovery. It applies to both major new and major modified facilities of these types. The guidance requires that values for emission limits and operating parameters be specified in MWC permitting decisions.

One component of control technology for MWCs is the application of the appropriate post-combustion control equipment. The EPA has identified this equipment as a dry scrubber with fabric filter or with electrostatic

precipitator. The concentration of particulate emissions in the exhaust gases from the post-combustion control equipment shall not exceed a specified maximum value; and the SO₂ emissions in the exhaust gases shall not exceed a specified maximum concentration value or the percent reduction in SO₂ emissions across the post-combustion control equipment shall not be less than a specified value. Performance of the dry scrubber and fabric filter or electrostatic precipitator in controlling acid gases, potentially toxic metals, and potentially toxic organic pollutants is affected significantly by the reduction in flue gas temperature which occurs in the dry scrubber. The control system shall be designed and operated such that the flue gas temperature at the outlet from the dry scrubber does not exceed a specified value.

A second component of control technology for MWCs is proper design and operation of the combustion system, which controls CO and potentially toxic organic pollutants. Minimum concentrations of CO in emissions from MWCs are associated with the implementation of several good combustion practices. These practices are also related to the effective destruction of potential emissions of toxic organic pollutants, including dioxins and furans. Concentrations of CO in furnace exhaust gases shall not exceed a specified maximum value, and CO and O₂ concentrations in the exhaust gases shall be monitored continuously. In addition, furnace operating temperatures shall be no lower than a specified minimum[†] value, and a procedure for continuous monitoring shall be established to ensure that the specified temperature is maintained.

The capabilities to control flow rates and distributions of underfire (primary) and overfire (secondary) air, to monitor continuously CO concentration and furnace temperature, to maintain thermal load within a specified range, and to control the process to maintain CO and temperature of the furnace at appropriate levels are all important to good combustion. Detailed information regarding the numerical values to be assigned to the emission levels and equipment design and operating parameters associated with good combustion are provided in the documents cited under References.

References:

- Municipal Waste Combustion Study: Emission Data Base for Municipal Waste Combustors.
EPA/530-SW-87-021B
- Municipal Waste Combustion Study: Combustion Control of Organic Emissions.
EPA/530-SW-87-021C
- Municipal Waste Combustion Study: Flue Gas Cleaning Technology.
EPA/530-SW-87-021D
- Municipal Waste Combustion Study: Cost of Flue Gas Cleaning Technologies.
EPA/530-SW-87-021E
- Municipal Waste Combustion Study: Sampling and Analysis.
EPA/530-SW-87-021F



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711
AIR PROGRAMS BRANCH

RECEIVED
SEP 25 1987

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MEMORANDUM

SUBJECT: Implementation of North County Resource Recovery PSD Remand
EPA REGION IX
ATLANTA, GA

FROM: Gerald A. Emison, Director
Office of Air Quality Planning and Standards (MD-10)

TO: Director, Air Management Division, Regions I, III, V, and IX
Director, Air and Waste Management Division, Region II
Director, Air, Pesticides, and Toxics Division, Regions IV and VI
Director, Air and Toxics Division, Regions VII, VIII, and X

On June 3, 1986, the Administrator remanded a prevention of significant deterioration (PSD) permit decision, involving the North County Resource Recovery project, to Region IX for their reconsideration. The permit was for a 33-megawatt, 1000 tons-per-day facility to be located in San Marcos, California. At issue was whether appropriate consideration had been given, within the best available control technology (BACT) determination, to the environmental effects of pollutants not subject to regulation under the Clean Air Act (Act).^{*} The remand strongly affirms that the permitting authority should take the toxic effects of unregulated pollutants into account in making BACT decisions for regulated pollutants. This obligation arises from section 169(3) of the Act, which defines BACT as the maximum degree of emissions decrease which the permitting authority determines is achievable, taking into account "environmental . . . impacts." Essential to this process is the notification to the public of how the effects of toxic air pollutants, including those that are unregulated, have been considered in the PSD review and the subsequent consideration of the comments in making the final BACT decision. The purpose of this memorandum is to advise you of the impact of the remand on PSD permitting and to provide implementation guidance. This document builds upon and makes final the draft guidance of August 1986.

Coverage

Although the Act has given us the authority to review directly the considerable range of regulated pollutants, the remand clearly indicates that the Environmental Protection Agency (EPA) should incorporate consideration of all pollutants within its PSD determinations for all sources subject to PSD. This result is consistent with the fact that the PSD permitting process is charged ". . . to protect public health and welfare from any

^{*}A "regulated pollutant," or "pollutant subject to regulation under the Clean Air Act," is one which is addressed by a national ambient air quality standard, a new source performance standard, or is listed pursuant to the national emission standards for hazardous air pollutants program.

actual or potential adverse effect . . . from air pollution" and that increases in air pollution should be permitted ". . . only after careful evaluation of all the consequences" [section 160(1) and (2)].

Revisions to State implementation plans (SIP's), to comport with the Administrator's decision, should not be necessary. State or local agencies with delegated PSD programs automatically track this change in policy. Agencies implementing their own SIP-approved programs are also unlikely to need any regulatory changes. This is because the remand is based on an interpretation of Act language, notably the definition of BACT, that is in most cases already contained in the plan. I ask that you confirm this with your States and applicable local agencies,

Transition

As with any change in the way EPA does business, we have developed a transition plan for its implementation. The situations can be addressed most logically by dividing all PSD sources into three groups based on phase of permitting activity: those sources for which permit applications had not been filed, those for which permits had already been granted, and those for which applications had been filed but permits not yet granted.

First, all PSD sources for which complete applications had not been filed as of the Administrator's June 3, 1986, decision are fully subject to the remand's requirements. Earlier applications present more complex policy considerations.

One could argue, since the Administrator's decision is an interpretation of existing Act provisions, rather than a new requirement, that all PSD permits issued under the terms of the 1977 Amendments to the Act should be subject to the remand. However, program stability and equity to sources, in this second group, that have relied upon properly issued PSD permits militate strongly against such an approach. For these reasons, I have decided to exempt from the requirements of the remand all sources holding finally issued permits as of June 3, 1986. (Subsequent major modifications to such existing sources are, of course, subject to PSD review, including the application of the requirements of this remand.)

The third group of sources consists of those for which PSD permits were in the pipeline (i.e., complete application filed but permits not yet issued) as of the date of the remand. It is appropriate that these sources also be subject to the terms of the remand. However, for permit applications which have successfully passed through the public comment period without environmental effects concerns being raised, the Regional Office may, at its discretion, issue these in final without further delay.

The above enunciated transition policy applies directly to all EPA permit issuance procedures and also to those used by State agencies issuing PSD permits under a delegation of authority agreement pursuant to 40 CFR 52.21(u). This transition policy does not automatically apply to PSD

permit decisions by States under SIP-approved PSD programs, except to the extent that environmental effects issues are raised by commenters. The policy does apply prospectively in a uniform fashion to all applications filed after June 3, 1986. States with SIP-approved PSD programs are, of course, responsible for enunciating reasonable transition schemes and I ask that you encourage them to adopt policies consistent with this one. These transition schemes, as with the substantive program itself, are unlikely to require rulemaking; however, the policies should be set forth in formal statements so as to further the goals of public awareness and consistent application. These policies and their implementation will be reviewed within the National Air Audit System to assess the need to require greater conformance.

Required Analyses

The BACT requirement outlined in section 169(3) of the Act contemplates a decision process in which the best available controls are defined for each regulated pollutant that a PSD source would emit in significant amounts. This case-by-case process is to take into account energy, environmental, and economic impacts and other costs. The toxic effects of unregulated pollutants are to be accounted for in deciding if the BACT otherwise being prescribed for regulated pollutants still represents the appropriate level and type of control. If the reviewing authority judges the potential environmental effects of such unregulated pollutants to be of possible concern to the public, then the final BACT decision for regulated pollutants should in all cases address these effects and reflect, as appropriate, control beyond what might otherwise have been chosen.

A recent remand determination made by the Administrator in another case provides further elucidation of the BACT process. In that case, Honolulu Program of Waste Energy Recovery (H-Power), PSD Appeal No. 86-6, Remand Order (June 23, 1987), the Administrator ruled that a PSD permitting authority has the burden of demonstrating that adverse economic impacts are so significant as to justify the failure to require the most effective pollution controls technologically achievable as BACT.

The broad mandate with respect to toxics that is presented by the remand is not readily amenable to highly detailed national guidance that provides the appropriate permitting requirement in each case. There is no specific formula for making BACT decisions; this is a case-by-case process involving the judgment of the reviewing authority. While it may be possible to develop a framework of guidance based upon such factors as risk assessment and reference doses, this would entail a large effort that seems inappropriate at this time. It is more practical, however, for EPA to develop guidance for specific source categories that are of particular importance. The EPA has recently provided such BACT guidance with respect to municipal waste combustors. See memorandum entitled "Operational Guidance on Control Technology for New and Modified Municipal Waste Combustors," from Gerald A. Emison, Director, Office of Air Quality Planning and Standards, dated June 26, 1987. Guidance on other source categories may be issued from time to time as appropriate.

Today's policy charges the PSD review authority with analyzing at the outset the environmental impacts of proposed construction projects with respect to air toxics which might be of concern, even if such matters are not initially raised by the public. Other types of environmental effects should also be addressed in response to public concerns, within the limits of the ability to do so. For PSD reviews consistent with this policy, each applicable permitting authority should initiate an evaluation of toxic air pollutants (unregulated as well as regulated) which the proposed project would emit in amounts potentially of concern to the public. The review authority should evaluate unregulated pollutants for both carcinogenic and noncarcinogenic effects. The National Air Toxics Information Clearinghouse (NATICH) data base contains considerable information relevant to evaluating the effect, sources, and control techniques available for unregulated pollutants. I encourage you to urge permitting authorities to use NATICH as a source of information as they conduct the analyses. Further information may be obtained by calling the NATICH staff at 629-5519.

The response to the Administrator made by EPA Region IX in its analysis of the North County permitting decision is attached. Although this example illustrates only one of several acceptable approaches, it is a well thought out analysis that provides a useful example to consider for future permitting exercises.

Headquarters has several other mechanisms in effect to support analyses with respect to toxics. These include a recent report which helps to estimate toxic air emissions from various sources (Compiling Air Toxics Emission Inventories, EPA-450/4-86-010). The burden of proof regarding emissions estimates, of course, rests with the applicant, but the techniques discussed in the document should be useful in determining if the applicant's estimates are reasonable and address appropriate pollutants. In addition, the Office of Research and Development (ORD) has released a control technology manual which is valuable in evaluating how control devices for particulate matter and volatile organic compounds differ in their abilities to control various toxic species of these criteria pollutants (Control Technologies for Hazardous Air Pollutants, EPA-625/6-86/014).

Support will also be available on a case-by-case basis from the Office of Air Quality Planning and Standards (OAQPS) and ORD. In particular, we have formed a control technology center to provide assistance to the review authority in determining BACT. This center can offer a range of activities, including evaluation of source emissions, identification of control techniques, development of control cost estimates, identification of operation and maintenance procedures, and, in a few situations, in-depth engineering assistance on individual problems. Other planned activities include the publication of technical guidance to assist in the evaluation of selected types of sources. Contact points for the control technology center are Lee Beck in OAQPS (629-0800) and Sharon Nolen in ORD (629-7607). We expect this support to limit the effort required of PSD reviewing authorities.

Public Participation

One of the most important features of this policy is the requirement that the affected public be fully informed of the potential toxic emissions from a proposed project and of what the reviewing authority has done to minimize this potential within the BACT decision. A specific discussion of toxics concerns in a technical support document might be helpful in accomplishing this information transfer. Additional concerns related to the environmental effects of unregulated pollutants raised by commenters must then be addressed in the final BACT determination. This process is of central importance to PSD permitting and comments received must be adequately addressed in the final decision. Strong public participation is consistent with the PSD goals contained in section 160 of the Act, which relate to informing the public of increased air pollution, including that due to unregulated pollutants.

It should be noted that although these analyses are used in the BACT decision, they will not be used as the basis for disapproving a project that has agreed to apply BACT. In other words, today's policy requires that toxics be considered in the control of the proposed project only to the extent that the level of control chosen as BACT is achievable.

Enforcement

In the case of delegated (as opposed to SIP-approved) PSD programs, EPA has various enforcement tools. Pursuant to 40 CFR 124.19, any party that participated in the public proceedings with respect to a proposed permit may, within 30 days of the final permit decision, petition the Administrator of EPA to review any condition of that permit decision. The Administrator may also seek to review any such permit condition on his own initiative. Should this appeals procedure be unavailable in a particular case, EPA has the authority, depending upon the facts of the case, to withdraw the delegation with respect to an individual permit that is being or has been issued inconsistently with the terms of that delegation. Thus, EPA may be able to directly intervene in the issuance of a PSD permit to ensure implementation of today's policy. This withdrawal of delegation is not the preferred course of action but it may be available if needed.

The consideration of air toxics in PSD permitting is a requirement of the Act and, through the definition of BACT, is incorporated in the SIP's. Therefore, violation of this policy would constitute a SIP violation and be enforceable by EPA. Section 113(a) of the Act provides for Federal issuance of a notice of violation in the case of a violation of a SIP. If the violation continues for more than 30 days, section 113(b) provides that the Administrator shall commence an action for injunction or civil penalty, or both. In addition, section 167 of the Act specifically provides that EPA take legal action to prevent the construction of a major emitting facility that does not conform to the requirements of PSD. Under section 167, EPA can issue an administrative order or commence a civil action. Since no

notice of violation would be necessary, in this case, EPA can use section 167 to order immediate cessation of construction or operation. Note also that this section has been construed as providing EPA with authority to take enforcement action against sources out of compliance with PSD even if they have already been constructed. These remedies are more likely to be used in the case of SIP-approved programs than with delegated programs, for which an appeal under 40 CFR Part 124 would generally be the preferred course of action.

Enforcement actions are pursued after reviewing a range of factors relevant to each particular case. For this reason, I am not setting forth detailed provisions as to required enforcement measures. There are, however, certain situations in which enforcement action is generally appropriate. These include procedural deficiencies, such as failure to solicit public comment on air toxics issues for applicable permits, and failure to address the air toxics concerns raised by public comment. Enforcement with respect to permits already in the pipeline should follow the transition scheme in today's policy for delegated programs and the State or local agreement established with EPA for SIP-approved programs.

The Act and the PSD regulations require that States submit a copy of the public notice for proposed permits to EPA. I urge the Regional Offices to ensure that such notices are submitted and are reviewed for conformance with the criteria contained in this document. Although enforcement mechanisms are available to address noncomplying sources, our efforts to implement today's policy will be much more effective if taken prospectively and in coordination with the State permitting process.

Conclusion

Today's guidance summarizes the broad ranging impact of the June 3, 1986, remand and provides some insight into the analyses and public disclosure that now should take place. We will continue to support and monitor subsequent decisions and to assess the need for more detailed or expansive guidance. Questions on today's guidance should be addressed to Michael Trutna (629-5345) or Kirt Cox of OAQPS (629-5399).

Attachment

cc: C. Potter
A. Eckert
D. Clay
Regional Administrator, Regions I-X
Air Branch Chiefs, Regions I-X



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street
San Francisco, Ca. 94105

MEMORANDUM

DATE: August 15, 1986

SUBJECT: North County Resource Recovery Associates
PSD Appeal No. 85-2

FROM: *[Signature]*
David W. Nowakamp, Director
Air Management Division, Region 9

TO: Lee M. Thomas, Administrator
U.S. Environmental Protection Agency

This is in response to the June 3, 1986 remand of Region 9's April 2, 1985 determination to issue a Prevention of Significant Deterioration (PSD) permit to the North County Resource Recovery Associates for the construction of a 1000 ton per day resource recovery facility. The remand charged Region 9 with reconsidering the effects of unregulated pollutants when making PSD determinations.

Region 9 has reviewed the relevant BACT decisions and has prepared a response to the Administrator's remand, as recommended in the July 21, 1986 guidance memo from Gerald A. Emison, Director, Office of Air Quality Planning and Standards. Our response with supporting materials is attached.

If you have any questions regarding the enclosed materials please contact me at 454-8201 (FTS) or have your staff contact Wayne A. Blackard, Chief of our New Source Section at 454-8249 (FTS).

Enclosures

RESPONSE TO PSD REMAND
NORTH COUNTY RECYCLING AND ENERGY RECOVERY CENTER
(PSD Appeal No. 85-2)

On April 2, 1985 the Director of the Air Management Division, EPA Region 9, made a determination to issue a Prevention of Significant Deterioration (PSD) permit to the North County Resource Recovery Associates (NCRRA) for the construction and operation of a 33 megawatt, 1000 ton per day resource recovery facility. During the following appeal period EPA received three petitions filed pursuant to 40 CFR 124.19 requesting the Administrator to review Region 9's decision to issue the PSD permit. The Office of the Administrator reviewed the petitioners' comments and Region 9's responses to the comments and determined that Region 9 had satisfactorily addressed all of the petitioners' allegations with the exception of Region 9's assertion that EPA lacked the authority to "consider" pollutants not regulated by the Clean Air Act when making a PSD determination. The Administrator felt that Region 9's assertion was overly broad and that when making a PSD determination, in particular a best available control technology (BACT) decision, a permitting agency must consider not only the environmental impact of the controlled regulated pollutant but must also consider the environmental impacts of any unregulated pollutants that might be affected by the choice of control technology. For this reason the Administrator remanded the PSD determination to Region 9 for reconsideration and action consistent with the above interpretation of EPA authority.

In response to the above, Region 9 has reviewed the BACT decisions made for the NCRRA PSD permit. Under the PSD regulations NCRRA must apply BACT to control emissions of SO₂, NO_x, lead, mercury, and fluorides from their proposed resource recovery facility. BACT is defined in the Clean Air Act as "...an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act...on a case-by-case basis, taking into account energy, environmental and economic impacts and other costs..." Under environmental impacts our review of the original BACT determination included the impacts from both regulated and affected unregulated pollutants. The control of particulates, CO, and VOC emissions are not directly subject to the federal PSD BACT review, but are subject to the nonattainment permitting regulations which are administered by the San Diego Air Pollution Control District.

NCRRA is proposing to use a dry scrubber with a baghouse to control emissions of SO₂, acid gases, and particulate matter from the proposed resource recovery project. The dry scrubber consists of a spray dryer and a baghouse. The spray dryer injects an atomized lime slurry sorbent into the flue gas stream. The baghouse removes the dried sorbent and flyash (particulate matter) from the flue gas. The dry scrubber will be designed for a flue gas flow of 225,000 acfm at an inlet temperature of

340 degrees F and a maximum outlet temperature of 265 degrees F. NCRRA expects the dry scrubber system to provide 83% removal of SO₂ and 95% removal of acid gases as well as 99.5% removal of particulates.

Recent tests of emissions control devices for waste fired boilers (the latest being the Quebec City Test Program) have shown that properly designed and operated control devices can significantly reduce emissions from resource recovery facilities. In particular, an acid gas scrubbing system operating at optimal stoichiometric ratios, at low temperature, in tandem with a baghouse can achieve very high removal efficiencies of particulates, SO₂, HCl, organics, and heavy metals. The tests indicate that the NCRRA's proposed emission control system (lime slurry spray dryer, baghouse, low temperature flue gas) is the most efficient for controlling the unregulated pollutants from a resource recovery facility. While certain technologies may have the potential for greater removal of regulated pollutants (e.g. a wet scrubber may yield greater SO₂ removal), available data suggests that greater control of unregulated pollutants will not result. Region 9 believes that the NCRRA's proposed control technology will have very high collection efficiencies of dioxins, furans, and heavy metals, with collection efficiencies of 95% for HCl, and greater than 90% for mercury. We conclude that a lime slurry spray dryer with a baghouse provides the greatest degree of control currently achievable for the relevant air toxics concerns and therefore, emission limitations based on the operation of a lime slurry spray dryer with a baghouse and continuous emission monitors constitute BACT for the control of SO₂, lead, mercury, and fluorides from the NCRRA facility.

In addition to the proposed acid gas BACT, Region 9 also reviewed the BACT decisions made for controlling NO_x emissions from the NCRRA facility. NCRRA has proposed to control NO_x emissions with low excess air and staged combustion. After reviewing all of the available control technologies, Region 9 believes that the alternate NO_x control technologies currently available for resource recovery do not offer any better control of the affected pollutants (organics such as dioxins and furans) than do the controls proposed for the NCRRA facility. Our review included staged combustion, selective non-catalytic reduction, selective catalytic reduction, wet flue gas denitrification, and the different categories of source separation. Our review also took into account the effects of the district permit requirements designed to reduce organic toxic pollutants (minimum 1800° F furnace temperature and minimum 2 second residence time in the combustion zone). We conclude that an emission limitation based on the use of low excess air and staged combustion and with continuous emission monitors is BACT (considering the effect of unregulated pollutants) at this time for the control of NO_x emissions from the NCRRA facility.

As part of our BACT review of the NCRRA PSD permit, Region 9 prepared several charts listing the available SO₂ and NO_x control options for the NCRRA facility, ranked in order of control

effectiveness, with the estimated impacts of the controls on the projects' other air pollutants. The charts were prepared using data from existing Region 9 PSD permits, permit applications, district permits, emission control technology reports from the California Air Resources Board and the New York City Department of Sanitation, and from reports on the Quebec City Test Program. The impacts on other pollutants were estimated using our best engineering judgement based on the available data. We have included these charts with this report for your review.

After reviewing the above facts, Region 9 has concluded that no greater controls for the regulated pollutants can be applied that would be more effective in reducing the emissions of unregulated pollutants. Therefore, the BACT proposed by NCRRA and the BACT decisions made by Region 9 in the April 2, 1985 PSD determination are reaffirmed as BACT for controlling SO₂, NO_x, lead, mercury, and fluoride emissions from NCRRA's proposed North County Recycling and Energy Recovery Center.

REFERENCES

1. Air Pollution Control at Resource Recovery Facilities,
California Air Resources Board, May 24, 1984.
2. Clarke, Marjorie J., Emission Control Technologies for
Resource Recovery, New York City Department of Sanitation,
March 15, 1986.
3. Hay, D.J., Finkelstein, A., Klicuis, R., Masentette, L.,
"The National Incinerator Testing and Evaluation Program:
An Assessment of A) Two-Stage Incineration B) Pilot
Scale Emission Control", Presented at the 79th Annual
Meeting of the Air Pollution Control Association,
June 22-27, 1986, Minneapolis, Minnesota.

EPA Region 9 - New Source Section
 BACT ANALYSIS
 (Ranked in Decreasing Order of Control Effectiveness)

Project: North County RRF
 Project Category: Resource Recovery
 Project Type: 1113 TPD, RDF, 36 MW
 Pollutant: SO₂
 Date: Aug 15, 1986
 Project Engineer: Bob Baker

Control Options	% Control	Emission Rates lbs/ton (ppm) (1)	Emissions (tons/yr)	Control Effectiveness on Other Pollutants				
				Heavy Metals	Dioxin Furans	HCl	Hg	Lead
Spray Dryer, Alkaline Slurry, Baghouse	80-95	0.26-1.04 (9-35)	53-212	Exc	Exc	Exc	Good	Exc
Spray Dryer, Lime Slurry, Baghouse	75-90	0.52-1.30 (18-44)	106-265	Exc	Exc	Exc	Good	Exc
Spray Dryer, Alkaline Slurry, ESP	75-90	0.52-1.30 (18-44)	106-265	good	good	Exc	Fair	Good
Dry Injection, Sodium Sorbent, Baghouse	70-85	0.78-1.56 (26-53)	159-318	Exc	Poor	Exc	Poor	Good
Spray Dryer, Lime Slurry, ESP	65-85	0.78-1.82 (26-62)	159-371	Good	Good	Exc	Fair	Good
Dry Injection, Lime, Baghouse	65-80	1.04-1.82 (35-62)	212-371	Good	Poor	Exc	Poor	Good
Wet Scrubbing, Alkaline	50-90+	0.52-2.61 (18-88)	106-530	Poor	Poor	Exc	Fair	Fair
Dry Injection, Sodium Sorbent, ESP	50-75	1.30-2.61 (44-88)	265-530	Fair	Poor	Exc	Poor	Fair
Dry Injection, Lime, ESP	40-70	1.56-3.13 (53-106)	318-636	Fair	Poor	Good	Poor	Fair

(1 Corrected to 12% CO₂, 24 hour average

EPA Region 9 - New Source Section
 BACT ANALYSIS
 (Ranked in Decreasing Order of Control Effectiveness)
 Page 2

Project: North County RRK
 Project Category: Resource Recovery
 Project Type: 1113 TPD, RDF, 36 MW
 Pollutant: SO₂
 Date: Aug 15, 1986
 Project Engineer: Bob Baker

Control Options	% Control	Emission Rates lbs/ton (ppm) (1)	Emissions (tons/yr)	Control Effectiveness on Other Pollutants				
				Heavy Metals	Dioxin Furans	HCl	Hg	Lead
Dry Injection, Limestone, ESP	25-40	3.13-3.91 (106-132)	636-795	Fair	Poor	Good	Poor	Fair
Wet Scrubbing, Water	20-30	3.65-4.17 (124-141)	742-848	Poor	Poor	Fair	Poor	Fair
Source Separation	5-10	4.69-4.95 (159-168)	954-1007	Poor	Fair	Fair	Poor	Poor

(1) Corrected to 12% CO₂, 24 hour average.

EPA Region 9 - New Source Section
BACT ANALYSIS
 (Ranked in Decreasing Order of Control Effectiveness)

Project: North County RRF
 Project Category: Resource Recovery
 Project Type: 1113 TPD, RDF, 36 MW
 Pollutant: NO_x
 Date: Aug 15, 1986
 Project Engineer: Bob Baker

Control Options	% Control	Emission Rates	Emissions (tons/yr)	Control Effectiveness on Other Pollutants			
		lbs/ton (ppm) (1)		Dioxin Furans	VOC	CO	Heavy Metals
Selective Catalytic Reduction (SCR) (2)	90-95	0.31-0.61 (15-30)	65-129	Unk	Poor	Poor	None
Wet Flue Gas Denitrification (FGD _n) (2)	80-90	0.61-1.21 (30-60)	129-258	None	None	None	Poor
Selective Non-Catalytic Reduction (SNCR)	30-60	2.43-4.25 (110-200)	473-860	None	None	None	None
Low Excess Air/Staged Combustion	30-35	3.94-4.25 (185-200)	795-860	Unk	Unk	Unk	None
Flue Gas Recirculation	10-15	5.16-5.46 (240-260)	1032-1118	Worsen	Worsen	Worsen	None
Source Separation	Minimal	-	-	Fair	Poor	Poor	Poor

(1) Corrected to 12% CO₂, 24 hour average.

(2) This control technology has not yet been applied to refuse combustion, and has not been considered as a transferable technology due to as yet unresolved technological problems.

EPA Region 3 - New Source Section
 BACT ANALYSIS
 (Ranked in Decreasing Order of Control Effectiveness)

Project: North County RRF
 Project Category: Resource Recovery
 Project Type: 1113 TPD, RDF, 36 MW
 Pollutant: NO_x
 Date: Aug 15, 1986
 Project Engineer: Bob Baker

Control Options	% Control	Emission Rates	Emissions (tons/yr)	Control Effectiveness on Other Pollutants			
		lbs/ton (ppm) (1)		Dioxin Furans	VOC	CO	Heavy Metals
Selective Catalytic Reduction (SCR) (2)	90-95	0.31-0.61 (15-30)	65-129	Unk	Poor	Poor	None
Wet Flue Gas Denitrification (FGD _n) (2)	80-90	0.61-1.21 (30-60)	129-258	None	None	None	Poor
Selective Non-Catalytic Reduction (SNCR)	30-60	2.43-4.25 (110-200)	473-860	None	None	None	None
Low Excess Air/Staged Combustion	30-35	3.94-4.25 (185-200)	795-860	Unk	Unk	Unk	None
Flue Gas Recirculation	10-15	5.16-5.46 (240-260)	1032-1118	Worsen	Worsen	Worsen	None
Source Separation	Minimal	-	-	Fair	Poor	Poor	Poor

(1) Corrected to 12% CO₂, 24 hour average.

(2) This control technology has not yet been applied to refuse combustion, and has not been considered as a transferable technology due to as yet unresolved technological problems.



Westinghouse
Electric Corporation

ENG:DSB:87-130

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania
(412) 636 5800
WIN 261 5800

March 19, 1987

Mr. Robert Kriegel
Florida Department of
Environmental Resources
Northwest District
160 Government Center
Pensacola, FL 32501

Dear Mr. Kriegel:

I am writing you as directed by Mr. Jack Preece to request permission from your office to burn 510 TPD of Municipal Solid Waste (MSW) during the upcoming acceptance test and emission compliance tests at the Bay County Resource Recovery Facility. The acceptance test will be conducted to verify capacity, electricity generated, and ash burnout values as guaranteed by the contract between Westinghouse Electric Corporation and the Bay County Resource Authority.

The permit issued by Florida DER, AC03-84703, states that the facility can burn a maximum of 350 TPD of MSW. However, the third party engineer for the Bay County Resource Authority, Roy F. Weston, Inc., has stipulated that the facility must be operated at 100% capacity during the acceptance test. The acceptance test period will run from approximately March 25 through April 10, 1987. The emission compliance tests are to be performed in that period and are scheduled to run from April 5 through April 8, 1987. The acceptance test period includes time for combustor/boiler warm-up, combustion stabilization, acceptance testing and emission compliance testing. The emission compliance tests will be conducted using EPA Reference Methods 5 and 9 and will be conducted to demonstrate compliance with the permit conditions for particulate matter concentration of less than 0.03 gr/dscf. The acceptance test and compliance tests will be conducted on a one-time basis; therefore, the facility will only burn 510 TPD MSW during this test period.

March 19, 1987

If you have any questions regarding this request, please call me at (412) 636-5806 or Milton Kirkpatrick at (904) 785-7933. We look forward to hearing from you shortly.

Sincerely,

A handwritten signature in cursive script that reads "Mick Pomykala Sr".

D. S. Beachler, Manager
Environmental and Quality Engineering

cc: G. Pennington - Bay County
M. Kirkpatrick - Bay County

/kjd
0379MM-069E-2

ENG:DSB:87-130

-3-

March 19, 1987

bcc: W. G. Collins
J. J. Ludwig
J. J. Zebroski
William Thomas - Florida DER

DER

MAR 23 1987

BAQM

PM
3-20-87
Pittsburg, PA

Main file
PSD-FL-103
Bay County RRF

TO ALL BCC'S OF LETTER NO. ENG:DSB:87-130 DATED MARCH 19, 1987:

Please disregard the first version of this letter that you received (to Mr. Robert Kriegel of the Florida Department of Environmental Resources). The letter had to be modified, but unfortunately it was too late to retrieve all cc and bcc addressees as the mail had already gone out.

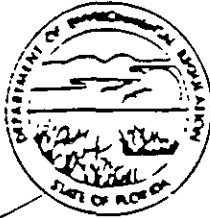
To determine which is the first version and which is the second version--the first version only had two pages, the second version has three pages.

Thank you,

Kathie Daschke
for Mick Pompelia

cc:
Pradeep Raval }
Burr Andrews } 5/12/87 RRM

DEPARTMENT OF ENVIRONMENTAL REGULATION



NORTHWEST DISTRICT

160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794

BOB MARTINEZ
GOVERNOR

DALE THWACHTMANN
SECRETARY

ROBERT V. KRIEDEL
DISTRICT MANAGER

PETER CUNNINGHAM

February 5, 1987

Mr. Al Cape
Bay County Administrator
Post Office Box 1818
Panama City, Florida 32402

Dear Mr. Cape:

This acknowledges your advising us that the Bay Resources Management Center will be ready for start-up and testing commencing February 9, 1987. We commend Bay County for this effort and look forward to the operation of this plant as a regional resource recovery facility.

We have been advised by Westinghouse that they plan approximately three months of start-up and debugging of the plant and will conduct acceptance tests in May 1987. We concur that this schedule is reasonable, and is well within the permit conditions for that plant.

I am issuing the construction permit today for the new Steelfield Road landfill which will receive the ash from the resource recovery facility. Since the resource recovery facility will have to be tested at its full rated capacity burning solid waste, it obviously will be necessary to dispose of the ash from that burning at a site other than Steelfield Road if the startup schedule is to be maintained. You have requested our approval to dispose of that ash at the Majette South temporary landfill.

Approval is granted to dispose of the ash at Majette South from February 9, 1987 until the Steelfield Road landfill is constructed, or until May 31, 1987, whichever occurs first, under the following conditions:

- a. Disposal must conform to the closure plan approved by the Department on March 11, 1985.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Barry

Initial

Date

2.

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

Fyi's file. Looks like they may come in for some increase in trash's decrease in woodlate this year.

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

Clan

DATE

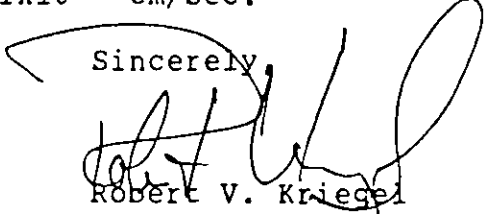
3/12

PHONE

Mr. Al Cape
Page two

- b. Any area used for ash disposal must first be underlain with a 12" layer of clay-bentonite mixture, compacted in two lifts to 90% Proctor, and tested to ensure a maximum in-place saturated hydraulic conductivity of 1×10^{-7} cm/sec.

Sincerely,



Robert V. Krieger
District Manager

RVK/tmf

cc: Russell R. Stewart, Esq.
Karen Brodeen, Esq.
Les W. Burke, Esq.
~~Milton Kirkpatrick~~

BRIEFING REPORT
BAY COUNTY SOLID WASTE MANAGEMENT

Prepared By:
Milton Kirkpatrick

AVERAGE DAILY

TONS WEIGHED

AT MAJETTE LANDFILL TRUCK SCALE

1983

300

1984

329

1985

385

1986

430

ANNUALLIZED WEIGHT DATA

FROM

TRUCK SCALE AT MAJETTE

TONS - M.S.W.

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Scale Installed March, 1983 First 12 Month's Data	109,500	120,388	140,636	156,844

ESTIMATED BURNABLE OR
"ACCEPTABLE" M.S.W. - TONS
75% OF ABOVE

	82,125	90,291	105,477	117,633
--	--------	--------	---------	---------

TRAFFIC FLOW
AT MAJETTE LANDFILL

MAXIMUM
DAILY VEHICLES

15 - 20

County Semi-Trailers 75 Cubic Yard
Capacity Approximately 20 Ton Per
Load From 2 Transfer Stations

30 - 35

Private Hauler Packer Trucks
Residential - Commercial M.S.W.

35 - 40

Private Hauler - Roll-Off Containers-
Mostly Containing Construction Debris

45 - 50

Other Weighed Vehicles
Flat Bed Trucks
2-Wheel & 4-Wheel
Trailers
Mostly Limbs-Tree & Shrub Trimmings

40 - 50

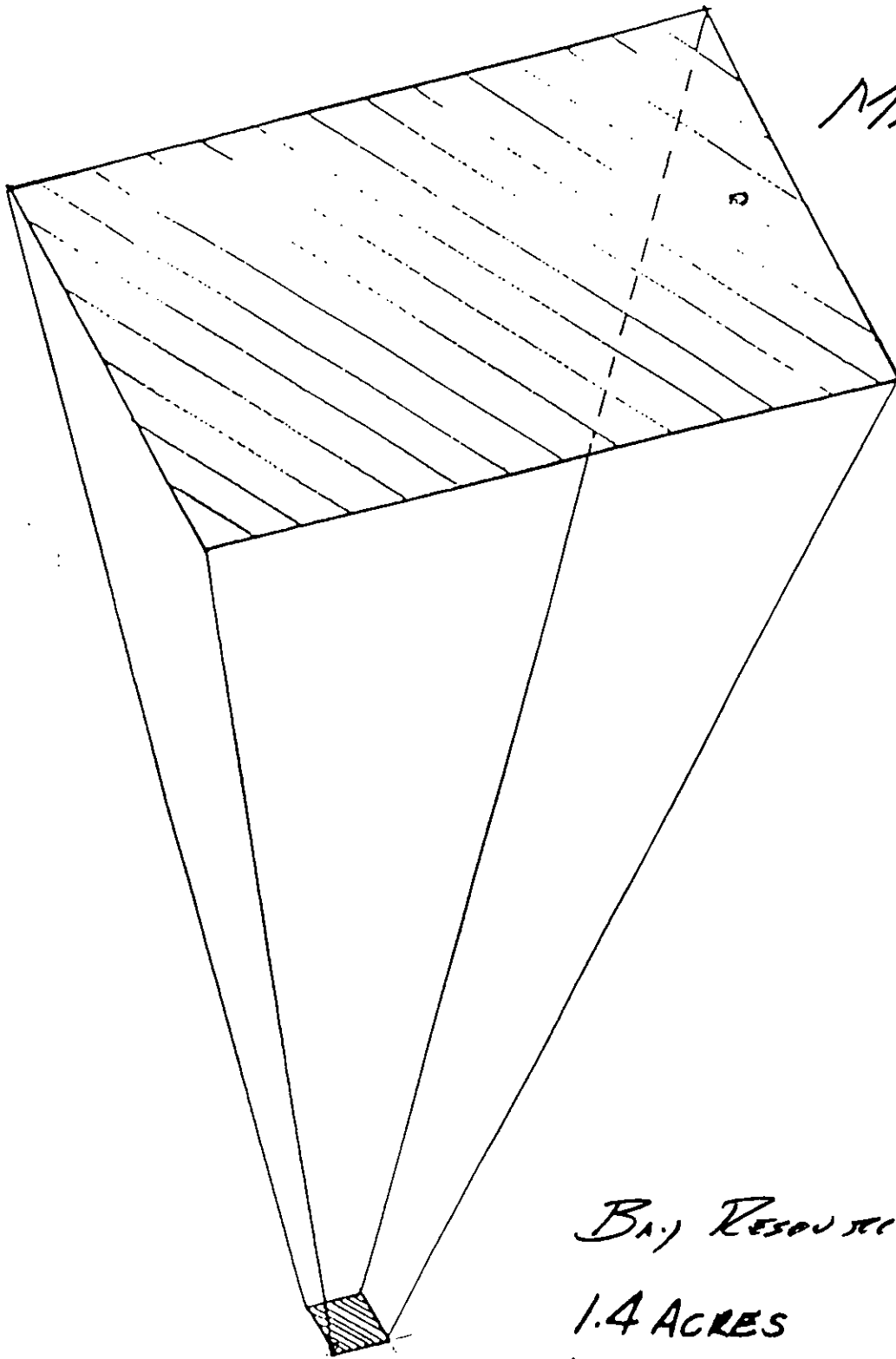
Non Weighed Vehicles
Pick-Ups, Sedans, Station Wagons

165-195 TOTAL

BUILDING ACTIVITY
EVALUATIONS OF COMMERCIAL
AND RESIDENTIAL ACTIVITY
BAY COUNTY

<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
\$65,099,864	\$71,056,214	\$79,479,493	\$60,379,310

From Frances Burgess,
Bay County Building Department



MAJETTE
400 ACRES

BAJ RESOURCE MGMT CTR.
1.4 ACRES
(.33% OF 400 ACRES)

PLANT CAPACITY
TONS PER YEAR
M.S.W. & EQUIVALENT
WOOD WASTE

NAMEPLATE	(510 T.P.D.)		186,150
GOAL -	(466 T.P.D.)	91%	170,000
GUARANTEE	(433 T.P.D.)	85%	158,000

PERTINENT

FACT SHEET

- Estimates Indicate Approximately 25% of Weighed Material Can Be Classified as Non-Acceptable Waste for the Bay Resource Management Center.

Examples Are Construction Debris - Oyster Shells & Fish Entrails, Carcasses, White Goods, Appliances, Bed Springs, Furniture, Metal "Junk", 55 Gal Drums, Mufflers, Etc.

- The Capacity of Both Transfer Stations is Fully Utilized- Although the Beach Transfer Station is at Capacity Only in Summer Season.
- Present Volume of Traffic at Majette Cannot be Handled by Plant.
- Determination of "Unacceptable" Waste Will Best be Determined by County Solid Waste Department Prior to Material being Directed to Plant.
- Some Consolidation of Burnable Trash Should be Done by County Solid Waste Department to Provide Larger Loads to Plant.
- Relocation of Individual Trash Dumping, i.e., Autos, Pick-ups, etc. to Other Sites Than Plant Should be Done by County.
- Increases in Solid Waste Tonnage Since 1983 May Well Represent Increases in Construction Activity Since 1983 Rather Than Population Growth.