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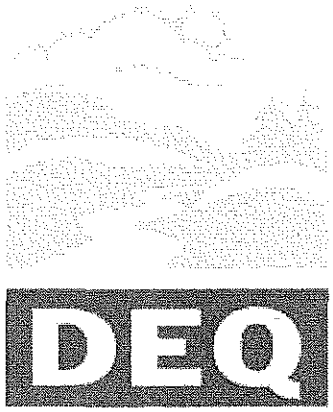
OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS



State of Oregon
Department of Environmental Quality

VICTOR ATIYEH
GOVERNOR

Environmental Quality Commission

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OREGON ENVIRONMENTAL QUALITY COMMISSION

NOTICE OF SPECIAL MEETING

FEBRUARY 7, 1986

Room 602
Multnomah County Courthouse
1021 SW Fourth Avenue
Portland, Oregon

REVISED AGENDA

9:00 am A. Proposal to Declare a Threat to Drinking Water in a Specifically Defined Area in Mid-Multnomah County Pursuant to ORS 454.275 et. seq.

This is not a public hearing. Oral testimony will not be received. If the Commission finds a threat to drinking water, the findings and recommendations will be published as a notice in the newspapers providing the opportunity to appeal.

Within 15 days of public notice of findings, a petition may be filed with the Commission to present oral or written arguments on the findings and recommendations. If a petition is received, the Commission will set a time and place for further discussion.

1:00 pm B. Metro Request for Review and Approval of Waste Reduction Program.

This item is tentatively scheduled to be heard at 1:00 pm. However, depending upon the Commission's completion of item A, this item could be heard as early as 11:00 am.

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OREGON ENVIRONMENTAL QUALITY COMMISSION

SPECIAL MEETING

February 7, 1986

AGENDA ITEM A: Proposal to Declare a Threat to Drinking Water in a Specifically Defined Area in Mid-Multnomah County Pursuant to ORS 454.275 et. seq.

Purpose of Today's Meeting
Future Opportunity to Present Testimony

The Environmental Quality Commission is committed to providing additional opportunity for comment on the proposed sewer plan before a final decision is made on whether to order its implementation.

Today's meeting is a continuation of deliberations on the Sewer Implementation Plan. No general oral testimony will be taken at this meeting. However, Century West Engineering, DEQ staff and representatives of the East County Sanitary Sewer Consortium may be asked to answer specific questions.

If the Commission makes findings and recommendations on a Threat to Drinking Water, state law specifies that another opportunity for public comment be provided. The statute requires that a notice of the findings and recommendations be published in local newspapers. Any person affected by those proposed findings and recommendations may petition the Commission to present written or oral arguments on the proposal. Only after such written or oral arguments are presented would the Commission decide whether or not to order the sewer plan implemented.

If the Commission adopts the findings and recommendations today, we would expect to establish the date and time when anyone petitioning the Commission may present written or oral arguments.

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MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item B, February 7, 1986, EQC Meeting

Metro Request for Review and Approval of Waste Reduction Program

Summary of Recommendation:

The Department recommends that the Commission allow Metro 90 days to modify its Waste Reduction Program to comply with the requirements of SB 662.

Background

The Metropolitan Service District (Metro) estimates that 962,000 tons of solid waste is generated annually by the people living in the Portland tri-county area. Approximately 22% of that waste is recycled, one of the highest recycling rates in the nation. But it is still necessary to landfill nearly 755,000 tons of garbage each year. Most of that waste is buried at St. Johns Landfill in North Portland. St. Johns has been in operation since 1934 and is nearly full. It is scheduled to close in June 1989.

Metro's attempts in the past eight years to site a general purpose landfill and waste-to-energy facility have failed. Because of these failures and the imminent closure of the only metropolitan all-purpose landfill, the 1985 Oregon Legislative Assembly intervened to avert a regional garbage crisis.

The 1985 Legislative Assembly passed SB 662 (Attachment 1) which gave the Environmental Quality Commission (EQC) the authority to locate and establish a disposal site(s) for Clackamas, Multnomah and Washington Counties. The legislature also directed Metro to prepare a waste reduction program to be submitted by January 1, 1986 for review and approval by the EQC. If the EQC does not approve this Program as submitted, the Commission shall allow Metro not more than 90 days to modify the Program. If the EQC does not approve the

Program by July 1, 1986, Metro's solid waste management functions and powers transfer to DEQ.

The direction to Metro to prepare a waste reduction program is not a new task for Metro. ORS 459.017(1)(b) assigns primary responsibility for developing a solid waste management plan to local government, which includes Metro. In addition, in response to Resource Conservation and Recovery Act requirements, Governor Straub issued Executive Orders in November 1977 and May 1978 which designated Metro as the solid waste planning and implementing authority for the tri-county area. At the time that SB 662 was passed, Metro was already in the process of updating the out-of-date 1974 Metropolitan Service District Solid Waste Management Action Plan (COR-MET Plan) and 1981 Waste Reduction Plan which set a goal of reducing waste through resource recovery (mass burn).

Metro has direct authority for the operation of solid waste disposal facilities in the Metropolitan Service District region. This includes the authority to set disposal rates, to control the flow and destination of waste materials, and to ban certain materials from disposal. Metro also has direct authority for solid waste planning in Multnomah, Clackamas, and Washington counties.

However, Metro does not have direct authority over the collection of wastes. This means that certain direct waste control measures are not available to Metro, including the authority to require garbage collectors to provide recycling programs or to reorganize their collection of commercial wastes in order to produce "high-grade" loads (loads containing large quantities of recyclable material), and to take the loads to processing centers where the materials can be recovered. This lack of authority to regulate collection has made it necessary for Metro to use indirect methods such as rate incentives and the certification program rather than direct regulatory methods in order to attempt to change the existing collection systems.

After SB 662 was signed into law on July 13, 1985, Metro speeded up its planning process for development of a new waste reduction plan. The planning and public involvement process included a resource recovery symposium, opinion leader interviews, a public opinion survey, preparation and distribution of a program summary and a series of seven fact sheets on waste reduction options, a full-page newspaper ad in five regional newspapers, nine informational meetings for special interest groups, three open houses, an informal workshop, and a public hearing before the Metro Council on December 5, 1985.

The Department Director and staff met regularly with and worked cooperatively with Metro staff during the months that the Waste Reduction Program was being developed by Metro. In addition, the Director wrote three letters to Metro Executive Officer Rick Gustafson and the Metro Council outlining what the Department expected the Program to include. Fred Hansen letters dated August 20, December 3 and December 12, 1985 (Attachment 2). Most of the Department's concerns discussed in the following evaluation of the Waste

Reduction Program were raised in these letters and in informal discussions with Metro staff.

The Metro Council held a work session on December 12, 1985 to debate a proposed resolution which states nine general waste reduction policies and directs Metro's Executive Officer to prepare a waste reduction program consistent with the resolution policies and to submit it to the EQC. On December 19, 1985, the Metro Council adopted Resolution No. 85-611-A. (Included in Final Report).

Metro submitted its Waste Reduction Program to the EQC on December 31, 1985. It is that Program which is the subject of this staff report.

The Department held a Public Hearing on the Metro Program on January 16, 1986. Nineteen persons testified, and several others submitted written comments. The Hearings Officer report is Attachment 3.

Waste Reduction Program Documents Submitted to EQC

(All documents are dated December 31, 1985)

Resolution No. 85-611-A, Adopting Solid Waste Reduction Policies: Adopted by Metro Council on December 19, 1985.

Final Report, including transmittal letter, the above Resolution, Summary of Program, Framework and Background Information: Not adopted by Metro Council.

Work Plan and Timeline: Not adopted by Metro Council.

Appendices:

Alternative Technologies Chapter

Source Reduction and Recycling Chapter

Metro Region Recycling Conditions

Public Involvement and Comment

Introduction to Metro's Waste Reduction Program

Metro's Waste Reduction Program is structured on the concept of maximum feasible reduction and on the state's solid waste management priorities of reduce, reuse, recycle, recover energy, and lastly, landfilling. ORS

459.015(2)(a). The Program is divided into three phases, with implementation of each phase dependent on the success of previous phases.

Phase I depends upon indirect measures such as education, disposal rate incentives and certification programs, as well as on compliance with the requirements of SB 405, the Oregon Recycling Opportunity Act, to maximize the reduction and recycling of wastes. Residents and businesses would have the opportunity to recycle through curbside collection programs and depots at disposal sites. (Opportunity to Recycle Act). Commercial waste collection systems would be reorganized to collect loads that contain high amounts of recyclable materials. These "high-grade" waste loads would then be taken to waste processing centers where office paper and cardboard would be removed for recycling. The wastes remaining after source separation and other material recovery would then be processed further through "alternative technology" for the production of fuel or compost, or for direct energy recovery through mass burning. In Phase I, Metro sets the maximum amount of wastes to be allocated to these alternative technologies at 1,300 tons per day, which equals 48% of the total waste stream including recycled materials or 61% of the waste stream presently going to landfills.

Phase II would begin January 1, 1989, if the recycling goals that Metro plans to set are not achieved by that date. In this phase, loads of wastes containing a high percentage of recyclable materials would not be accepted at disposal facilities, but would be required to go to materials recovery facilities if such facilities are available.

Phase III would begin on January 1, 1993, or possibly earlier. In this phase, Metro would re-evaluate the amount of waste that continues to be landfilled, and would allocate further amounts of wastes to energy recovery if the recycling goals of Phases I and II are not achieved. At this point, theoretically all wastes would be processed for materials and/or energy recovery. Only the ash from the energy recovery facility(s) would be landfilled.

Evaluation Criteria for Review of Metro Waste Reduction Program

SB 662, Section 8 requires the Waste Reduction Program to include:

(1) A commitment by the district to substantially reduce the volume of solid waste that would otherwise be disposed of in land disposal sites;

The Department has told Metro both informally and by letters dated December 3 and 12, 1985 (Exhibit C) that "commitment" to implementation includes (1) choosing a particular strategy; (2) stating the method and timeline for accomplishing the strategy; (3) setting performance standards against which the Program's success will be measured; (4) establishing checkpoints for judging the effectiveness of the Program strategies and alternative

strategies which will be implemented should the original strategies prove unsuccessful or less successful than anticipated; and (5) formal adoption by Metro Council.

(2) A timetable for implementing each portion of the solid waste reduction programs. At least a part of the program must be implemented immediately;

(3) Energy efficient, cost-effective and legally, technically, and economically feasible approaches to waste reduction;

(4) Approaches which carry out the existing state solid waste management priorities as established by SB 405 in 1983 (ORS 459.015(2)(a)):

First, to reduce the amount of solid waste generated;

Second, to reuse material for the purpose for which it was originally intended;

Third, to recycle material that cannot be reused;

Fourth, to recover energy from solid waste that cannot be reused or recycled; and

Fifth, to landfill waste that cannot be reused, recycled or from which energy cannot be recovered; and

(5) Effective and appropriate methods for waste reduction (i.e. procedures commensurate with the type and volume of solid waste generated within the region).

Evaluation:

The following evaluation describes each component of the Program following the order of its position in the solid waste management hierarchy. It also notes any public comments related to the component. It evaluates the component against the criteria for approval established in SB 662. Finally, it notes the Department recommendation for modification to the component in order to comply with SB 662.

At the end of the Program components discussion, the Program is analyzed as a whole to determine whether it meets the requirements of SB 662 and should be approved, or whether it does not meet the requirements and Metro should be allowed up to 90 days to modify the program.

METRO WASTE REDUCTION PROGRAM FRAMEWORK AND WORK PLAN PHASE I

Reduce and Reuse (Framework, Page 7)

1. **Promotion and education. Metro commits to education and promotion in both the Reduce, Reuse Component and the Recycling component.**

   Public Comments:

   Mike Durbin, Portland Area Sanitary Service Operators (PASSO) and Ken Spiegle, Clackamas County, both felt that Metro should put a major emphasis on recycling education/promotion.

   John Trout, Teamsters Local Union #281, felt that Metro improperly assigned itself the control of and responsibility for recycling education, promotion and notification. He felt that supervision of this task rests with the cities and counties.

   Analysis:

   A multi-year campaign is to be developed by February 1986 and adopted by the Metro Council in March 1986. The Work Plan does not discuss any education activities specifically targeted at convincing the public to reduce the amount of solid waste it produces or to reuse products, nor does it address education in schools. (Work Plan, Page 4.)

   Recommended Modifications:

   Metro should submit a comprehensive promotion and education program, including a detailed work plan for a multi-year promotion and education campaign and the financial commitment made to support it. One element of the program should be targeted to teach consumers the need for and how to change consumption habits in order to reduce the amount of solid waste generated and to maximize reuse of products. Another element should include a strategy for development and introduction of a curriculum for the region's public school system.

2. **Possible plastics reduction legislation. Metro will explore possible plastics reduction legislative action by participating in meetings of DEQ's Plastics Task Force which is currently being established. (Work Plan, Page 10.)**

   Public Comments: None

Analysis:

Working with the DEQ plastics task force would be an acceptable first step in developing alternatives for reducing plastic waste.

Recommended Modifications: None

3. **Possible legislative actions for packaging reduction, including expansion of the Bottle Bill. (Work Plan, Page 8).**

Public Comments: None

Analysis:

As a regional government, Metro cannot implement statewide legislative solutions, but can use its influence to affect the development, passage, and implementation of legislative solutions.

Recommended Modifications: None

4. **Possible salvage of building materials and other items at disposal facilities. (Work Plan, Pages 8 and 10).**

Public Comments: None

Analysis:

The Framework indicates that Metro will consider salvaging building materials at the landfill and transfer stations. The Work Plan indicates it will be done.

Recommended Modifications:

Metro should clarify whether it commits to incorporation of salvage facilities at the landfill and transfer stations.

5. **Possible Waste Exchange. Metro will explore the possibility of an information clearinghouse for industrial and manufacturing waste, with a decision to be made by May 1987.**

Public Comments: None

Analysis:

According to the Association of Oregon Recyclers, the Northwest is the only region of the country without an industrial waste exchange service.

Though there can be debate about whether such an exchange should be operated by a private or governmental entity, a regional waste exchange is needed.

Recommended Modifications:

Metro should commit to the establishment of a regional waste exchange. The exchange can be operated privately, with or without Metro assistance, or by Metro.

Recycle (Framework, Pages 7 - 11).

1. **Technical assistance. Metro commits to offering technical assistance to assist in implementation of SB 405, the Recycling Opportunity Act. (Work Plan, Page 14).**

Public Comments: None

Analysis:

Technical assistance has the potential to help local governments and collectors implement recycling programs if persons are made aware that assistance is available.

Recommended Modifications:

Metro should commit to promote aggressively their technical assistance program.

2. **Education and Promotion Campaign. Metro commits to a multi-year education and promotion campaign, to be developed by February 1986 and adopted by Metro Council in March 1986. (Work Plan, Pages 4 - 7).**

Public Comments, Analysis and Recommended Modifications: See discussion on Page 6.

3. **Recycling Information Center (RIC) enhancement. Metro commits to further enhancing their Recycling Information Center, by developing (1) a computerized information storage and retrieval system; (2) a series of educational flyers and handbooks; (3) a library on recycling and waste reduction; (4) a volunteer program; and (5) a network with community organizations. (Framework Page 8 and Work Plan Page 11).**

Public Comments: None

Analysis:

Metro plans to train and use volunteers to staff RIC. Though the enthusiasm of volunteers will be invaluable to the Program, Metro should not expect RIC to be run entirely by volunteers.

Recommended Modifications:

Metro should commit adequate financial resources to operate RIC with paid staff so as to most effectively utilize volunteers.

4. Local collection service certification. Metro commits to a certification program to encourage:

(a) Optimally effective curbside collection programs for SB 405 materials.

(b) A collection system for yard debris (if EQC does not list yard debris as a principal recyclable material).

(c) Collection and delivery to materials recovery centers of high-grade loads (paper and cardboard) from commercial waste.

"Standards and measurements will be developed to assure effective local collection programs which meet source separation goals for principal recyclable materials, remove yard debris from the waste stream, and provide high-grade loads of mixed waste" (Work Plan, Page 28).

The incentive for local jurisdictions, collectors and recyclers to be certified will be differential disposal rates. Metro's existing Solid Waste Planning Advisory Committee (SWPAC) will decide or recommend to Metro Council whether an entity should be certified. (Work Plan, Pages 29 - 31).

In the first year of the certification program, beginning January 1, 1987, Metro will reward with a lesser disposal rate those who have passed DEQ's review of their Recycling Report indicating compliance with SB 405.

Metro will add as yet undecided requirements beyond the minimum requirements of SB 405 in the following years. However, a rate differential for those standards will not be applied until either January 1988, (Work Plan Timeline) or January 1989. (Work Plan, Page 32).

Public Comments:

Merle Irvine, Oregon Processing and Recovery Center, supported the concept of using economic rate incentives to reward those who participate in recycling programs.

Jeanne Robinette, Oregonians for Cost-Effective Government, felt the certification program would increase Metro's bureaucracy and costs and was unnecessary.

John Trout, Teamsters Local Union #281, testified that Metro had no authority to establish a certification program because it usurps local government's authority over collection. He also felt that collection service must be franchised throughout the Metro district in order for the Metro program to work.

Estle Harlan, Oregon Sanitary Service Instituite, testified against the certification program because it is a duplication of the wasteshed reports required by SB 405. She also said that the DEQ Wasteshed reports need to be more encompassing to recognize the total volume of recycling from all sources.

Ken Spiegle, Clackamas County, considered the certification program an interference in local franchise control.

Kathy Cancilla, Portland Recycling Refuse Operators, Inc. (PRROS), supported the idea of a certification program, but wanted more definition of the process and how it would work.

Brian Lightcap, West Multnomah Soil and Water Conservation District/Oregon Association of Conservation Districts, suggested that Metro and local governments, including the SWCD, work together to set up recycling programs and motivate the public interest.

Analysis:

If one assumes that not all jurisdictions will comply with SB 405, then the certification program, by punishing the non-compliers or rewarding the compliers, depending on one's viewpoint, will help to convince the noncompliers that there are economic reasons to comply with the law. If one assumes that all jurisdictions will comply with the law which requires education and promotion and curbside collection of recyclable materials, then the certification program is unnecessary duplication until additional requirements beyond SB 405 requirements are added.

Recommended Modifications:

Metro should step up its certification process to initiate standards beyond SB 405 and apply rate incentives for those standards by January 1, 1987. Metro could enact a multi-tiered rate structure in which a rate incentive is offered for compliance with SB 405, and a larger rate incentive is offered for meeting standards beyond the requirements of SB 405. Metro should also indicate in the Program the rates to be applied, or at least the range within which the differential rates will be set. Further rate incentives should be applied by January 1, 1988 to encourage (1) generation of high-grade commercial loads for delivery to materials recovery centers and (2) collection systems for yard debris.

Metro should clarify whether SWPAC or Metro Council will decide whether to grant certification to a certification unit.

Metro should explain how it will resolve the potential problem of penalizing collectors and ratepayers who are meeting the standards of the certification program but are charged the higher disposal rate because they are included within a noncomplying certification unit.

5. Yard debris. Metro commits to a program of yard debris processing and collection, to include (Work Plan, Pages 16 - 18):

   (a) Establishing a yard debris processing facility at St. John's Landfill capable of processing up to 200,000 cubic yards annually.

   (b) Promoting home composting and use of processed yard debris.

   (c) Providing analysis to the EQC on including yard debris as a principal recyclable material in the Metro region.

   If the EQC does not list yard debris as a principal recyclable material, then in addition Metro will:

   (d) Adjust disposal rates to encourage recycling of yard debris.

   (e) By January 1, 1989, use the certification process to offer a lower disposal fee to those who implement yard debris collection and/or processing systems.

   (f) By July 1988, ban disposal of yard debris if the recycling goal is not met by above methods. The recycling goal has not yet been established.

Public Comments:

John Trout, Teamsters Local Union #281, testified that inclusion of yard debris as a recyclable material under SB 405 will create public opposition and jeopardize Metro's solid waste program.

Estle Harlan, Oregon Sanitary Service Institute, testified that it is industry's position that only dropbox loads or greater of yard debris can be economically collected and diverted to a processor. Rather than requiring an unsightly residential yard debris collection system, Metro should concentrate on education and market development.

Jeanne Roy, Portland citizen, supported the yard debris component but stated that Metro should set a lower disposal fee for source separated yard debris than for nonrecyclable waste. She also suggested that Metro provide a collection area for yard debris at the Washington Transfer and Recycling Center.

Analysis:

Yard debris is the largest single component in the waste stream. Metro estimates that at a 75% recovery rate of yard debris, the volume of waste going into the landfill would be reduced 10%. Accordingly, Metro must plan an aggressive program to recycle yard debris.

The timeline in the Work Plan allows banning of yard debris from the landfill in July 1988 based on the failure of the local collection service certification program and other methods for encouraging source separation and processing of yard debris. But the certification program will not be implemented until January 1, 1989 or January 1, 1988, depending on whether one reads the Work Plan, Page 32 or Timeline.

Recommended Modifications:

Metro should move up the date of initiation of rate incentives for compliance with yard debris certification standards to January 1988 or earlier (or clarify the Work Plan), and should commit to banning source separated yard debris from the landfill by January 1, 1989 when Phase II will be initiated. Source separated yard debris could be banned immediately.

Metro should commit to providing a collection or processing area for yard debris at all its transfer stations, or to diverting source separated loads to a processing center, and to keeping the yard debris piles free of contaminants. Metro should also commit to adjusting its disposal rates to encourage recycling of yard debris regardless of whether the EQC lists yard debris as a principal recyclable material.

6. **Post-Collection Recycling/Materials Recovery. Metro commits to programs to recover recyclable materials by processing commercial waste with few contaminants, to include:**

   (a) **Using rate incentives and the certification program to encourage redesign of collection routes so that loads contain a high percentage of recyclables and will be delivered to a materials recovery center (see Page 15 for further discussion).**

   (b) **Establishing private, franchised or public high-grade material recovery centers at transfer stations "when feasible". (Framework, Page 9.) Metro seems to commit to designing a materials recovery center into the yet-to-be-established Washington Transfer and Recycling Center (WTRC). WTRC start-up date is not indicated. It is unclear whether Metro is committed to retrofitting the Clackamas Transfer and Recycling Center (CTRC) -- "CTRC will be redesigned", (Framework, Page 9 and Work Plan, Page 19), -- versus, "Determine appropriate design modifications for CTRC...if indicated." (Work Plan, Page 22.)**

Public Comments:

Representative Mike Burton, District 17, Oregon Legislative Assembly, commented that the Program conflicts with itself on the role of the private sector in operating materials recovery facilities. Work Plan, Page 20 implies that Metro will operate the transfer station materials recovery facilities. Metro should allow private industry to operate such a facility if industry so proposes.

Merle Irvine, Oregon Processing and Recovery Center, testified that he supports the concept of high-grading waste and using economic incentives to reward those who participate. He noted problems with providing economic incentives to collectors who operate under a franchise which requires a pass-through of all disposal savings, and stated that the certification program should address the problem. His major concerns with the Program were: (1) Metro not allowing private ownership of materials recovery facilities; and (2) Metro acting too hastily to change the system and hurting existing recycling operations. He suggested that Metro test its concepts by using his materials recovery center by transferring high-grade loads from CTRC and banning high-grade loads from the landfill.

Jeanne Robinette, Oregonians for Cost-Effective Government, testified orally that material recovery facilities were not going in soon enough. Privately operated processing centers coupled with rate incentives would be enough to achieve substantial reduction.

Analysis:

The success of Metro's Waste Reduction Program is predicated largely on this component, operating in conjunction with the certification program and rate incentives. According to Metro estimates, processing of commercial waste for materials recovery could reduce the amount of commercial waste being landfilled by 18.4%. It is important that materials recovery facilities be available early in the Program, and that incentives be large enough to encourage collectors to high-grade loads and deliver them to such facilities.

Metro seems to commit to designing a materials recovery center into the yet-to-be-established Washington Transfer and Recycling Center (WTRC). WTRC start-up date is not indicated. It is unclear whether Metro is committed to retrofitting the Clackamas Transfer and Recycling Center (CTRC) -- "CTRC will be redesigned", (Framework, Page 9 and Work Plan, Page 19), -- versus, "Determine appropriate design modifications for CTRC...if indicated" (Work Plan, Page 22).

Recommended Modifications:

Metro should indicate the expected date of completion of the materials recovery facility to be built in conjunction with WTRC. Metro should commit to either retrofitting CTRC for materials recovery or allowing a private materials recovery center to be established within easy access of CTRC. Until CTRC is retrofitted or a recovery center is established nearby, Metro should use its flow control authority to require high-grade loads delivered to CTRC to be diverted or transferred to existing materials recovery centers. Metro should also require high-grade loads delivered to St. Johns to be diverted to Oregon Processing and Recovery Center (OPRC).

7. **Rate incentives. Metro commits to the concept of adopting rate incentives, to include:**

   (a) **Incentives for operation of materials recovery centers. Metro will revise its ordinances by July 1, 1986 to provide incentives for start-up and operation of materials recovery centers. (Work Plan, Page 33). Currently these incentives are granted through a variance. Metro will consider various strategies to encourage garbage collectors to high-grade their loads and deliver them to materials recovery centers. The Work Plan lists potential strategies, but it will be January 1987 before a rate mechanism is selected and enacted.**

(b) Incentives to encourage local collection services to comply with the standards of the certification program. No specific incentive has been chosen, although differential rates to haulers within a certification unit and a local government grant program are options discussed (Work Plan, Pages 37 - 38). A program approach is to be adopted by September 1986. According to Metro, rate modifications "should be implemented on or after January 1, 1987" (Work Plan, Page 38).

(c) User fee rates to fund Work Plan commitments. (Work Plan, Page 33).

Public Comments:

Jeanne Robinette, Oregonians for Cost-Effective Government strongly supported rate incentives, stating that rate incentives by themselves will change recycling and disposal behavior.

John Trout, Teamsters Local Union No. 281, testified that Metro has no authority to establish disposal rates based on performance of the solid waste generator or collector. According to Trout, Metro's authority to fix rates at disposal sites is limited to payment for services performed by Metro and repayment of its investment in solid waste facilities.

John Drew, Association of Oregon Recyclers, supported rate incentives to encourage recycling for high percentage recyclable materials, but was concerned about the mechanics of the program as described in the Work Plan, Pages 34 - 38.

Analysis:

A major portion of the Metro Program for recycling relies on rate incentives to bring about the changes which will make the Program work. Because Metro has not decided on the types of rate incentives to be used, or the spread in differential rate structures, it is difficult to assess whether rate incentives can produce the results Metro plans.

There is some evidence from other cities that charging more for garbage has a modest effect on recycling behavior. It is not entirely clear, however, that reduced disposal fees to garbage haulers will be enough to convince them to redesign collection routes and deliver high-grade loads to a materials recovery center. Disposal fees are only approximately 20% of a total garbage bill. Unless the garbage hauler owns enough equipment to have some flexibility in operation, the cost of investing in new equipment to run a high-grade route will far outweigh disposal savings. If the hauler has to transport the high-grade load much farther to a material recovery center than to a landfill, the cost of that time and transport outweighs the disposal savings (unless the differential rate spread is enormous). Furthermore, under some franchises, there is little incentive for the garbage hauler because the hauler is required to charge

the disposal costs directly to the generator. The hauler, therefore, would receive no disposal savings for delivering the load to a processor.

The Department understands Metro's dilemma in trying to prepare an effective waste reduction program. Because of its lack of collection regulation authority, Metro has turned to the regulatory tools it does have -- rate regulation and flow control. The dilemma is compounded by the fact that there are few if any models in this country for the Waste Reduction Program required of Metro, and very little data to indicate whether rate incentives can effect the changes in the disposal system that Metro is attempting. Metro has therefore had little choice but to propose what is in effect a grand experiment.

The Department is willing to let Metro try its rate incentive and certification experiment. But because of the uncertainties surrounding the effectiveness of rate structures to produce substantial amounts of recycling both in the residential sector under the SB 405 programs, and in the commercial sector using the materials recovery centers, Metro must plan for alternative strategies to be implemented to achieve the recycling goals if rate incentives fail.

Recommended Modifications:

Metro should move up its consideration of rate options and differentials so that the direction to be taken, though perhaps not adopted, is more clearly defined and can be included in the resubmittal of the Program to EQC. See also Phase II discussion on Page 22.

8. **Possible development and distribution of recycling containers for home or office (Work Plan, Page 12).**

Public Comments: None

Analysis:

Recycling programs that distribute home recycling containers have been very successful.

Recommended Modification: None

9. **Possible waste auditing and consulting service for waste generators, including high quantity paper generators. (Work Plan, Page 21).**

Public Comments: None

Analysis:

Metro's Framework discusses the possibility of a program for high quantity paper generators for waste auditing and consulting services (Framework, Pages 8 and 9). The Work Plan does not discuss specific programs for high quantity generators, but does propose to develop a plan, by December 1986, for a waste auditing and consulting service. It is not clear from the Work Plan whether Metro intends to implement this service, or just to evaluate its need.

The waste auditing program could be useful in educating businesses about the options available for their wastes, such as the waste exchange and the cost savings of having their material hauled to a processing center rather than a landfill.

Recommended Modifications: None

10. **Possible grants, loans and diversion credits for materials recovery service. (Work Plan, Page 12).**

Public Comments: None

Analysis:

Grants and loans would be targeted to local governments, businesses, and/or recyclers to support waste reduction and recycling programs. Metro plans to work with local governments and others between January 1 and May 1, 1987 to consider this program and the program for developing recycling containers for home or office mentioned above. Final decision on these and other possible projects is scheduled by Metro Council for May 1987, with possible implementation starting the next month.

Recommended Modifications: None

11. **Possible materials markets assistance, which may include market surveys and analysis, legislative proposals, grants and loans, development of institutional purchasing policies, and materials brokerage (Framework, Page 11 and Work Plan, Pages 40-41).**

Public Comments: None

Analysis:

The only market assistance activities that Metro is committed to doing are developing a Market Research Plan and promoting recycled products to institutional purchasers.

Recommended Modifications:

Metro should commit to actively approaching institutional purchasers with the message that purchasing of recycled products can assist recycling markets, rather than wait to be asked for assistance as the Work Plan contemplates (Work Plan, Page 43).

Recover Energy

1. **Metro will consider "The technical and economic feasibility of alternative technologies for disposal of up to 48% of the waste" (Framework, Page 11). 48% of the waste is 1,300 tons per day.**

   The technologies to be evaluated include composting, refuse-derived fuel (RDF), mass burn incinerator, and cellulose conversion to ethanol. Feasibility will be determined by issuing a Request for Qualifications (RFQ) in March 1986. Metro will by July 1986 allocate the amount of waste to selected technologies, determine how much the Council is willing to spend, and develop a list of vendor finalists for each type of acceptable technology, as determined from review of the RFQ responses. The finalists may be invited to compete in a Request for Proposal (RFP) to be issued in December 1986. If the Council decides to award a contract, commercial operation of the alternative technology is scheduled to begin in December 1990.

   Public Comments:

   Greg Niedermeyer, Niedermeyer-Martin Co., supports Signal-Resco's efforts to site a burner in Columbia County. He thought Metro should allow the 52% of the waste ultimately planned for recycling to be committed to a burner on an "as available" basis. He did not think that the Metro Program supported the conclusion that 52% recycling is technically feasible. He also was concerned about the availability of revenue bonding after 1986, a concern shared by Pete Williamson of the Port of St. Helens.

   Estle Harlan, Oregon Sanitary Service Institute, testified that the industry supports implementing alternative technology concurrently with recycling.

Michael Bick, Ebasco Services, Inc. and Schnitzer Steel Products, expressed concern that Metro's Program does not demonstrate a commitment to waste reduction because it does not commit to alternative technology. He also expressed concern about the slow schedule for implementation. He thinks that the post-contract timeline is unrealistic, and that it will take at least 36 months from waste flow agreements to start-up. Metro should begin negotiations immediately with energy recovery suppliers who have acceptable sites so that financing can be completed in 1986 before new tax laws eliminate Industrial Revenue Bond financing. Finally, he states that Metro should set disposal fees in excess of $40 to reflect the true cost of landfills. This level of fee would provide the kind of incentives needed to encourage waste generators to reduce, reuse and recycle.

Douglas Francescon, Citizen, supported the concept of a large scale energy recovery facility prior to landfilling. He said we must first process waste through the hierarchy of reduce, reuse, recycle, recover, and landfill only processed waste. He urged that we take advantage of the three current proposals in the Portland area for alternative technology/energy recovery while the opportunity is there.

Rebecca Marshall, GFA, supported Metro's proposal for alternative technology and the flexibility in the plan. She prefers diversification rather than one mass burner because its volume dependency could undermine recycling. She discussed the need for criteria to rank alternative technology by technical and economic feasibility, and the need for a revenue-producing facility with developed markets.

Jeanne Roy, Citizen, and Leanne MacColl, League of Women Voters, were concerned about Metro seeking proposals for a major energy recovery facility before recycling has become established. They are concerned that the energy recovery facility would compete for the same materials as recycling, and discourage the public from recycling.

Analysis:

Metro has a process for consideration of alternative technology to process the 48% of the waste that cannot be recycled, but has not committed to using such technology.

The Department believes that 48% is a reasonable amount to assume cannot be recycled even with the aggressive recycling program planned by Metro. Therefore, it is imperative to process that waste to recover energy and to reduce the volume. Metro should either commit approximately 1,300 tons per day of waste to alternative technology, or commit to paying a price per ton for alternative technology which at a minimum reflects the true cost of landfilling plus a premium for its higher position in the state solid waste management hierarchy, and is within the price range of

alternative technology facilities built and being built by local governments throughout the country.

According to Metro's timeline, Metro plans to decide on the allocation of waste to alternative technology and the range of acceptable costs by July 1986. The Department recognizes that these decisions, to be based partially on the response to the RFQ, probably cannot be made by the proposed May resubmittal deadline. But these decisions could be made before the EQC's final review of the Waste Reduction Program on June 27.

Recommended Modifications:

Metro should either commit approximately 1,300 tons per day of waste to alternative technology, or commit to allocating as much of the 1,300 tons as can be processed by an alternative technology or combination of technologies within a price per ton cap to be determined by Metro. The price cap must at a minimum reflect the true cost of landfilling plus an adequate premium for resource recovery's higher position in the state solid waste management hierarchy, and be within the price range of alternative technology facilities built and being built by local governments throughout the country. If Metro chooses to establish a price cap for selecting alternative technology rather than to commit 48% of the waste to alternative technology, then Metro must by ordinance adopt the price cap as an amendment to the Waste Reduction Program and submit it by June 13, 1986 to the EQC for approval.

2. **Metro will consider the need and feasibility of committing up to 50 tons per day of waste to a developmental technology.**

Public Comments:

Judy Dehen, Sierra Club, and Lyle Stanley, Citizens, suggested specific changes in the Alternative Technologies Section to promote the early consideration of developmental technologies. Both requested the inclusion of "Cellulose Conversion to Ethanol" technology in the summary of tasks (Work Plan, Page 24), and urged earlier consideration (date moved from 8/87 to 3/86) of developmental technology in the timetable. In addition, Dehen expressed concerns regarding the emissions of dioxins from incineration of municipal solid waste.

Analysis:

Metro will evaluate various types of alternative technologies, including developmental technology for approximately 50 tons per day of waste, and has stated that they will bear a somewhat greater risk for implementation of small-scale developmental technology. The work plan does not schedule the evaluation of the need, feasibility and process for implementing developmental technology until August 1987. The Work Plan is not

consistent in stating whether cellulose conversion to ethanol is a technology to be evaluated in the RFQ/RFP process.

Recommended Modifications:

Metro should clarify whether cellulose conversion to ethanol is a process which is to be evaluated through the RFQ/RFP process.

Waste Reduction Performance Goals:

1. **Metro plans to do a waste substream composition study to survey the volumes, composition and places of origin of waste generated by distinct generator types. Based on the study, the Council will set reduction performance goals for each individual wastestream.**

The 52% figure in the Final Report is not a goal but only a figure to set the outside parameter of the material which can be recycled. If the recycling goals yet to be set by Metro are substantially less than 52%, the increment of waste left will be allocated to alternative technology in 1993. See Phase III discussion, Page 23.

Public Comments: None

Analysis:

Because Metro has not yet set its waste reduction goals and because it is difficult to predict the success of the planned Reduce, Reuse, Recycle Program, it is impossible for the Department to find with any certainty that a set percentage of the wastestream will be recovered through Reduction, Reuse and Recycling. If all components of the Programs are implemented aggressively, including the crucial public education and promotion needed to change the region's disposal behavior, over time the region may be able to approach a 52% recycling rate. The Department agrees with Metro that time must be allowed for the recycling program to become established and for the public's attitude toward waste reduction to change. By 1993, if it is obvious that the 52% recycling rate cannot be achieved, then the strategy for waste reduction will shift to more alternative technology so that the reduction goals can be met.

Recommended Modifications: None

System Measurement (Framework, Page 4)

1. **In addition to the initial waste substream composition study, Metro proposes:**

   (a) **Periodic sampling of wastes to determine the amount of recyclable material being burned or landfilled instead of recycled.**

   (b) **Measurement of the quantities of wastes delivered to each facility.**

   (c) **Periodic survey of the quantities of materials recycled and the participation rates.**

   (d) **An on-going evaluation of the economic feasibility and cost-effectiveness of each program and the entire waste reduction effort.**

   Public Comments: None

   Analysis:

   The multiple means of measurement, including independent measurement of the amount and composition of materials disposed of, the quantities of materials recycled, and the participation rates in different recycling programs, should provide necessary information to evaluate the program and should show the effects of external factors such as changes over time in the quantities of materials available for recycling. If Metro commits the necessary resources to gather sufficient sample sizes, then Metro should obtain information valuable not only to measure the success of the program at meeting waste reduction goals, but also information that can help improve the recycling programs. The Work Plan (Page 46) commits to development of the ongoing systems measurement plan by May, 1986.

   Recommended Modifications: None

PHASE II

If the waste reduction goals for the individual substreams are not achieved by January 1, 1989, then Metro will ban landfill disposal of loads containing a high percentage of recyclable materials if more appropriate disposal options are available.

Public Comments: None

Analysis:

Phase II will affect change only if there are high-grade recyclable loads being dumped in the landfill. However, the more likely scenario is that if Phase I is failing, it is because local governments and garbage haulers have not responded to rate incentives and have failed to redesign collection routes to maximize wastestream differentiation and collect high-grade loads of recyclables (i.e. cardboard, office paper, yard debris). If that is the case, then there will be few loads of high-grade recyclables to divert to a processing center, and Phase II will have little effect.

Much of Metro's difficulty in devising the Waste Reduction Program is related to the fact that Metro has rate-setting and flow control authority, but not collection authority. If the indirect management tools Metro has been forced to use are not enough to achieve substantial reduction, then Metro should leave itself the option to request authority sufficient to accomplish the waste reduction goals established by Metro.

Recommended Modifications:

Metro should revise Phase II to commit to seek sufficient authority from the Oregon Legislature to ensure that the solid waste system will be managed to accomplish the waste reduction goals established by Metro.

PHASE III

If Phases I and II do not make significant progress toward maximum feasible waste reduction by January 1, 1993, or possibly earlier, then all waste not being recovered or processed for energy will be allocated to alternative technologies.

Analysis:

January 1, 1993 is a reasonable checkpoint to pick up any waste which several years of experience indicates cannot be recovered through the curbside recycling collection program and high-grade materials recovery centers. By 1993, either the Program is successful and recovering materials and energy from the entire waste stream, or will be as soon as Phase III is implemented.

Metro allows itself the option of implementing Phase III before 1993 if "the Metro Council determines that Phases I and II are unable to make significant progress toward maximum feasible waste reduction." (Framework, Page 15). This means that the Metro Council could potentially call the recycling program a failure shortly after 1989 and commit all the waste being landfilled to alternative technology. The

attitudes and system changes which will make the reduction and recycling programs successful will not happen overnight. Furthermore, as the League of Women Voters of Portland commented, having the option to commit the recyclable portion of the waste to alternative technology may well discourage source separation and a total commitment by Metro and the region population to successfully implement the reduction and recycling programs.

Recommended Modifications:

Metro should revise Phase III to delete the possibility of implementation before January 1, 1993.

Evaluation of the Metro Waste Reduction Program as a Whole

Metro is to be congratulated for considering every feasible waste reduction technique which, to the Department's knowledge, is being used in this country, and preparing a Waste Reduction Program which is innovative and multi-faceted. The program is properly based on the state's hierarchy of solid waste management methods, emphasizing reduction, reuse and recycling first, and allowing only the portion of the wastestream deemed nonrecyclable to be allocated to energy recovery.

The deficiencies in the Program are not in the conceptual framework, but in the lack of specificity and Metro Council commitment to actually implement. To a large extent, the Program is a plan to plan rather than a plan for implementation. The Department recognizes that the Program was developed under severe time constraints imposed by the legislature, and that for many of the Program components, more planning is necessary before implementation. The Department, however, does not believe the criteria of SB 662 can be met without more specificity and commitment to implement. Allowing Metro 90 days to modify its Program in effect gives Metro an additional five months from adoption of its Resolution to hone its concepts and continue its planning efforts.

For several components, there needs to be clarification of the timetable or text. For others, the implementation dates need to be accelerated so that the region will begin to benefit from waste reduction activities in the near future.

All the Program components appear to be legally feasible. Technical feasibility and degree of effectiveness are more problematic. The local collection service certification and rate incentives components, both keystones of the Program, are untested and may or may not succeed in encouraging substantial waste reduction activities. Whether or not they will succeed depends to a large extent upon how these components are designed and administered. Metro should be given additional time to further develop and explain these proposed components.

For many of the components, Metro has promised only "to consider" carrying out the component. These components cannot be found to contribute to substantial waste reduction. Even the components which the Final Report and Work Plan state will be implemented may in fact not be. The Metro Council, the elected body which holds the purse strings and makes the policy decisions for Metro, has not adopted either document. The Council has indicated its commitment to the Program only so far as the very general language in its Resolution No. 85-611-A indicates commitment.

The resolution states that budget amendments "will be considered for selected programs contained in the Solid Waste Reduction Program." Metro "will consider" a higher premium for reduction or recovery based on the state priority list, and Metro "will determine the range of acceptable costs and other specific criteria" for alternative technology projects. This kind of language does not indicate commitment from which findings can be made that a program component will be implemented. Nor does the resolution supply the specificity and timelines required by SB 662.

Finally, since shortly after SB 662 was passed, the Department has told Metro that a plan for household and small quantity hazardous wastes should be included in the Waste Reduction Program. (See Attachment 2 letters). The Department has now agreed with Metro that a plan for household and small quantity hazardous waste can be submitted separately from the Waste Reduction Program, if it is submitted to DEQ by August, 1986, and if the Department is assured, prior to the EQC's final evaluation of the Waste Reduction Program, that such a plan will be developed.

See Chart on next page for summary of evaluation of Metro Waste Reduction Program.

Recommended Modification:

SB 662, Section 8 requires a "commitment by the district to substantially reduce the volume of solid waste" and a "timetable for implementing each portion of the solid waste reduction program." The Metro Council must adopt by ordinance the Framework and Work Plan in order for the EQC to find that the Council is committed to the Program, the timetable for implementation, and providing the necessary funds. The Framework and Work Plan should be adopted as the Waste Reduction element of Metro's Solid Waste Management Plan.

SUMMARY OF EVALUATION OF THE METRO WASTE REDUCTION PROGRAM

Component	Metro Council Commitment to Implement	Program Commitment to Implement	Beginning Immediate Implementation	Legally Feasible	Technically Feasible	Economically Feasible	Effective & Appropriate	Recommended Modification
Phase I								
Reduce and Reuse								
A. Promotion and education	No	Commit	Yes	Yes	Yes	Yes	Yes	Yes
B. Plastics reduction legislation	No	Consider	Yes	Yes	Yes	Yes	Yes	No
C. Packaging reduction legislation	No	Consider	Yes	Yes	Yes	Yes	Yes	No
D. Salvage of building materials	No	?	No	Yes	Yes	Yes	Yes	Yes
E. Waste exchange	No	Consider	No	Yes	Yes	Yes	Yes	Yes
Recycle								
A. Technical assistance	No	Commit	Yes	Yes	Yes	Yes	Yes	Yes
B. Promotion and education	No	Commit	Yes	Yes	Yes	Yes	Yes	Yes
C. Recycling information center enhancement	No	Commit	Yes	Yes	Yes	Yes	Yes	Yes
D. Certification	No	Commit	No	Yes	?	Yes	?	Yes
E. Yard debris programs	No	Commit	Yes	Yes	Yes	Yes	Yes	Yes
F. Post collection materials recovery	No	Commit	No	Yes	Yes	Yes	Yes	Yes
G. Rate incentives	No	Commit	No	Yes	?	Yes	?	Yes
H. Recycling container development	No	Consider	No	Yes	Yes	?	Yes	No
I. Waste auditing consulting service	No	Consider	No	Yes	Yes	Yes	Yes	No
J. Grants, loans, diversion credits	No	Consider	No	Yes	Yes	Yes	Yes	No
K. Materials markets assistance	No	Consider	No	Yes	Yes	Yes	?	Yes
Recovery Energy								
A. Alternative technology	No	Consider	No	Yes	Yes	Yes	Yes	Yes
B. Developmental technology	No	Consider	No	Yes	?	?	?	Yes
Goals & System Measurement								
Waste reduction performance goals	No	Commit	Yes	Yes	Yes	Yes		No
System measurement	No	Commit	No	Yes	Yes	Yes	Yes	No
Phase II								
A. Bans on disposal of recyclables	No	Commit if Phase I goals not met	No	Yes	Yes	Yes	Yes	Yes
Phase III								
A. Commitment of remaining waste to alternative technology	No	Commit if Phase I and II goals are not met	No	Yes	Yes	Yes	Yes	Yes

(SM79)

Alternatives

The following potential alternatives for EQC action are identified:

1. Approve the Metro Program as submitted, with findings that the Program meets the criteria set out in SB 662, Section 8.

   Because of the problems cited in the prior analysis, the Department does not believe that the criteria of SB 662 are met.

2. Allow Metro not more than 90 days to modify the program to meet the Commission's objections.

   The Commission may adopt in whole or part the Department's list of objections and directions to Metro for modifying the Program, or may adopt its own list of objections and directions.

   The Commission may allow Metro less than 90 days for modification, but the Department recommends that the entire 90 day period allowed by SB 662 be granted. Three months will be a short but sufficient period of time for Metro to make the required modifications.

3. Delay a decision and adoption of findings and request further comment or analysis from Metro and/or the Department.

   This alternative will necessarily cut short Metro's 90-day modification period if the Commission ultimately decides to return the Program to Metro for modification. The Program must be resubmitted in time to allow Department review, a Public Hearing and comment period, and a Commission decision before July 1, 1986. The July 1, 1986 deadline for final review of the Program is statutorily set and can therefore not be changed. If the Commission fails to act or to approve the Program by July 1, 1986, all of Metro's solid waste management functions and powers automatically transfer to DEQ.

Summation:

1. The EQC cannot find that the Metro Council has made a commitment to substantial reduction of the volume of solid waste currently being landfilled because it has not adopted by ordinance the Framework or Work Plan and is therefore not bound to implement the Program.

2. The EQC finds that there are textual conflicts that need to be resolved.

3. The EQC finds that at least a portion of the program is to be immediately implemented, but most of the immediate implementation is planning rather than waste reduction activities which will immediately reduce the volume of waste being landfilled.

4. The EQC finds that the proposed program does use approaches which follow the state's solid waste management priorities (ORS 459.015(2)(a)).

Director's Recommendation:

It is recommended that the Commission adopt the above evaluation and summation as its findings and conclusions, and pursuant to SB 662, Section 8 (3), should allow Metro 90 days to modify the Waste Reduction Program to comply with SB 662.

In order for the EQC to find that Metro's Waste Reduction Program complies with the standards set out in SB 662, the Metro Council must:

(1) Make the modifications listed in the evaluation and summarized below;

(2) Show how the objections will be met by another method; or

(3) Justify why the recommended modifications are not legally, technically or economically feasible.

Modifications for Compliance with SB 662

The Metro Council must:

1. Prepare a comprehensive promotion and education program, including a detailed work plan for a multi-year promotion and education campaign and the financial commitment made to support it.

2. Clarify whether it commits to incorporation of salvage facilities at the landfill and transfer stations.

3. Commit to the establishment of a regional waste exchange.

4. Commit to promote aggressively the technical assistance program.

5. Commit adequate financial resources to operate RIC with paid staff.

6. Accelerate the certification process to initiate standards beyond SB 405 and apply rate incentives for those standards by January 1, 1987.

7. Accelerate consideration of rate options and differentials, and indicate the rates or range of rates to be applied in the certification program.

8. Apply rate incentives by January 1, 1988 to encourage (1) generation of high-grade commercial loads and (2) collection systems for yard debris.

9. Clarify whether SWPAC or Metro Council grants certification to a certification unit.

10. Explain how the certification program will be implemented so as to not penalize complying collectors and rate payers.

11. Accelerate the date of certification for yard debris to January 1988, or clarify that the Program already indicates that date.

12. Commit to ban source separated yard debris from the landfill by January 1, 1989.

13. Indicate the expected date of completion of the WTRC materials recovery facility.

14. Commit to either retrofitting CTRC for materials recovery or allowing a private materials recovery center to be established within easy access of CTRC.

15. Until CTRC is retrofitted, require high-grade loads delivered to CTRC to be diverted to existing materials recovery centers.

16. Require high-grade loads delivered to St. Johns to be diverted to Oregon Processing and Recovery Center.

17. Actively approach institutional purchasers about the need for purchasing recycled products.

18. Commit 1,300 tons per day of waste to alternative technology, or commit to establishing a price cap and allocating as much of the 1,300 tons as can be processed within that price cap.

19. Clarify whether cellulose conversion to etehanol is a process which is to be evaluated in the RFQ/RFP process.

20. Revise Phase II to commit to seek sufficient authority from the Oregon Legislature to ensure that the solid waste system will be managed to accomplish the waste reduction goals established by Metro.

21. Revise Phase III to delete the possibility of implementation before January 1, 1993.

22. Adopt by ordinance the Framework and Work Plan as an element of the Metro Solid Waste Management Plan.

Fred Hansen

Attachments:
1. Senate Bill 662
2. Letters from DEQ to Metro dated August 20, December 3 and December 12, 1985, and January 30, 1986.
3. Hearing Officer's Report

Lorie Parker:m
SM70
229-5826
January 31, 1986

RE: METRO'S WASTE REDUCTION PROGRAM

SEE SECTION 8

Attachment 1
Agenda Item B
2/7/86 EQC Meeting

63rd OREGON LEGISLATIVE ASSEMBLY—1985 Regular Session

Enrolled

Senate Bill 662

Sponsored by COMMITTEE ON GOVERNMENT OPERATIONS AND ELECTIONS (at the request of Representative Mike Burton)

CHAPTER 679

AN ACT

Relating to solid waste disposal; appropriating money; and declaring an emergency.

Be It Enacted by the People of the State of Oregon:

SECTION 1. Sections 2 to 9 of this Act are added to and made a part of ORS 459.005 to 459.285.

SECTION 2. (1) The Legislative Assembly finds that the siting and establishment of a disposal site for the disposal of solid waste within or for Clackamas, Multnomah and Washington Counties is necessary to protect the health, safety and welfare of the residents of those counties.

(2) It is the intent of the Legislative Assembly that the Environmental Quality Commission and Department of Environmental Quality, in locating and establishing a disposal site within Clackamas, Multnomah and Washington Counties give due consideration to:

(a) Except as provided in subsections (3) and (4) of section 5 of this 1985 Act, the state-wide planning goals adopted under ORS 197.005 to 197.430 and the acknowledged comprehensive plans and land use regulations of affected counties.

(b) Information received during consultation with local governments.

(c) Information received from public comment and hearings.

(d) Any other factors the commission or department considers relevant.

SECTION 3. (1) The Department of Environmental Quality shall conduct a study, including a survey of possible and appropriate sites, to determine the preferred and appropriate disposal sites for disposal of solid waste within or for Clackamas, Multnomah and Washington Counties.

(2) The study required under this section shall be completed not later than July 1, 1986. Upon completion of the study, the department shall recommend to the commission preferred locations for disposal sites within or for Clackamas, Multnomah and Washington Counties. The department may recommend a location for a disposal site that is outside those three counties, but only if the city or county that has jurisdiction over the site approves the site and the method of solid waste disposal recommended for the site. The recommendation of preferred locations for disposal sites under this subsection shall be made not later than January 1, 1987.

SECTION 4. (1) Subject to subsections (3) and (4) of section 5 of this 1985 Act, the Environmental Quality Commission may locate and order the establishment of a disposal site under this 1985 Act in any area, including an area of forest land designated for protection under the state-wide planning goals, in which the commission finds that the following conditions exist:

(a) The disposal site will comply with applicable state statutes, rules of the commission and applicable federal regulations;

(b) The size of the disposal site is sufficiently large to allow buffering for mitigation of any adverse effects by natural or artificial barriers;

(c) Projected traffic will not significantly contribute to dangerous intersections or traffic congestion, considering road design capacities, existing and projected traffic counts, speed limits and number of turning points;

(d) Facilities necessary to serve the disposal site can be available or planned for the area; and

(e) The proposed disposal site is designed and operated to the extent practicable so as to mitigate conflicts with surrounding uses. Such conflicts with surrounding uses may include, but are not limited to:

(A) Visual appearance, including lighting and surrounding property.

(B) Site screening.

(C) Odors.

(D) Safety and security risks.

(E) Noise levels.

(F) Dust and other air pollution.

(G) Bird and vector problems.

(H) Damage to fish and wildlife habitats.

(2) When appropriate, the conditions listed in this section may be satisfied by a written agreement between the Department of Environmental Quality and the appropriate government agency under which the agency agrees to provide facilities as necessary to prevent impermissible conflict with surrounding uses. If such an agreement is relied on to satisfy any approval criteria, a condition shall be imposed to guarantee the performance of the actions specified.

SECTION 5. (1) The commission, not later than July 1, 1987, shall issue an order directing the Department of Environmental Quality to establish a disposal site under this 1985 Act within Clackamas, Multnomah or Washington County or, subject to subsection (2) of section 3 of this 1985 Act, within another county.

(2) In selecting a disposal site under this section, the commission shall review the study conducted under section 3 of this 1985 Act and the locations for disposal sites recommended by the department under section 3 of this 1985 Act.

(3)(a) When findings are issued by the department under subsection (4) of this section, the commission in selecting a disposal site under this 1985 Act must comply with the state-wide planning goals adopted under ORS 197.005 to 197.430 and with the acknowledged comprehensive plan and land use regulations of the local government unit with jurisdiction over the area in which the disposal site is located.

(b) However, when findings are not issued under subsection (4) of this section, the standards established by section 4 of this 1985 Act take precedence over provisions in the comprehensive plan or land use regulations of the affected local government unit, and the commission may select a disposal site in accordance with those standards instead of, and without regard to, any provisions for locating and establishing disposal sites that are contained in the comprehensive plan or land use regulations of the affected local government unit. Any provision in a comprehensive plan or land use regulation that prevents the location and establishment of a disposal site that can be located and established under the standards set forth in section 4 of this 1985 Act shall not apply to the selection of a disposal site under this 1985 Act.

(4) The department, not later than July 1, 1986, may determine whether the acknowledged comprehensive plans and land use regulations of the counties in which possible disposal sites being considered by the department are situated contain standards for determining the location of land disposal sites that are identical to or consistent with the standards specified in section 4 of this 1985 Act. If the standards contained in the comprehensive plan and land use regulations of a county are identical to or consistent with the standards specified in section 4 of this 1985 Act, the department may issue written findings to that effect and shall submit the findings to the commission.

(5) When selecting a disposal site under this 1985 Act, the commission may attach limitations or conditions to the development, operation or maintenance of the disposal site, including but not limited to, setbacks, screening and landscaping, off-street parking and loading, access, performance bonds, noise or illumination controls, structure height and location limits, construction standards and periods of operation.

(6) If the Environmental Quality Commission directs the Department of Environmental Quality to establish or complete the establishment of a disposal site under this section, the department shall establish the site subject only to the approval of the commission. Notwithstanding any other provision of this 1985 Act or any city, county or other local government charter or ordinance to the contrary, the Department of Environmental Quality may establish a disposal site under this section without obtaining any license, permit, franchise or other form of approval from a local government unit.

(c) Projected traffic will not significantly contribute to dangerous intersections or traffic congestion, considering road design capacities, existing and projected traffic counts, speed limits and number of turning points;

(d) Facilities necessary to serve the disposal site can be available or planned for the area; and

(e) The proposed disposal site is designed and operated to the extent practicable so as to mitigate conflicts with surrounding uses. Such conflicts with surrounding uses may include, but are not limited to:

(A) Visual appearance, including lighting and surrounding property.

(B) Site screening.

(C) Odors.

(D) Safety and security risks.

(E) Noise levels.

(F) Dust and other air pollution.

(G) Bird and vector problems.

(H) Damage to fish and wildlife habitats.

(2) When appropriate, the conditions listed in this section may be satisfied by a written agreement between the Department of Environmental Quality and the appropriate government agency under which the agency agrees to provide facilities as necessary to prevent impermissible conflict with surrounding uses. If such an agreement is relied on to satisfy any approval criteria, a condition shall be imposed to guarantee the performance of the actions specified.

SECTION 5. (1) The commission, not later than July 1, 1987, shall issue an order directing the Department of Environmental Quality to establish a disposal site under this 1985 Act within Clackamas, Multnomah or Washington County or, subject to subsection (2) of section 3 of this 1985 Act, within another county.

(2) In selecting a disposal site under this section, the commission shall review the study conducted under section 3 of this 1985 Act and the locations for disposal sites recommended by the department under section 3 of this 1985 Act.

(3)(a) When findings are issued by the department under subsection (4) of this section, the commission in selecting a disposal site under this 1985 Act must comply with the state-wide planning goals adopted under ORS 197.005 to 197.430 and with the acknowledged comprehensive plan and land use regulations of the local government unit with jurisdiction over the area in which the disposal site is located.

(b) However, when findings are not issued under subsection (4) of this section, the standards established by section 4 of this 1985 Act take precedence over provisions in the comprehensive plan or land use regulations of the affected local government unit, and the commission may select a disposal site in accordance with those standards instead of, and without regard to, any provisions for locating and establishing disposal sites that are contained in the comprehensive plan or land use regulations of the affected local government unit. Any provision in a comprehensive plan or land use regulation that prevents the location and establishment of a disposal site that can be located and established under the standards set forth in section 4 of this 1985 Act shall not apply to the selection of a disposal site under this 1985 Act.

(4) The department, not later than July 1, 1986, may determine whether the acknowledged comprehensive plans and land use regulations of the counties in which possible disposal sites being considered by the department are situated contain standards for determining the location of land disposal sites that are identical to or consistent with the standards specified in section 4 of this 1985 Act. If the standards contained in the comprehensive plan and land use regulations of a county are identical to or consistent with the standards specified in section 4 of this 1985 Act, the department may issue written findings to that effect and shall submit the findings to the commission.

(5) When selecting a disposal site under this 1985 Act, the commission may attach limitations or conditions to the development, operation or maintenance of the disposal site, including but not limited to, setbacks, screening and landscaping, off-street parking and loading, access, performance bonds, noise or illumination controls, structure height and location limits, construction standards and periods of operation.

(6) If the Environmental Quality Commission directs the Department of Environmental Quality to establish or complete the establishment of a disposal site under this section, the department shall establish the site subject only to the approval of the commission. Notwithstanding any other provision of this 1985 Act or any city, county or other local government charter or ordinance to the contrary, the Department of Environmental Quality may establish a disposal site under this section without obtaining any license, permit, franchise or other form of approval from a local government unit.

(7) The department shall identify conflicts with surrounding uses for any disposal site established under this 1985 Act and, to the extent practicable, shall mitigate or require the operator of the site to mitigate those conflicts.

SECTION 6. (1) Notwithstanding ORS 183.400, 183.482, 183.484 and 197.825, exclusive jurisdiction for review of any decision made by the Environmental Quality Commission under this 1985 Act relating to the establishment or siting of a disposal site, any order to the Department of Environmental Quality to establish or complete such a site or any findings made by the department under section 5 of this 1985 Act is conferred upon the Supreme Court.

(2) Proceedings for review shall be instituted when any person adversely affected or aggrieved by the order of the commission files a petition with the Supreme Court. The petition shall be filed within 30 days following the date on which the order upon which the petition is based is served. The petition shall state the nature of the order or decision the petitioner desires reviewed and shall, by supporting affidavit, state the facts showing how the petitioner is adversely affected or aggrieved. Copies of the petition shall be served by registered or certified mail upon the commission. Within 30 days after service of the petition, the commission shall transmit to the Supreme Court the original or a certified copy of the entire record of the proceeding under review. Review under this section shall be confined to the record, and the court shall not substitute its judgment for that of the commission as to any issue of fact or agency discretion. Upon review, the Supreme Court may affirm, reverse or remand the order of the commission if the court finds that the order is not supported by substantial evidence in the record or is unconstitutional. Proceedings for review under this section shall be given priority over all other matters before the Supreme Court.

(3) Notwithstanding ORS 197.850, jurisdiction for judicial review of a final order of the Land Use Board of Appeals issued in any proceeding arising under this 1985 Act is conferred upon the Supreme Court. The procedure for judicial review of a final order under this subsection shall be as provided in subsection (2) of this section.

SECTION 7. (1) Subject to policy direction by the commission in carrying out sections 3 and 5 of this 1985 Act, the department may:

(a) By mutual agreement, return all or part of the responsibility for development of the site to a local government unit, or contract with a local government unit to establish the site.

(b) To the extent necessary, acquire by purchase, gift, grant or exercise of the power of eminent domain, real and personal property or any interest therein, including the property of public corporations or local government.

(c) Lease and dispose of real or personal property.

(d) At reasonable times and after reasonable notice, enter upon land to perform necessary surveys or tests.

(e) Acquire, modify, expand or build landfill or resource recovery site facilities.

(f) Subject to any limitations in ORS 468.195 to 468.260, use money from the Pollution Control Fund created in ORS 468.215 for the purposes of carrying out section 5 of this 1985 Act.

(g) Enter into contracts or other agreements with any local government unit or private person for the purposes stated in ORS 459.065 (1).

(h) Accept gifts, donations or contributions from any source to carry out the provisions of sections 3 and 5 of this 1985 Act.

(i) Establish a system of fees or user charges to reimburse the department for costs incurred under this 1985 Act and to allow repayment of moneys borrowed from the Pollution Control Fund.

(2) The metropolitan service district shall have the responsibility for the operation of the disposal sites established under this 1985 Act.

SECTION 8. (1) The metropolitan service district organized under ORS chapter 268 shall prepare a solid waste reduction program. Such program shall provide for:

(a) A commitment by the district to substantially reduce the volume of solid waste that would otherwise be disposed of in land disposal sites through techniques including, but not limited to, rate structures, source reduction, recycling, reuse and resource recovery;

(b) A timetable for implementing each portion of the solid waste reduction program;

(c) Energy efficient, cost-effective approaches for solid waste reduction that are legally, technically and economically feasible and that carry out the public policy described in ORS 459.015 (2); and

(d) Procedures commensurate with the type and volume of solid waste generated within the district.

(2) Not later than January 1, 1986, the metropolitan service district shall submit its solid waste reduction program to the Environmental Quality Commission for review and approval. The commission shall approve the program if the commission finds that:

(a) The proposed program presents effective and appropriate methods for reducing dependence on land disposal sites for disposal of solid wastes;

(b) The proposed program will substantially reduce the amount of solid waste that must be disposed of in land disposal sites;

(c) At least a part of the proposed program can be implemented immediately; and

(d) The proposed program is legally, technically and economically feasible under current conditions.

(3) After review of the solid waste reduction program, if the commission does not approve the program as submitted, the commission shall allow the metropolitan service district not more than 90 days in which to modify the program to meet the commission's objections.

(4) Notwithstanding ORS 268.310 (2) and 268.317, if the commission does not approve the solid waste reduction program submitted by the metropolitan service district after any period allowed for modification under subsection (3) of this section, all the duties, functions and powers of the metropolitan service district relating to solid waste disposal are imposed upon, transferred to and vested in the Department of Environmental Quality and no part of such duties, functions and powers shall remain in the metropolitan service district. The transfer of duties, functions and powers to the department under this section shall take effect on July 1, 1986. Notwithstanding such transfer of duties, functions and powers, the lawfully adopted ordinances and other rules of the district in effect on July 1, 1986, shall continue in effect until lawfully superseded or repealed by rules of the commission.

(5) If the solid waste reduction program is approved by the commission, a copy of the program shall be submitted to the Sixty-fourth Legislative Assembly not later than February 1, 1987.

SECTION 9. (1) The metropolitan service district shall apportion an amount of the service or user charges collected for solid waste disposal at each general purpose landfill within or for the district and dedicate and use the moneys obtained for rehabilitation and enhancement of the area in and around the landfill from which the fees have been collected. That portion of the service and user charges set aside by the district for the purposes of this subsection shall be 50 cents for each ton of solid waste.

(2) The metropolitan service district, commencing on the effective date of this 1985 Act, shall apportion an amount of the service or user charges collected for solid waste disposal and shall transfer the moneys obtained to the Department of Environmental Quality. That portion of the service and user charges set aside by the district for the purposes of this subsection shall be $1 for each ton of solid waste. Moneys transferred to the department under this section shall be paid into the Land Disposal Mitigation Account in the General Fund of the State Treasury, which is hereby established. All moneys in the account are continuously appropriated to the department and shall be used for carrying out the department's functions and duties under this 1985 Act. The department shall keep a record of all moneys deposited in the account. The record shall indicate by cumulative accounts the source from which the moneys are derived and the individual activity or program against which each withdrawal is charged. Apportionment of moneys under this subsection shall cease when the department is reimbursed for all costs incurred by it under this 1985 Act.

(3) The metropolitan service district shall adjust the amount of the service and user charges collected by the district for solid waste disposal to reflect the loss of those duties and functions relating to solid waste disposal that are transferred to the commission and department under this 1985 Act. Moneys no longer necessary for such duties and functions shall be expended to implement the solid waste reduction program submitted under section 8 of this 1985 Act. The metropolitan service district shall submit a statement of proposed adjustments and changes in expenditures under this subsection to the department for review.

SECTION 10. ORS 459.049 does not apply to a disposal site established under this Act other than for the purposes of ORS 215.213 (1)(i).

SECTION 11. This Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this Act takes effect on its passage.

(a) The proposed program presents effective and appropriate methods for reducing dependence on land disposal sites for disposal of solid wastes;

(b) The proposed program will substantially reduce the amount of solid waste that must be disposed of in land disposal sites;

(c) At least a part of the proposed program can be implemented immediately; and

(d) The proposed program is legally, technically and economically feasible under current conditions.

(3) After review of the solid waste reduction program, if the commission does not approve the program as submitted, the commission shall allow the metropolitan service district not more than 90 days in which to modify the program to meet the commission's objections.

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Passed by Senate June 3, 1985

Repassed by Senate June 18, 1985

Secretary of Senate

President of Senate

Passed by House June 17, 1985

Speaker of House

Received by Governor:

11:05 A.M. July 11, 1985

Approved:

8:54 A.M. 7-13 1985

Governor

Filed in Office of Secretary of State:

9:30 A.M. 7-15 1985

Deputy Secretary of State

Attachment 2
Agenda Item B
2/7/86 EQC Meeting

VICTOR ATIYEH
Governor

Department of Environmental Quality

522 S.W. FIFTH AVENUE, BOX 1760, PORTLAND, OREGON 97207 PHONE: (503) 229-5696

August 20, 1985

Rick Gustafson
Metropolitan Service District
527 S.W. Hall
Portland, OR 97201

Dear Rick:

There have been several discussions between our respective solid waste staffs on the implementation of Senate Bill 662. In addition, Dan Durig of your staff has written me asking detailed questions about the Department's approach to the bill. I wanted to share with you the Department's thoughts on Senate Bill 662 which will set a direction for METRO in preparing the waste reduction plan called for in the bill.

First, let me explain that we will be approaching the solid waste crisis in the Portland/Metropolitan area by following the priorities set in Oregon's Recycling Opportunity Act (ORS 459.015). REDUCTION of waste, REUSE of waste, RECYCLING, resource RECOVERY, and finally, land disposal. METRO's waste reduction program should chart the course for the first four alternatives. It should set out to show in a positive, creative, and specific program, how, by the year 1991, a substantial majority of the garbage in the region can be eliminated by reduction, reuse, recycling and recovery. METRO's program should specify the exact percentage of waste reduction to be achieved by the year 1991. As part of the overall solid waste management program for the region called for in Senate Bill 662, our Department is seriously considering siting resource recovery facilities, along with a landfill.

The types of solid waste disposal facilities sited by the EQC and their interrelationships will be based upon the waste reduction program developed by METRO. Therefore, the plan is critical to the siting process and must concentrate on successful implementation. The program must be specific and geared to action. Because of the importance of the plan, it must include commitments from local governments in the region and the METRO Council to work for its success. These commitments must be gathered prior to submittal of the plan to the Environmental Quality Commission.

A strong public education program is another essential element of the plan. The general education requirements included in the Recycling Opportunity Act (ORS 459.165-200 and OAR 340, Division 60) should be built upon for the Waste Reduction Plan. Long-term funding of and responsibility for the education plan will need to be included.

Strong markets for salvaged, used, or recycled materials drives those materials out of the garbage can and back into useful life. The Waste Reduction Plan should include a market development element for materials which can be salvaged, reused or recycled.

But an even stronger force to driving materials from the dump to the recycler is the cost of disposal. To be successful, METRO's Waste Reduction Plan must be able to reward recycling and reuse through the rate structure. This includes both the rates that are set at the disposal sites and what residential, commercial, and industrial customers pay for recycling and garbage service. Rates that discourage unseparated garbage and encourage recycling must be included in the Waste Reduction Plan. This stresses the need for local government involvement and commitment to the recycling program.

An aggressive commercial recycling program should be included, and the rate structure portion of the plan should include recycling incentives for business and industry as well as residential.

Additional elements which need to be incorporated in the Waste Reduction Plan include:

1. Recycling, Reduction, Reuse, or Recovery (beyond what is already being accomplished) of these special types of waste:

    a. yard debris

    b. scrap paper

    c. compostable material

    d. tires

    e. household quantities of hazardous waste

    f. hazardous wastes which can legally be landfilled from companies which generate less than 200 pounds of waste per month

    g. industrial waste which could be reused by another industry (Waste Exchange type system)

    h. plastics

    i. motor oil

    j. construction debris

2. Unseparated garbage should be reduced, separated waste streams should be encouraged to facilitate recycling, and separated waste streams which could be recycled or reused should not be mixed for a lower priority use, such as energy recovery.

3. The plan should include strategies to build on existing institutions to improve recycling, reuse, or recovery such as the park system, schools, or service groups and programs such as city composting or industrial co-generation capability.

4. The plan should show the benefit of additional waste reduction requirements such as programs to reduce excess packaging, requiring space for recycling containers be set in building code requirements, or other similar strategies.

5. The plan should be action-based, including a detailed implementation schedule which shows who does what and when. Start of implementation should be geared to no more than six to nine months after plan approval.

6. The plan should build upon innovative and proven solid waste reduction techniques in use in other parts of the nation and world.

We have reviewed the Alternative Technology Chapter developed by METRO with these guidelines in mind. Clearly, standing alone, it will not be acceptable as the Waste Reduction Plan called for in Senate Bill 662.

There is no doubt that the Waste Reduction Plan we have outlined is very aggressive, and will be difficult but not impossible to achieve within the deadline set in the legislation. However, with St. Johns Landfill slated to close in a little over 4 years, the region must face up to the garbage crisis and quickly get the programs in place that will solve it. METRO's waste reduction plan is a very important part of the solution, and I look forward to working with you to build a very successful recycling/reduction based solid waste system in the Portland/metropolitan area.

Sincerely,

Fred Hansen
Director

FH:b
SB4977
cc: Environmental Quality Commission
METRO Council
Pat Amedeo

VICTOR ATIYEH
Governor

Department of Environmental Quality

522 S.W. FIFTH AVENUE, BOX 1760, PORTLAND, OREGON 97207 PHONE: (503) 229-5696

DEC 3 1985

Rick Gustafson
Metropolitan Service District
527 S.W. Hall
Portland, OR 97201

Dear Rick:

We appreciate Metro's willingness to share your Waste Reduction Program drafts as you work on them and to accept our offer to meet with us on a regular basis. Constant and accurate communication between our agencies is essential as we strive to reach our mutual goal - to assure that the Metro region has a truly effective Waste Reduction Program which satisfies the letter and the intent of SB 662. To ensure accurate communication, we are writing to reiterate the comments we gave you verbally at our November 4th and subsequent meetings.

We applaud the fact that you have based your draft Program on the hierarchy of Reduce, Reuse, Recycle, Recover energy, and lastly Landfilling. We support you and encourage you to stand firm in your plan to recycle everything that can feasibly be recycled through a combination of source separation and material recovery centers. However, the Program as currently written is inadequate in several respects, mostly due to lack of specificity.

DEQ will review the Waste Reduction Program both for its substance and for its implementability. By "implementability" we mean a program which has 1) stated methods for accomplishing each program strategy; 2) a timetable for the implementation of each strategy; 3) specific performance standards, including percentage goals for waste reduction, against which the Program's success will be measured; 4) checkpoints for judging the effectiveness of the Program strategies and alternative strategies which will be implemented should the originally identified strategies prove unsuccessful or less successful than anticipated; and 5) a formally adopted statement by the Metro Council that the Program will be implemented in its entirety.

The draft Framework Program, standing alone, does not have enough detail to demonstrate that it meets the definition of "implementable" and that it will substantially reduce the amount of solid waste being landfilled. It does not show which of the various options will be in the Program, when and how they will be implemented, and how they will be financed. It is our understanding that a work plan, to be submitted with the Framework Program,

will contain these details and will demonstrate Metro's commitment to carry out the Program. This work plan is critical and should be part of the Waste Reduction Program adopted by the Council.

Without more information, we have serious reservations about a program which relies to a very large degree on the indirect method envisioned in the Local Government Certification Program. These reservations flow from the fact that SB 405 mandates that the "opportunity to recycle" be provided all Oregonians by no later than July 1, 1986. The Certification Program proposed by Metro is basically a program implementing that which is already required by SB 405. While we applaud this effort, the legislature envisioned in SB 662 a substantially more aggressive and comprehensive plan for solid waste reduction in the metropolitan area.

If Metro chooses, however, to rely on this indirect method and differential rates to achieve the planned waste reduction from recycling, it is incumbent on Metro to show that those techniques will be effective in accomplishing the planned reduction. We realize that waste reduction is an imprecise science, but we must be convinced that the premises on which the Program is based are not faulty. We need evidence that local governments will participate in the Certification Program, that haulers will redesign their commercial routes to enable them to collect high-grade, select loads and deliver them to material recovery facilities, and that the differential in rates will convince generators to participate in source separation recycling. Most importantly, the Program must result in significant waste reduction (as required by SB 662) and not just provide individuals and businesses with the opportunity to recycle (as required in SB 405).

Your draft Program does not commit to using any alternative technologies, yet admits that, at best, recycling can reduce the waste stream by only 39%. We have already stated that your Program must reduce a "substantial majority" of the garbage in the region. Thirty-nine percent (39%) is not a "substantial majority," and therefore your Program as now drafted would not be acceptable to DEQ. The Program needs to either designate the alternative technology to be used and the tonnage of garbage to be allocated to that technology, or set out clear and concise criteria to be used to select an alternative technology through the RFP process. In the Department's analysis and recommendation to the Environmental Quality Commission, we must be able to determine that Metro will proceed through the RFP process and will choose a technology which, in combination with the recycling components of the Program, will substantially reduce the waste stream.

The Education and Promotion Program component necessary to convince the public to participate in source separation recycling has not been adequately discussed and addressed. The work plan must recite particulars of such a component.

Finally, we continue to believe that the Program should address small quantity hazardous wastes. We do not agree with your staff that a plan for diverting hazardous waste from the municipal waste stream is inappropriate in a Waste Reduction Program. The purpose of a Waste Reduction Program is not only volume reduction, but also to reduce reliance on landfills because

of the adverse environmental effects caused by landfilling. Though hazardous wastes are admittedly only a tiny portion of the waste stream, they can have a disproportionately large adverse effect on a landfill and on any alternative technology solutions to waste reduction, and should be separated from the rest of the waste stream.

We offer these comments to assist you in the upcoming decision-making process. We realize that changing the way people perceive and deal with their garbage is not an easy task, but it is nonetheless necessary. We look forward to continuing dialogue with you, your staff, and the Metro councilors.

Sincerely,

Fred Hansen
Director

LP:b
YB5223
cc: Environmental Quality Commissioners
Metro Councilors
Dennis Mulvihill

VICTOR ATIYEH
Governor

Department of Environmental Quality

522 S.W. FIFTH AVENUE, BOX 1760, PORTLAND, OREGON 97207 PHONE: (503) 229-5696

December 12, 1985

Rick Gustafson and Metro Councilors
Metropolitan Service District
527 S.W. Hall
Portland, OR 97201

Dear Rick and Metro Councilors:

We have reviewed your Draft Work Plan for the Waste Reduction Program, a document which was not available when we wrote our December 3rd letter commenting on your draft Program. The Work Plan is a good start toward addressing some of DEQ's concerns about the lack of specificity of the Program. It, along with the December 3rd draft of the Framework Plan, more clearly states, if adopted, what waste reduction activities the council is committed to doing, in contrast to what it will consider doing.

Much of The Work Plan outlines a timeline and process for conducting further research, planning, and making decisions about what activities and programs will be implemented. In the Department's opinion, decisions about specific programs will need to be made prior to the EQC's final evaluation of the Program. Therefore, many of the concerns expressed in our December 3rd letter about lack of commitment to implementation also apply to the Work Plan.

In order to dispel any misunderstanding about DEQ's position on the Local Government Certification program, let me restate that DEQ views it as a viable method to affect positive changes in the region's commitment to source separation and structuring of collection systems which maximize recycling. Our only concern is that the Certification Program is not as aggressive as we would like. As currently drafted, it appears to be July 1, 1988 before the Certification Program would demand more than the minimum already required by SB 405.

We wish you well in the deliberative process you are currently engaged in. We recognize that the issues are complex and that there are no easy answers.

Sincerely,

Fred Hansen
Director

LP:f
YF623

VICTOR ATIYEH
Governor

Department of Environmental Quality

522 S.W. FIFTH AVENUE, BOX 1760, PORTLAND, OREGON 97207 PHONE: (503) 229-5696

January 30, 1986

Mr. Rick Gustafson, Executive Officer
Metropolitan Service District
527 S. W. Hall Street
Portland, OR 97201

Dear Rick:

In your letter of December 31, you expressed your agency's "immediate concern" with developing viable alternatives to landfilling of household and small quantity hazardous wastes. We share that concern and believe that viable alternatives do exist, and should be implemented as soon as possible.

You have asked that an action plan to deal with these wastes be developed independently from the Waste Reduction Program required in SB 662. Your primary reason for this request appears to be based on an interpretation that SB 662 focuses on volume reduction only.

We respectfully disagree with that interpretation. In addition to an emphasis on volume reduction, SB 662 calls for "effective and appropriate methods for reducing dependence on land disposal sites". The Waste Reduction Program was included in SB 662 to ensure an environmentally sound approach to solid waste management in the metropolitan area, and to enhance the facility siting effort. Diverting household and small quantity hazardous wastes would clearly help to accomplish both of those objectives. In addition, diversion of these wastes is directly linked to the feasibility of alternative technologies in your Waste Reduction Program.

We are, however, willing to accept a plan for household and small quantity hazardous waste to be submitted separately from the Waste Reduction Program, if it is submitted to DEQ by August, 1986, and if we are assured prior to our final evaluation of the Waste Reduction Program, that such a program will be developed. Our staff recognizes that several difficult issues still need to be resolved, but we believe that at least an interim program can be developed by that time. If you choose this approach, we trust that the task force will be established right away and will include DEQ representation, as you have indicated. Michael Downs' letter of January 10, 1986 hopefully answered the basic regulatory questions so that you can move toward a solution to the problem as quickly as possible.

While we think it would have been most appropriate to include the household and small quantity hazardous waste component in the Waste Reduction Program, we applaud your desire to address the problem and look forward to cooperating with you to develop a solution.

Sincerely,

Fred Hansen
Director

FH:m
SM66

VICTOR ATIYEH
GOVERNOR

Environmental Quality Commission

Mailing Address: BOX 1760, PORTLAND, OR 97207
522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission

From: Robert L. Brown, Hearing Officer

Subject: Report on Public Hearing Held January 16, 1986 Concerning Metro Request for Review and Approval of Waste Reduction Program

Summary of Procedure

Pursuant to public notice, a public hearing was convened in Hearing Room C, Portland Building, 1120 S.W. 5th, Portland, Oregon at 2:00 p.m. January 16, 1986. The purpose of the hearing was to receive testimony concerning whether the Environmental Quality Commission should approve the Metro Waste Reduction Program. After taking Testimony, the hearing was recessed. The hearing was reopened at 7:00 p.m. for additional testimony.

Summary of Testimony

Comments on specific components of the Program are included in discussion of the component.

Representative Mike Burton, District 17, Oregon Legislative Assembly, expressed surprise that DEQ Director Fred Hansen had already taken a position on Metro's Waste Reduction Plan, and hoped that the EQC would consider the plan objectively. Representative Burton wants the program to be flexible enough to be able to shift with markets.

*John G. Drew, Far-West Fibers, representing Association of Oregon Recyclers.

Merle Irvine, Oregon Processing and Recovery Center, supports the concept of high-grading waste. His specific comments about the materials recovery and certification component of the Program are noted with discussions of those components.

*Jeanne Robinette, Oregonians for Cost-Effective Government.

Marilyn Crandall, Beaumont-Wilshire Neighborhood Association, noted that her neighborhood association runs a recycling program but is currently losing money doing so. She was concerned that the certification program would impose red tape on volunteer-run neighborhood programs.

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* Denotes written comments submitted. See Attachment

Attachment 3
Agenda Item No. B
2/7/86 EQC Meeting

Greg Niedermeyer, Niedermeyer-Martin Company, whose company leases the land on which Signal-Resco proposes to build a burner in Columbia County, supports the siting of that burner. He suggested replacing "may" with "will" every place it appeared in the Program. His specific concerns about alternative technology are noted with discussion of that component .

Marcia Gaizer, Citizen, calling herself an impatient person, stated her belief that Metro should get the information it needs, make the necessary choices, and get the job done before 1993.

*John Trout, Teamsters Local Union No. 281, representing members of the collection industry.

*Estle Harlan, Oregon Sanitary Service Institute

*Michael P. Bick, Ebasco Services and Schnitzer Steel Products

*Judy Dehen, Columbia Chapter, Sierra Club, wants Program to retain flexibility because technology is rapidly changing. She said that avoided costs of landfills, including environmental costs and the emotional toll on humans, must be considered. She pointed out that though she supports a free market system, the market is not truly free because virgin resources are subsidized through the tax code and other federal regulations.

She does not want Metro to go directly to mass burn and cited new evidence on dioxin emissions which indicates that the emissions are not related to the temperature at which the burn is conducted. She encouraged retaining developmental technology as an important part of the Program.

Ken Spiegle, Solid Waste Representative, Clackamas County, encouraged Metro to: 1) Actively pursue a recycling education and promotion campaign; 2) pursue alternative technology; 3) allow local government to continue to control franchising. He opposed the certification program.

*Douglas Francescon, Citizen of Oregon City

Kathy Cancilla, Portland Recycling Refuse Operators, Inc. (PRROS), praised Metro's final version which had, according to her, improved from earlier versions. She remains concerned about how the certification program will work, though recognizes that it needs to be done. She encouraged DEQ to give Metro a chance to succeed, stating that solid waste should be managed regionally and not by the state.

Rebecca Marshall, Government Finance Associates and member of Metro Alternative Technologies Panel, felt that recycling is very important prior to use of alternative technology. She was encouraged with the Program's flexibility which allows strategies to change. She does not want one huge mass burn facility because it is volume dependent and could

undermine recycling. She warned of the importance of finding markets for the chosen alternative technology, and ended by saying that Metro should get going on its program and not worry that the entire blueprint is not done.

Mike Durbin, Portland Association of Sanitary Service Operators (PASSO), said the Program's main problem was that it did not allow a role for private enterprise, although he admitted that the newest version did allow a role. He felt that Metro's estimates of current recycling percentages were inaccurate, and was concerned about the lack of specifics in the alternative technology components and markets. Finally, there should be more emphasis on promotion and education. He ended by stating that PASSO does support the Metro Program.

Stan Kahn, Sunflower Recycling was surprised that DEQ did not like the Metro Program because for the first time Metro had recognized the role of recycling and written an aggressive program. He liked the way the Program enhances the current recycling system and allows for a role for both the private sector and government.

*Jeanne Roy, Portland Citizen

*Leanne MacCall, League of Women Voters of Portland

*Lyle Stanley, Beaverton Citizen

*Brian Lightcap, West Multnomah Soil and Water Conservation District and Oregon Association of Conservation Districts

Lorie Parker
229-5826
January 28, 1986
ZF758

Association of Oregon Recyclers

Presented to the DEQ Hearings Officer
January 16, 1986
on the Metro Waste Reduction Plan

The Association of Oregon Recyclers is a professional organization of public-minded individuals who are committed to the preservation and development of recycling. AOR membership includes markets, suppliers, services, haulers, local governments and individuals who share common recycling interests.

AOR supports the Metropolitan Service District in its efforts to achieve a substantial reduction of solid waste which is presently landfilled. In the most recent Work Plan and Final Report, Metro has taken a serious look at the region's current solid waste dilemma, has asked the public for constructive input and, considering that information, has come up with a workable plan to increase recycling and recovery rates. The plan embraces the current methods and levels of recycling and encourages an optimistic amount of recycling in the future.

Disposal fees will have to increase, and the garbage generators will have to pay for the service provided by Metro. AOR agrees with Metro that waste stream differentiation and rate incentives for high percentage recyclable materials will help achieve the goal to reduce solid waste.

P. O. Box 10051, Portland, OR 97210
227-1319

AOR is concerned by the fact that markets create the demand for recycling, not governmental goals.

AOR is concerned that over-regulation by government can unneccessarily endanger recyclable markets and industries.

AOR is concerned that unrealistic goals, not only expectations but required results, may endanger today's successful recycling industry in Oregon.

AOR is concerned with the intent and application of rate incentives described on pages 34 through 38 of the work plan.

In summary, the Association of Oregon Recyclers encourages Metro to develop a successful cost-effective solid waste disposal program. This program should be equitable to businesses, industries, and citizens alike. The Association is pledged to working with all parties in the implementation of this program.

OREGONIANS for COST-EFFECTIVE GOVERNMENT

P.O. Box 384 • Lake Oswego, OR 97034 • (503) 636-4003

To: Representatives of Department of Environmental Quality.
January 16, 1986

From: Jeanne Robinette
Executive Director, Oregonians for Cost-Effective Government

I would like to speak today on behalf of the taxpayers, ratepayers and private businesses in the Metro area who will pay for this Solid Waste Disposal Program.

We recognize that incentives now operating encourage disposal of more waste than landfill sites can accommodate, and that no one wants a land fill in their neighborhood. There is a role for government in sorting out that solid waste disposal problem. HOWEVER - and I'm sure it will sound overly simplistic in face of the volumes of words that have been developed here:

We do not need all of the cumbersome, staff intensive, bureaucratic, expensive and redundant solutions that are outlined in these documents to change that disposal behavior.

All we need to do is change the incentives, so that the recyclers, businesses and residences that generate waste, the garbage pickup firms, and the public and private disposal centers will change their recycling and disposal behavior.

METRO has gone after a buffalo sized problem with a Sgt. York Missile. They tell us you made them do it. We ask you to reconsider.

There are TWO KINDS OF STRATEGIES in METRO's Program:

(1) CLEAR, EFFECTIVE, COST-EFFECTIVE INCENTIVES and
(2) EXPENSIVE, BUREAUCRATIC, PROCEDURES AND REGULATIONS.

During hearings on the Program, we complemented METRO on many of the strategic and cost-effective incentives that were built into the program. Those incentives **will** change the disposal habits of businesses and residents in the Portland area. METRO can sit back and, at minimal cost, monitor the waste stream as already planned and fine tune the rates to create the necessary incentives. That's about all government needs to do.

We opposed the parts of the program that would cause major unnecessary costs for Portland area ratepayers and taxpayers.

We urged METRO to allow alternative technologies for recovery of marketable products, whether they be steam, compost, power, etc., when there was no real market for other recoverable materials. In other words, we asked them to apply a cost-effectiveness test to your "hierarchy."

We are pleased they will now allow a concurrent look at all possible solutions, but that is not enough to assure a cost-effective program, given the constraints built into policy language.

We see they are still planning to stockpile unmarketable materials and to subsidize otherwise unmarketable products with ratepayer's dollars. This is not cost-effective solid waste management.

We see they are still planning to build a new level of government called SWPAC, to show cities and counties how to promote recycling. They're all geared up to do this even before they put the incentives in place, which would cause the behavior change we need, **without all that new bureaucracy.**

When I discussed these matters with METRO in December, they said they had to adopt the whole work program now, with it's overlapping solutions, because DEQ required it. When I urged them to add the test of cost-effectiveness to the decisions on when to allow alternative recovery technology, I was told DEQ wouldn't allow it.

Now we're here before DEQ. IS THE STATE REALLY PLANNING TO REQUIRE THE EXPENSIVE PARTS OF THIS PROGRAM? EVEN BEFORE THEY TRY THE COST-EFFECTIVE METHODS? If so, please reconsider. Don't require Metro ratepayers and taxpayers to finance a Sgt. York Missile, a whole new level of bureaucracy, to accomplish what can be done by rate incentives coupled with the efforts of private businesses and private recyclers.

WE DON'T NEED BIGGER GOVERNMENT. WE NEED SMARTER GOVERNMENT. If DEQ will step back and allow those directly involved the time to respond to those new incentives, and will hold off on increasing the size of METRO's budget until and if we need more government, you will save us a great deal of money.

Thank you.

Teamsters and Chauffeurs Local Union No. 281

AN AFFILIATE OF I. B. OF T. C. W. & H. OF A.

1020 N. E. THIRD AVENUE
PORTLAND, OREGON 97232

PHONE
232-8171

January 16, 1986

TESTIMONY OF: JOHN TROUT, SECRETARY-TREASURER
TEAMSTERS LOCAL UNION NO. 281
REPRESENTING MEMBERS OF THE COLLECTION INDUSTRY

The final report of the METRO WASTE REDUCTION PROGRAM was not available for analysis until January 6, 1986. We have had less than two weeks to study it. We have not had time to make a definitive and comprehensive response. Our comments and objections in outline form follows:

1. SB 662 (1985), ORS Ch. 459, p. 698--directs that METRO prepare a solid waste reduction program providing "a commitment by" METRO to substantially reduce the volume of solid waste at landfills. METRO's response was a certification program for collection, a redesign of collection routes, and incentive rates at landfill disposal sites, all administered by METRO. This would give METRO control of waste management from source to disposal. METRO by administrative action has in effect repealed the cities and counties authority over collections provided in the Opportunity to Recycle Program law. ORS 459.015 to 459.200.

2. METRO has no legislative authority to establish certification collection areas within a wasteshed; to establish standards and goals within the certification areas for source separation, collection practices and routes; or to supervise city and county regulation of collections. Collections are an exclusive function of each city or county.

3. METRO has no authority to establish disposal site rates based on performance of the solid waste source, the collector, and the regulation by cities and counties in meeting METRO standards and goals for the opportunity to recycle and for waste reduction. METRO's authority to fix rates at disposal sites is limited to payment for the

services performed by METRO and the repayment of its investment in solid waste disposal sites and related facilities. SB 662 did not give METRO additional waste management powers. It did not amend ORS Ch. 268--the Metropolitan Service District law. "Rate structures" are not the same as "rate incentives." Certainly, rate penalties are not the same as "Rate Structures" or rate incentives.

4. METRO assigns to itself in its WASTE REDUCTION PROGRAM the control of and responsibility for the Education, Promotion, and Notification program provided in the Opportunity to Recycle law. This is a decision to be made by DEQ after it has received the July 1, 1986 Recycling Reports of the Wasteshed Committees. Cities and Counties are to supervise this task as it relates to the collection of recyclables.

5. The inclusion of "yard debris" as part of DEQ's list of recyclables, would require a separate collection service, a recycled product with no market and minor reuse value, and create public opposition jeopardizing the solid waste program in the METRO district.

6. METRO's proposal to make detailed analysis and continuing reanalysis of the solid waste stream and substreams to establish performance goals and standards for its WASTE REDUCTION PROGRAM will create additional bureaucracy with an obsessive interest in waste streams and unnecessarily increase the cost of solid waste management. There has to be recognition that waste is a necessary byproduct of industry and modern living and that there must be a "live and let live" solution. Otherwise the program promotes negative growth.

7. METRO has made the Collectors the "fall guys" of its Waste Reduction Program. They must collect the fees to pay for incentive rate penalties and the expensive bureaucracy the program creates. They must explain the program. They will be blamed for excessive costs and unnecessary regulation.

8. While this is not specifically dealt with in the METRO WASTE REDUCTION PROGRAM it is becoming increasingly necessary that any METRO district program for the collection of recyclables and for waste reduction require the franchising of collections in Portland and unincorporated Multnomah County. You cannot have an effective and efficient solid waste program in the METRO district that is half franchised and half unregulated on a collector level, and regulates the collection of recyclables, redesigns routes and imposes penalties based on performance in certificated areas

when Collectors are not franchised. A workable solution of the Opportunity to Recycle and the Waste Reduction programs requires all collection in the METRO district be franchised.

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January 13, 1986

COPY

Mr. John Trout
Secretary-Treasurer
Teamster Local 281
1020 N.E. 3rd Avenue
Portland Oregon 97232

Re: Franchising Portland Garbage Collectors
Our File No. 2862-3

Dear Mr. Trout:

In connection with the Opportunity to Recycle law you asked that we summarize that law and related laws and administrative actions for guidance in deciding whether the Recycling Report for the Portland Wasteshed Committee should recommend the franchising of both solid waste collection and recyclables collection. The analysis includes:

- The Opportunity to Recycle Law, SB 405, OR L 1983 Ch 729, ORS 459.015, et seq.

- The Waste Reduction Law SB 662, OR L 1985 Ch 679;ORS Ch. 459, p. 699, Sec 8.

- The Oregon Environmental Quality Commission Rules and Guidelines - January 1, 1985.

- The METRO Waste Reduction Program Framework and Work Plans - December 20, 1985.

This letter does not discuss the effect of the laws on other localities, or other programs mandated by the laws and administrative actions such as "Promotion and Education," "Post-Collection Recycling" and "Alternative Technologies"

OPPORTUNITY TO RECYCLE LAW

The 1983 Opportunity to Recycle law provides:

1. That recycling and the collection of solid waste including recyclable material are of state wide concern and that cities and counties act on behalf of the state of Oregon when administering recycling programs. ORS 459.015, 459.200

(1) and (4). This legislative statement of policy makes the state legislature and state laws the final authority on questions dealing with solid waste and recyclable collection.

2. It expressly affirms the authority of cities and counties to handle collection service franchising and regulation. ORS 495.015 (b). In this connection cities and counties may grant exclusive franchises for an allocated territory without bids or requests for proposals. ORS 459.200 (3).

3. It requires that the opportunity to recycle be provided to every person in Oregon. ORS 459.015(1)(b).

ENVIRONMENTAL QUALITY COMMISSION
POLICY AND GUIDELINES

The first administrative action putting into effect the "Opportunity to Recycle" program was adoption by the Environmental Quality Commission on January 1, 1985, of a Policy Statement and Rules. The Rules included the designation of "Wastesheds" that are the planning and administrative units of the program. The relevant policy statements and rules are:

a. Provide pickup service for separated recyclable materials at least once a month. Rule 34D-60-020 (1) (a).

b. Increase emphasis of recycling in solid waste management programs. Policy 1(b).

c. Primary focus to be on residential recycling. Policy 1(f).

d. The role of cities and counties is increased. They have primary responsibility for solid waste management and are to be a major factor in preparing the Recycling Report. They have increased authority in the regulation of collection. Policy 3.

e. Local government leaders in conjunction with - "affected persons" (includes Collectors) are to decide who will provide the best recycling collection service in the community. Policy 2(a).

f. Persons providing solid waste or recycling collection service on June 1, 1983 are to be given "due consideration" in choosing the Collector for recyclable materials. Policy 3(c).

g. "Due consideration" is notice, opportunity for public comment and consideration of and response to a timely application for a franchise. Rules 340-60-085(2).

h. Two "Wastesheds" are established for Multnomah County:

(1) City of Portland which includes the area within the Portland urban service boundary and the City of Maywood.

(2) All of Multnomah County except the area in the Portland Wasteshed.

RECYCLING REPORT

Following the adoption of the EQC Policy and Rules, the cities and counties in a Wasteshed are to develop jointly with the "affected persons" a Recycling Report to DEQ for the Wasteshed. The report is to be submitted to DEQ by July 1, 1986. It is to explain how the "affected persons" within the Wasteshed are implementing the opportunity to recycle. ORS 459.180.

> "The recycling report is a communication from the people in the wasteshed to the Department stating how they will be or are implementing the opportunity to recycle within their wasteshed. It should be viewed as a progress report and not a complex planning document." Policy (7)(a)

DEQ approves or disapproves the report. If DEQ disapproves, the report may be changed to correct deficiencies. If a satisfactory report is not developed, DEQ reports that fact and its findings to EQC. After a public hearing EQC will order changes that provide the opportunity to recycle. The order may provide that as a part of the recycling program a city or county issue a franchise to provide for collection service. ORS 459.185 (f)

Several things are of interest at this point.

A. While the legislation deals with recycling, it anticipates that the logical and favored Collector of recyclables will be the solid waste collector. This because the right to franchise includes both recyclable and solid waste collections and Collectors.

B. Metro has no regulatory or franchising role in connection with collections or Collectors. Also METRO has no significant role in the Opportunity to Recycle program.

C. Any collection franchise that is granted or renewed after October 15, 1983 must provide an "opportunity to recycle" after July 1, 1986. ORS 459.200 (6) (a).

D. Rates established by a franchise must be "just, reasonable and adequate" to provide the necessary collection service, including additional costs incurred because of the collection of recyclables. ORS 459.200 (8).

WASTE REDUCTION LAW

The 1985 legislature adopted SB 662, OR L Ch 679. The law did two things.

- It authorized EQC acting through DEQ to establish solid waste disposal sites for the METRO district.

- It required METRO to submit to DEQ for approval by January 1, 1986 a Solid Waste Reduction Program that provides a commitment by METRO to substantially reduce the volume of solid waste delivered to disposal sites.

If METRO fails to develop a plan that is satisfactory, EQC can transfer METRO's authority to deal with solid waste to DEQ, Sec. (8)a.

METRO WASTE REDUCTION PROGRAM

The Waste Reduction Program submitted by METRO to DEQ on January 1, 1986, included eleven different programs. Two are of interest in connection with collections.

- Certification for Local Government Programs.

- Rate Incentives.

At this point it should be noted that insofar as the laws are concerned the responsibility of the Collector in connection with the recycling program is to provide the collection service.

The METRO certification program proposes to establish collection certification areas within the Wasteshed and to adopt standards for local governments and the Collectors that promote a reduction of solid waste delivered to waste disposal sites.

METRO would establish the standards and judge the performance. The rates paid by the Collector at the disposal site would depend upon the performance of the area in which the waste was collected. If the performance was above the standard the Collector would be rewarded by a reduced rate. If the performance was below standard, the Collector would be penalized by an increased rate. Work on the program is to start in March 1986. Rates are to be adopted September 1986.

The Rate Incentive Program is to generate "high grade" loads. Routes are to be changed to make the high grade loads possible. If a load has a level of recyclables so that it can be delivered to a private recycling business then the Collector is to be given a credit that can be applied against charges for use of a disposal site. There would also be penalties in the form of increased disposal rates if a Collector failed to change routes or adopt collection procedures to maximize high grade loads.

FRANCHISE BACKGROUND

As further background for the analysis of the future status of the Collector under the Recycling Opportunity program it is worthwhile to briefly summarize the ordinances in Multnomah County and Portland that regulate Collectors and collection.

Multnomah County's only regulation of solid waste collection is its ordinance dealing with "Nuisances", Multnomah County Code. Title 7, Public Safety, Ch. 7.20. These are general public health regulations. There is no permit system or regulation of the business of collection.

The Multnomah Business License Ordinance applies to all businesses. It is for revenue purposes only. It is not regulatory and does not entitle a licensee to carry on a business that is not otherwise lawful. Title 5 Revenue Ch. 5.80.035.

The City of Portland requires that Collectors have an annual "Refuse Collection Permit". The application for a permit includes a "list of the customers who have agreed to give the applicant business." The permit is conditioned upon compliance with the health, sanitation and other applicable city ordinances. Permits may be denied or revoked for violation of city, state or federal laws that relate to the operation of the refuse disposal business. City of Portland Code Ch. 17.102.010 to 100.

The City also has a business license ordinance that is for revenue purposes only. Ch. 7.02.005 - 7.10.040.

Neither the City or the County have ordinances that authorize the franchising of solid waste collection.

The Portland City Charter has a detailed chapter on Franchises. Title X. The City Charter provisions would apply waste collection franchising if they do not conflict with state law. For example ORS 459.200 does not specify the maximum term of a franchise - the City Charter maximum term is 25 years. Charter, 10-206. The City Charter procedures for granting a franchise would apply when compatible with the state law. The Portland City Charter provision prohibiting an exclusive franchise (Charter 10-206) is superseded by the state law that authorizes the granting of an exclusive franchise. ORS 459.200(3).

The Multnomah County Home Rule Charter has no specific provisions with reference to Franchises. Where State law does not cover a situation the County Commissioners would do so by an exercise of their Home Rule legislative power.

The City of Portland would undoubtably franchise and regulate collections outside of the City and inside its urban services boundary (east to 162nd and 174th streets), by an intergovernmental agreement with the County.

The cities of Gresham, Fairview, Wood Village and Troutdale have franchised solid waste collections. The collections in these cities in different ways have anticipated the Opportunity to Recycle program. The franchised Collectors will undoubtably be the collectors of recyclables within their franchised areas under the DEQ approved program.

COLLECTORS OPTIONS

This brings us to the options that are available to the Collector in connection with the Opportunity to Recycle program.

The givens in this situation are that there must be a recycle collection program that:

- provides monthly curbside pickup of separated recyclable waste to each customer.

- The program must be approved by DEQ.

The first Collector option is to continue the status quo i.e. to be a non-participant in the recycling collection program. This would require two services and two billings.

A second option would be for existing Collectors to sponsor a special pickup service for recyclables. This also would provide two services and two billings, but would have the advantage of the opportunity for coordination.

The third option would be to advocate and support a program to franchise collection of both solid waste and recyclables to the existing Collector.

REASONS FOR FRANCHISING

In reviewing the 1983 and 1985 legislation and the EQC Policy and Rules there is a strong thrust that franchising will be an important part of the Opportunity to Recycle program. The legislation eliminates any antitrust problems and specifically authorizes no bid exclusive franchises.

The reasons that favor a single franchised operation - solid waste and recyclables, follows:

The first is that the legislation and EQC Policy and Rules anticipate a combined franchised operation.

> 459.200(1) - "The legislative Assembly finds that providing for collection service including but not limited to the collection of recyclable material as part of the opportunity to recycle is a matter of state wide concern."
>
> 459.206(3)- "It is the intent of the legislative assembly that a city or county may displace competition with a system of regulated collection service by issuing franchises..."
>
> 459.015(2)- "In the interest of the public health, safety and welfare ... it is the policy of the state of Oregon to establish a comprehensive state wide program for solid waste management which will:
>
> (b) Clearly express the legislative Assembly's previous delegation of authority to cities and counties for collection service franchising and regulation...
>
> (c) Retain primary responsibility for management of adequate solid waste management programs with local government units..."

The Opportunity to Recycle legislation is clear and emphatic that the collection of recyclables is a part of a total collection program and that the program should not be fragmented and piecemealed.

The EQC Policy and Rules make it clear that the purpose of the program is a total collection program.

Policy (3)(b) - "the role of local government (cities and counties) in solid waste management has been increased by the new Recycling Opportunity Act. The Act clarified local government authority to regulate both solid waste and recyclable material collection service."

The second reason for combined franchising is that an efficient, effective and business like solid waste management program must regulate the total process.

The disposal of solid waste is regulated by METRO. It now proposes to extend its regulation to solid waste collection routes and to methods of collection by a system of incentive disposal site rates.

The service requirements for the Opportunity to Recycle - regular monthly service to all customers, can best be provided by a franchised Collector that provides both solid waste and recyclables collection service. You cannot have an efficient and effective solid waste program that is a mixture of regulated and unregulated operations. It must be one or the other. A non-franchised opportunistic collection service for recyclables would provide patchwork coverage and lack stability.

To summarize, you have METRO regulation of the disposal of solid waste. By a system of incentive disposal rates METRO proposes to regulate collection routes and collection practises to reduce the amount of solid waste delivered to the waste site. You will have franchising or its equivalent to provide area wide wasteshed collection of recyclables. It makes no sense to continue one segment - waste collection as an unregulated activity.

The third reason for combined franchising are the financing, equipment and administrative requirements. The solid waste Collector has personnel and an administrative capability that are "in being". It should be utilized - not duplicated. Likewise he has the working capital and much of the equipment requirements. Good business practice dictates that these also be utilized.

Finally, the franchise pattern in the METRO district and in the state argues for combined franchising in the Portland wasteshed. In the METRO district one-half by population and 40% by waste quantity (Clackamas and Washington Counties and four municipalities in Multnomah County) are served by franchised solid waste Collectors.

The forward march of state legislative policy, of administrative actions, and of local governments is the regulation including franchising of solid waste collection. The City of Portland and its metropolitan service area cannot afford to be the non-participant and non-cooperators in a solid waste management program to meet state goals. It jeopardizes Portland's annexation program and relations with other local governments in the metro areas.

State wide all major municipalities and urban areas in the state except Portland and Eugene, have franchised collection services. (Eugene's permit system regulates rates and quality of service but does not allocate areas to Collectors.) This is not a case where it pays to be different.

In summary the Opportunity to recycle in the Portland wasteshed would best be served by the franchising of a combined collection service - solid waste and recyclables. This should be the report to DEQ on July 1, 1986 and the recommendation to the Portland City Council.

Very truly yours,

Lee Davis Kell

LDK/lk

SSI

Oregon Sanitary Service Institute

4372 Liberty Rd. S., Salem, Oregon 97302 Phone 399-7784

Research
Standards
Service

Reply to: 2202 SE Lake Road
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RE: WASTE REDUCTION PLAN UNDER SB 662
DEQ Public Hearing January 16, 1986

Testimony from: ESTLE HARLAN, Industry Consultant
for OREGON SANITARY SERVICE INSTITUTE

Senate Bill 662, Chapter 679, Section (9), Oregon Laws of 1985, gave Metro the directive to develop a Waste Reduction Plan for the region. It, also, gave some guidelines for that plan. The Plan is to :

1. Substantially reduce the volume of solid waste.
2. This is to be done in a manner that is:
   (a) Energy Efficient;
   (b) Cost-Effective;
   (c) Economically Feasible Under Current Conditions;
   (d) Appropriate.

The original plan presented by Metro failed most of the above tests. However, after public testimony, Metro made significant revisions in the plan in response to concerns of the solid waste industry. We would urge that DEQ retain the same level of responsiveness in their consideration of the plan.

The solid waste industry is committed to recycling and has basically overlooked the "economic feasibility" loophole of SB 405. However, industry is concerned that the Waste Reduction Plan that is finally adopted not require industry to search for the last scrap of recyclable material, for which there is no market and thus would greatly increase the cost of over-all collection, before the regulating entities look at alternative technology for the maximum reduction of waste. Metro's revised plan calls for alternative technology to be considered "concurrently" with recycling and other methods of waste reduction. Industry strongly urges retention of this language in the plan.

In adopting the Waste Reduction Plan, Metro acknowledged a study that showed high levels of recycling were being carried out in the areas of old newspaper and old corrugated containers, and that "incremental quantities will be difficult to capture cost effectively." Industry requests DEQ to recognize the validity of this fact and to understand this as a further reason for considering alternative technology in order to attain maximum waste reduction.

If alternative technology is looked at concurrently with other methods of waste reduction, then central sorting would be a pre-requisite to any alternative technology. This would off-set some of the costs of such technology, because of the recyclables that could be recovered.

The revised plan dropped "mandatory recycling" from Phase II. and instead called for loads to be turned away from the disposal site if they contained a high percentage of recyclables. While the details of this provision are not known, it would obviously call for the solid waste industry to police itself. That is far more feasible than policing the customers and requiring them to participate in a mandatory recycling program.

The plan, also, calls for "rate incentives" to produce maximum feasible waste reduction. It is industry's position that there must be some degree of rationality in any such rate incentives. If there is not, customers will view garbage collection rates as too onerous, and the Metro area will likely see a lot of the area's garbage ending up in ditches and along roadsides.

The plan states that yard debris should be removed from the waste stream. It is industry's position that drop box loads or greater, or yard debris that is source separated and brought to designated sites by the public, could be economically diverted to a processor or could be diverted at St. John's Landfill. However, a total ban on yard debris in the waste stream is neither economically feasible nor is it possible to attain under current conditions. Processors such as Grimm's have stated to industry that such a program is at least five years away from being feasible to implement. It is further industry's position, based on experience in other jurisdictions, that material being put at curbside on a weekly basis will cause an unsightly condition, debris will blow about in the wind, and it will be a fire hazard in the summer. The education process needs to begin with the generator of the yard debris, not with the solid waste industry trying to police customers. Metro/DEQ efforts would be more productive if they were directed at education and market development programs rather than forcing source separation of yard debris at this point in time, except for loads of drop box size or greater or debris brought by the public to designated sites.

The area that industry totally disagrees with Metro's plan is in the area of "Certification." It is industry's position that this is a duplication of reporting efforts, because of the Wasteshed Report that is required under SB 405. It would be industry's position that the DEQ wasteshed reports need to be more encompassing so that they include reports from secondary sources such as the paper companies, buy back centers, glass companies, etc. Simply monitoring the collection industry's recycling activities will not reflect the large volume of recyclables that never pass through the solid waste collector's hands because they are collected by charitable groups or are taken directly to the secondary sources by the public.

The solid waste industry does not oppose DEQ requiring Metro to tie their Waste Reduction Plan to more specific timelines, so long as those time lines are ones that reasonably could be attained. The industry wants to see the Waste Reduction Plan succeed. To do that, the plan must recognize cost factors involved and the reasonable potential for implementing the provisions of the plan.

EBASCO SERVICES INCORPORATED

10900 NE 8th Street, Bellevue, WA 98004-4405, (206) 451-4500

January 20, 1986

Ms. Lori Parker
Department of Environmental Quality
P. O. Box 1760
Portland, Oregon 97207

Subject: WRITTEN TESTIMONY - METRO'S WASTE REDUCTION PROGRAM

Dear Ms. Parker:

The enclosed document, presented to Metro at a Public Hearing December 5, 1985, presents our comprehensive analysis of the Metro Waste Reduction Program. The Schnitzer Steel Products Company and Ebasco Services Incorporated desire to become a participant in the comprehensive Solid Waste Management Plan. Our participation, as described in the October 22, 1985 letter from Dr. Leonard Schnitzer to Mr. Rick Gustafson included in the enclosed document, is to process 350,000 tons per year of municipal solid waste in an environmentally safe mass burn solid waste energy recovery energy facility located in the industrial area of North Portland.

Our concern over Metro's Waste Reduction Program are:

- Metro's program does not demonstrate a commitment to waste reduction which can at least partially be implemented immediately. Although Reduction, Reuse and Recycling must be an ongoing process, these programs cannot provide a committed substantial reduction as requested by SB 662.

- The only commercially proven technique for reducing waste quantity is through the combustion process. However, the Alternative Technology program presented by Metro, which includes energy recovery, has a work plan schedule that is not compatible with the solid waste disposal emergency situation that exists in the Portland Metropolitan area. The basic flaws are:

    - A typical schedule for the environmental permitting, design, financing, construction and start up of a solid waste recovery facility is 36 months after waste flow agreements are reached. Metro's schedule which calls for contract award in

1988 would result in a plant start up in late 1991 or early 1992. This is far from an immediate implementation plan and does not consider the effect on landfill siting or closure of St. John's Landfill.

- One of the key items in development of an energy recovery facility that keeps disposal costs down is the availability of Industrial Revenue Bonds. New Tax Law changes would eliminate this financing after December 31, 1986. If Metro's intent, as stated in the plan, is to only supply waste to an Alternative Technology vendor, Metro should begin negotiations immediately with energy recovery suppliers who have acceptable sites so that financing can be completed in 1986.

o Metro's plan does not address the avoided cost of disposal as required by Oregon Law. Our calculations, based upon previous studies performed by Metro, for the total avoided cost of disposal indicate that disposal fee in excess of $40 per ton is appropriate. This level of fee would provide the kind of incentives to industrial and private waste generators to maximize their reduction, reuse and recycling efforts. Therefore, programs such as material recovery and certification could be eliminated from the plan.

Thank you for the opportunity of presenting our comments on Metro's Waste Reduction Program. We look forward to working with Metro and EQC in developing a fully integrated comprehensive plan that will result in a long term solution to the solid waste dilemma in the Portland Metropolitan community. Please contact me if you have any questions.

Very truly yours,

Michael P. Bick
Regional Manager

MPB:lfp

enclosure

TESTIMONY BEFORE METRO COUNCIL
DECEMBER 5, 1985

PURPOSE

The Testimony that the Schnitzer Steel Products Company (Schnitzer) and Ebasco Services Incorporated (Ebasco) have prepared in response to the November 1985 Draft Waste Reduction Program is to assist the Metro Council in adopting a plan which presents effective and appropriate methods for reducing dependence on land disposal sites for disposal of solid wastes; which will substantially reduce the amount of solid waste which must be disposed of in land disposal sites; which can be implemented immediately; and which is legally, technically, and economically feasible under current conditions.

INTRODUCTION

Schnitzer has been a long-time member of the Portland community as a resident, businessman, and recycler, and recognizes the existence of a solid waste disposal problem in the Portland metropolitan area. We are the largest recycler in Oregon. In 1984 alone, our operation resulted in the recycling of over 100,000 tons of both ferrous and nonferrous metals. Schnitzer is a strong proponent of recycling and has been since the early 1900s when their recycling company was started in Portland. We fully support the legislation in ORS 459 and SB 405 which recognizes that:

- Recycling must be a way of life requiring a commitment by every waste generator; and

- Recycling is not just materials recovery, but must be a closed loop system. That is, a market must exist for the product.

The Testimony which follows is intended to show the Metro Council that incorporation of our proposal -- a mass burn solid waste-to-energy recovery facility to process 350,000 tons per year of nonrecyclable waste -- into the solid waste reduction program will provide a positive response to the requirements of recently enacted SB 662.

DEFINITION OF TERMS

The Metro draft program contains certain definitions of terms that we believe might be interpreted differently than Oregon State Law definition.

1. Metro defines "Resource Recovery" as "Any method which recovers material or energy resources from the waste stream and thereby reduces volume."

   ORS 459 defines "Resource Recovery" as "The process of obtaining useful material or energy resources from solid waste, and includes:

   a. 'Energy Recovery,' which means recovery in which all or a part of the solid waste materials are processed to utilize the heat content, or other forms of energy, of or from the material.

   b. 'Material Recovery,' which means any process of obtaining from solid waste, by segregation or otherwise, materials which still have useful physical or chemical properties after serving a specific purpose and can, therefore, be reused or recycled for the same or other purpose.

   c. 'Recycling,' which means any process by which solid waste materials are transformed into new products in such a manner that the original products may lose their identity.

d. 'Reuse,' which means the return of a commodity into the economic stream for use in the same kind of application as before without change in its identity."

2. Metro defines "Energy Recovery" as "Any method which recovers an energy source (electricity, steam, solid or liquid fuel) from the waste stream.

   The definition given in ORS 459, as shown above, specifically says energy recovery means a process which will "utilize the heat content" of the waste.

3. Metro defines "Alternative Technology" as "A method utilizing technology for the processing of waste and then recovery of materials or energy."

   Nowhere in Oregon State law is the term "Alternative Technology" used. In fact, Oregon State law says, "After consideration of technical and economic feasibility, establish priority in methods of managing solid waste in Oregon as follows:

   a. First, to reduce the amount of solid waste generated;

   b. Second, to reuse material for the purpose it was originally intended;

   c. Third, to recycle material that cannot be reused;

   d. Fourth, to recover energy from solid waste that cannot be reused or recycled, so long as the energy recovery facility preserves the quality of air, water, and land resources; and

e. Fifth, to dispose of solid waste that cannot be reused, recycled, or from which energy cannot be recovered by landfilling or other methods approved by the department.

4. Nowhere does Metro define "Recyclable Material." However, State law defines "Recyclable Material" in both ORS 459 and SB 405 as "any material or group of materials that can be collected and sold for recycling at a net cost equal or less than the cost of collection and disposal of the same material."

SOLID WASTE REDUCTION PROGRAM - SENATE BILL (SB) 662

1. The SB 662 Section 8 requires that the waste reduction program provides for:

   a. A commitment by Metro to substantially reduce the volume of solid waste that would otherwise be disposed of in land disposal sites through techniques including, but not limited to, rate structures, source reduction, recycling, reuse, and resource recovery;

   b. A timetable for implementing each portion of the solid waste reduction program;

   c. Energy efficient, cost effective approaches for solid waste reduction that are legally, technically, and economically feasible and that carry out the public policy described in ORS 459.015; and

   d. Procedures commensurate with the type and volume of solid waste generated within the district.

2. The draft program provided by Metro states that "Program Characteristics" have a basis of obtaining "maximum feasible" reduction of waste which must be landfilled. SB 662 requires a commitment to a substantial reduction.

3. The Metro draft program has stated that "Materials Recovery (by Metro definition, Recycling) alone cannot reduce a substantial majority of waste." Yet the program basis is maximum feasible reduction through recycling primarily. As stated previously, we are strong supporters of recycling. We believe that recycling must be a continued process and should be the primary goal of a SOLID WASTE MANAGEMENT PLAN, not a reduction plan.

4. On Page 14 of the draft plan, the Alternative Technology Implementation Features specifies an order of preference for technologies as being materials recovery, displacement of fossil fuels, and then the generation of electricity.

   We recognize that recycling is a higher priority to energy recovery. Our concern is that Metro has prioritized energy recovery. We see no mandate from the state legislature in this regard. The method of energy recovery has no basis in fact for a preference. If anything, the requirements set forth in S.B. 662 clearly state that the program must be legally, technically, and economically feasible under current conditions.

   Further, we believe no fuel production facilities other than prepared fuel are technically or economically feasible under current conditions. The production of methanol from waste surely cannot be considered anything but developmental. The preparation of RDF could be considered out of line with the requirements of the legislature for several reasons:

A. RDF plants, by their very nature, require substantial use of energy and a high degree of cellulose in the waste stream. Testimony from the July, 1985 Resource Recovery Symposium clearly states that the fuel value of RDF is tied to its consistent heat content. This consistency is only possible with a high degree of commercial and industrial waste in the RDF feed stock. The current "High Grading" operation being practiced by Genstar would severely limit the capability to make fuel grade RDF. In fact, in order to maintain a sufficient amount of cellulose, recycling operations might be required to be limited in scope, which is not in keeping with the "Opportunity to Recycle."

B. RDF plants need to be evaluated on an equal end use basis. The current framework that Metro is considering for the preparation of fuel is burning in existing boilers. There are no boilers to our knowledge in the Greater Portland area that have the pollution control systems for acid gas removal and particulate that are required by Oregon DEQ for a waste-to-energy facility. A comparison of RDF preparation must consider the full cost of disposal, including the environmental impact.

C. The cost of construction of an RDF plant would likely require Metro to enter into the business and assume the risk of operation of a complex facility. A private company cannot finance a project of this type without guarantees for:

i. Fuel customer for the duration of financing
ii. Floor price for the RDF
iii. Guarantee of waste supply and heat content

Because of the weakness in the market, items i and ii are not likely available and the cost of an RDF preparation plant would need to be borne by Metro as a general obligation. Current industry estimates for a capital cost of RDF preparation only plant are $25 million. That is equal to $33 million in 1990.

5. The current plan does not address the avoided cost of disposal as required by Oregon law. The disposal costs can expected to increase substantially for the following reasons:

   - o Changes to environmental regulations which may mandate double-lined sanitary landfilling in the future.
   - o Final closure requirements may require capping the site with low permeability soil materials of three feet or greater to meet future environmental regulations.
   - o Transfer station and long haul transport of solid waste 25 to 50 miles on way to disposal.
   - o Uncertain new sanitary landfill location and only order of magnitude cost estimates.
   - o Increased unit costs of disposal based on decreased tonnage throughput to sanitary landfill disposal due to waste reduction, reuse, recycle, and waste to energy.
   - o Inflation of project costs due to future implementation date and potential unforeseen delays.
   - o Variable interest rates on the money borrowed to implement various solid waste management system projects.

In 1990, sanitary landfilling costs will likely be double or triple today's costs. The landfill cost is only one component of determining a total avoided cost of future disposal. A true avoided cost, as required by Oregon law, would likely include the following cost estimates.

- o An annual capital cost recovery component for a new sanitary landfill, sited for purposes of avoided cost estimation;

- o An annual capital cost recovery component for a central transfer station, sited for purposes of avoided cost estimation;

- o An operating cost estimate of the following solid waste management system components:

    - Collection Haul
    - Transfer Station and Long Haul
    - Sanitary Landfilling

An order of magnitude estimate of total avoided cost would be $44.75/ton (1990 dollars) based on Alternative 3 in the R.W. Beck Study 1982 prepared for Metro and escalated at five percent per year. A more accurate total avoided cost estimate could be made based on a rate analysis of collection route end to landfill disposal for the total waste stream.

This total avoided cost estimate for the total waste stream could provide the incentive rate structure, not currently in existence, to encourage recycling of commercial and residential wastes as suggested in SB 662. Use of a mass burn solid waste-to-energy facility avoids some significant costs of disposal due to the volume reduction benefits to the solid waste management system.

6. The current Metro plan does not address the emergency situation in existence with the closure of St. Johns Landfill in 1989. The development of alternative disposal techniques, such as waste-to-energy projects, requires a significant investment in time and resources. The typical permit requirements found on a waste-to-energy project are shown on the attached time line schedule of permits. This shows a 14-month period for the permitting process. Because of the costs associated with this work, the bulk of this work is not undertaken until after an agreement is reached with Metro. In addition, once all permits are in place and project financing is arranged, the construction period for these facilities range from 30-36 months. Allowing for overlap, an approximate schedule would be the following:

	Task	Time
a.	Commence negotiation for waste-to-energy project	NOW
b.	Commence energy sales negotiations	March 1986
c.	Commence detailed environmental program	March 1986
d.	Complete waste flow and energy sales agreement	July 1986
e.	Obtain all permits	November 1986
f.	Complete financing	December 1986
g.	Complete construction	December 1989

Without a greater commitment on the part of Metro, the reduction of solid waste, as required by SB 662, cannot take place in a timely manner.

7. A mass burn power plant is completely compatible with commercial and industrial recycling operations as well as recovery of recyclable materials from the waste stream as identified by ORS 459.

   Because mass burn facilities will utilize the heat content of the residential waste stream, there is no need to require that high graded office paper, newspaper, corrugated cardboard, or kraft paper be in the waste stream to the facility. The removal of these materials will not effect the heat content of the waste beyond what can be mass burned in an efficient manner. Further, since the recovery of scrap metal is the main product line of Schnitzer, all large bulky steel goods will be sorted out of the waste stream on the front end of the waste-to-energy facility by the crane operator. Other recyclable material, such as tin cans and container glass, will be sorted out of the ash stream, based on the economics of the operation.

   Current Metro estimates are that 96 percent of the aluminum containers in MSD area are already being recycled. With added incentives, used motor oil can be brought back into the reuse stream. In the event it is not economic to do so, it can be burned in an environmentally acceptable manner in a mass burn waste-to-energy facility as the last resort.

8. In the public opinion survey of the community, the people said they "did not want to pay others for material recovery." We believe this is also true for a centralized processing plant.

SCHNITZER PROPOSAL AND SOLID WASTE REDUCTION

As specifically described in the attached letter from Dr. Leonard Schnitzer to Mr. Rick Gustafson, our proposal will provide a substantial reduction in the volume of waste that will be landfilled. Metro estimates that the total quantity of waste generated in the

Portland metropolitan area approaches one million tons annually. Earlier studies by Metro have indicated that already almost 22 percent of the waste generated is not landfilled, but recycled or reused, and recent testimony would indicate that this number may be higher today, already a substantial amount.

Our proposal is to process 350,000 tons of waste annually in a mass burn solid waste energy recovery facility. The facility is designed to reduce the volume of incoming waste by 90 percent to 95 percent. Therefore, approximately 1/3 of the total waste generated in the Portland Metropolitan area would be removed from the waste stream which is landfilled. Surely this is a committed substantial reduction.

Further, the facility complies with Oregon law by utilizing the heat content of the waste to produce usable steam and electric energy. We have enclosed letters from Portland General Electric and Palmco which demonstrate the available market for this energy product. The facility will not be a disincentive to recycling. In fact, we have proposed to support increased recycling efforts with energy sales revenues. And, as stated previously, any recyclable materials will be recovered.

The timetable for completing the project at or about the time a "new" landfill will be sited requires an immediate commitment by Metro to supply the facility 350,000 tons per year of nonrecyclable solid waste. This is the kind of commitment we believe SB 662 has requested of Metro. With this waste flow commitment, operation can commence in approximately 3-1/2 years. This time frame is required in order to obtain all the necessary permits and financing arrangements for the facility, plus final design and construction. Operation would be for at least a 20-year period.

The facility will be energy efficient and provide a cost effective way to reduce the flow of solid waste to landfills over the life of the

project. Most importantly, the facility will meet the Oregon Department of Environmental Qualities strict regulations concerning the quality of air, water, and land resources.

The facility is compatible with other programs Metro proposes, such as high grade waste recycling, composting, and new developing technology yet provides flexibility to a balanced "Solid Waste Management Plan" that includes waste reduction programs as specified in SB 662.

Attached to this testimony are some basic fact sheets and plant drawings and sketches which more clearly define the facility we propose to be included as an integral part of Metro's Waste Reduction Program.

We have spent a lot of time discussing the solid waste flow in the Portland Metropolitan area with Metro staff over the last year. These discussions included type, quantity, and location of waste-generated, transfer station plans and recycling in progress and planned. These discussions, coupled with our own knowledge of the Portland community, has resulted in the site selection and size of plant being proposed.

We have asked public and government leaders, who participated in a recent Metro survey, their opinions concerning our proposal, and have received an overwhelming positive response. In fact, we have been advised that the Executive Board of the Northwest Oregon Labor Council fully endorses our project.

SUMMARY

We fully expect Metro to accept our proposal and begin negotiations with us for the disposal of solid waste at our facility for the following reasons:

- Technologically Feasible - The mass burn technology has proven operating experience with over 300 installations in the United States, Europe, and Japan.

- Economically Feasible - The cost for disposal, although initially more than landfill, can over time be less than disposal by landfill since revenue from energy sales reduces the impact of escalation of landfill cost and operation. Further, our facility can take the place of the 1,000 to 1,200 ton per day transfer station planned in North Portland area by Metro, therefore eliminating these capital and operating costs.

- Environmentally Safe - The plant design incorporates the best available technology for minimizing the impact on the environment and will meet the strict requirements of the Oregon Department of Environmental Quality. Compared with other activities as shown on the attached comparison chart, the facility is nonpolluting.

- Publicly Acceptable - As compared to a landfill or even a transfer station, our project would be a good neighbor. As can be seen in the attached artist's rendering, the plant looks like any modern commercial/industrial facility.

- Reduces Waste to Landfill - The design of the plant is such that incoming waste volume will be reduced by 90 to 95 percent and waste weight by 75 percent.

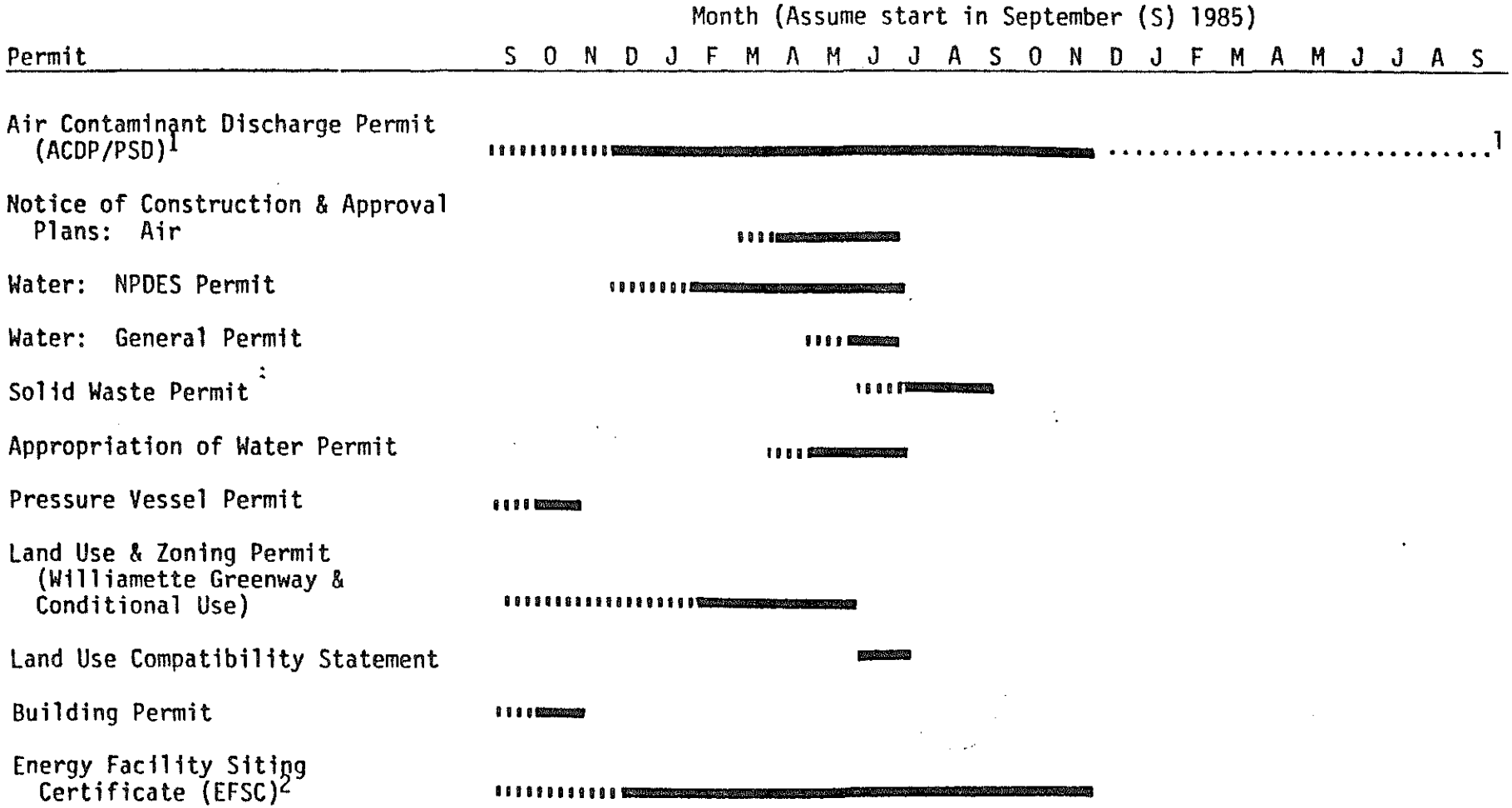
- Complements Reduction, Reuse, and Recycling - We support a Metro Solid Waste Management Plan which emphasizes a continuous program for reduction, reuse, and recycling. Our facility has been sized to be compatible with these goals and with the concept that new technology will continue to be developed for reducing, reusing, recycling and recovering usable products from the solid waste stream. The facility is also compatible with high grade recycling operations such as those proposed by Genstar.

- o Senate Bill 662 - Our proposal provides Metro with the flexibility to maximize programs that meet the ORS 459 and SB 405 reduce, reuse, and recycling issues, yet provide an immediate commitment to a substantial reduction in waste that must be disposed of in a landfill, as required in SB 662.

Thank you for providing us this opportunity to explain our proposal and how it fits into the solid waste reduction program portion of a Solid Waste Management Plan for the Portland Metropolitan community. We believe after you have received all the testimony today, you will be convinced that our Project should be included as an integral part of your solid waste management plan.

We have developed a slide presentation for informing the public about our facility, which we are prepared to present to you either today or at another forum that you may feel is more appropriate.

TIME LINE SCHEDULE OF PERMITS FOR THE RIVERGATE RESOURCE RECOVERY PROJECT



1. Applications for some facilities require 365 days of continuous ambient air monitoring; however, this requirement is not anticipated for this project.

2. EFSC is not required unless the facility capacity is enlarged to either a 50 MW "energy recovery energy facility" or a 25 MW biomass power plant.

Legend: ▪▪▪▪▪▪▪▪ Preparation Time ▬▬▬ Agency Review Time

COLUMBIA GROUP

Comment on Waste Reduction Program

Page 24 #4- Alternatives Technologies should include ethanol. Please note on page 23, Program Strategy, that ethanol is included. Thus, it should also be included at #4.

Page 25 #11- Should be moved up to 3/86 so that it is consistent with Program Strategy. If successful, developmental technology may save the public considerable dollars.

The sections on recycling, post-collection recycling and education are very good.

Submitted by,

Judy Dehen

Executive Committee

SIERRA CLUB
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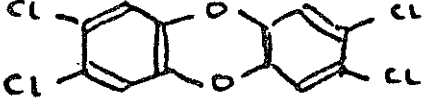
P. Connett



Sierra Club

DIOXIN UPDATE: A REPORT FROM GERMANY

During the period September 16-19, 1985, just over 500 people gathered in Bayreuth, West Germany, to attend the Fifth International Symposium on dioxin. Some 140 papers were presented at the symposium, along with another 60 poster sessions, so it will be impossible here to do justice to the broad range of material presented. Below I summarize some of the key points, especially those which pertain to our concerns about the dioxins and furans which may be generated by refuse incinerators.

HUMAN TOXICOLOGICAL DATA

While it is clear that many of the 210 dioxins and furans are highly toxic and cause cancer in animals, particularly those that contain chlorine in the 2,3,7, and 8 positions on the molecule (the so called "dirty dozen"), the impact of these substances on humans is far from clear. However, two pieces of concrete information emerged from the symposium which will assist in the extrapolation from animal studies.

Firstly, it is known that the primary event which ensues when the dioxins or furans enter animal cells, is that they bind with a protein which is called the Ah receptor. This dioxin-protein complex then enters the nucleus of the cell triggering off events which lead to toxicity and carcinogenicity. It is now known that this Ah receptor is present in human tissues, so at least we know that humans will also be launched on the first step of this process. Moreover, the levels of this receptor varies from person to person, which means that we are probably going to need to study the impact of dioxin on far more people, than has been done to date in various epidemiological studies, before we can gauge its full impact on human health.

Secondly, by virtue of an extraordinary experiment we now know the half life of the 2,3,7,8 dioxin in human tissue. A Swiss scientist, Dr. H. Poiger, actually ate 104 nanograms (1 nanogram is 1 billionth of a gram, 1 gram is 1/454 of a lb.) of this dioxin and followed its dissappearance from his tissues. From this rather foolhardy experiment we know that the half-life (the time it takes for half the dioxin ingested to disappear from the body) of dioxin in human tissue is about 5 years. This is an extremely significant result because it is some 80 times longer than that in the rat and other animal species. According to another Swiss scientist, Dr. Schlatter, this means that humans require 80 times less dioxin to reach the same tissue concentrations in animals. Thus when we are extrapolating from animal data (as most health risk analyses do) we have to reduce by a factor of 80 the level of dioxin intake which may result in comparable damage to human health.

DIOXIN TISSUE LEVELS IN THE GENERAL POPULATION

Reports presented from several different states and countries (Missouri, Georgia, Utah, N.Y., Canada, Germany, and Japan) confirm the "high" background levels of dioxins and furans in the fatty tissues of the general population, first reported by Dr. Christopher Rappe from Sweden. According to Dr. Schlatter, who analyzed that data from different parts of the world, the average concentration in human fatty tissue is about 22 parts per trillion of 2,3,7,8 TCDD toxic equivalents (this unit involves scaling all the different dioxin and furan family

members on a toxicity scale relative to the most toxic isomer: 2,3,7,8 TCDD). This level is 1/80 of the level which is associated with the first symptoms of dioxin damage in animals (i.e., 1700 parts per trillion). This means that the general population is already into the usual safety margin established for highly toxic materials like dioxin: not a comforting thought. However, even more disturbing is the fact that the human milk levels, reported by Rappe, and confirmed in other countries, means that the nursing infant will greatly exceed the so called "allowable daily intake" prescribed by certain countries. At this point, no one is prepared to say what the ramifications might be for turning on the Ah receptor and the ensuing biochemistry, in the first year of a child's life.

While, it was not openly stated in public, behind the scenes some government agency officials are clearly worried about the implications of these findings. There is a reluctance to make a big issue of it, because they do not want the responsibility of telling mothers not to breast-feed their children, since this might lead to an even greater threat to the infant's health. As is often the case, the overt expression of such suppressed concern, is the call for more studies to ascertain the full dimension of the problem. This was the position taken by a WHO spokesman from Denmark.

HUMAN EPIDEMIOLOGICAL STUDIES

In considering the human health impact of very toxic substances like the dioxins and furans there are essentially two approaches. Firstly, there is the one we have already described, namely that of extrapolating from animal data. The second approach, is to study the effects of the health of people who have been exposed to the material in the industrial situation or those exposed to it during accidents, such as that which occurred in Seveso, Italy, in 1976. Clearly, both approaches have problems. In the case of the animal studies, we cannot be certain that humans will respond in the same way as animals. In the epidemiological studies, we usually don't know the doses involved nor the other materials to which people have been exposed. Moreover, the number of people exposed is usually too small to reach very meaningful statistical conclusions. There is another problem with epidemiological studies with dioxin: usually the studies are carried out by chemical companies such as Dow, Monsanto, BASF, etc., who have a clear invested interest in the outcome of the studies. It is against this backdrop that I will report on one of the most heated moments of the whole symposium. There was an accident in the Monsanto plant, in Nitro, West Virginia, in 1949, which was making a chemical known to contain dioxin as an unwanted contaminant. The exposed workers have been studied several times, and the conclusion of these studies is that there is no increased death in these workers from heart disease or cancer above that of a control group. At the symposium, Dr. Ellen Silbergeld, the chief toxicologist for the Environmental Defense Fund in Washington presented a paper in which she re-analyzed the data from the plant. Silbergeld maintains that if you include workers who were chronically exposed to dioxin (via handling the chemical on a routine basis, etc.) as well as those acutely exposed in the accident, you do find an excess death rate from cancer and heart disease over the control group. In a heated reply, Dr. Suskind, a toxicologist who has worked for Monsanto for over 40 years, and who was flown in especially to counter Silbergeld's claims (he was not included on the original agenda) maintained that you cannot mix your chronically exposed cohort with your acutely exposed cohort in this fashion.

In addition to the possibility that industrial interests are interferring with science, it is with the human epidemiological data that one becomes acutely aware that political pressures are very much in action. The key opening speaker at the conference was Alvin Young, a former U.S. Air Force scientist, who now works for the White House. He maintains, very vociferously, that there is no human health threat from dioxin, that there are no long-term health effects from the U.S. Air Force massive use of Agent Orange (known to be contaminated with dioxin) on the jungles of Vietnam, on either the Vietnam population or the Vietnam Vets. He goes further and insists that too much effort and too much money are being spent on pursuing dioxin research. It was Young who announced that in the future the research efforts of many of the countries represented at the conference are going to be organized under a NATO umbrella, so as to "avoid unnecessary duplication of effort."

MUNICIPAL WASTE INCINERATORS

The Danish EPA report that the major source of dioxins and furans entering the Danish environment comes from municipal incinerators, and the finding that in Switzerland that cows grazing near incinerators contain five times more dioxin than cows that don't, put a special focus on the strategies being used to minimize such emissions. The conference produced two pieces of striking information on this matter.

Firstly, Dr. Stieglitz, described a German study which provided striking confirmation for the notion (proposed amongst others by Dr. Barry Commoner) that the dioxins and furans are formed after the combustion chamber. The experiment was simple and elegant. They simply took some fly ash collected from the electrostatic precipitator of an incinerator, and heated it up to a series of different temperatures. They found that up to 200°C there was little change in dioxin and furan concentration. At 300°C however they found that the dioxin and furan concentration increased by ten times the original amount. As there was no other source for the new dioxins and furans, they concluded that precursors for dioxin formation must also be present on the fly ash, and that once the temperature reached about 300°C they react together to form new dioxins and furans. They further concluded that the dioxins and furans are probably formed in the heat exchanger (i.e., the boiler) or the electrostatic precipitator, i.e., after the fly ash has escaped from the combustion chamber.

The significance of this result is that it seriously undermines the "accepted wisdom" of incinerator operators and designers, who have maintained that dioxins and furans could be destroyed by simply modifying the operating conditions, and in particular running the incinerator combustion chamber at a temperature which exceeded that needed to destroy dioxin in laboratory experiments. This contention is difficult to maintain, if the dioxins and furans are formed after the cumbustion chamber.

Two further studies amplified this point. A Canadian study of the refuse incinerator on Prince Edward Island found that more dioxins emerged from the heat exchanger than entered it from the combustion chamber. And a recent Belgian study of two of their modern incinerators found that there was no correlation between the dioxin and furan emissions and the temperature of the cumbustion chamber.

The second piece of striking information on incinerators was a study from a Danish company called NIRO. They have developed a dry acid scrubber/baghouse filter system which in two test runs removes most of the dioxins and furans from the emissions. A key question remains whether this system produces the same impressive dioxin removal in the day-to-day operation of a municipal incinerator, and whether municipalities will go to the extra expense to fit them into their plants.

SWEDISH MORATORIUM

At the end of this conference Mr. Aslander of the Swedish EPA confirmed that the Swedish government has imposed a one-year moratorium on granting of permits for the building of new municipal waste incinerators while they study the problem of dioxin and other hazardous emissions. They don't expect the moratorium to be lifted before mid-summer of 1986.

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Oct. 16, 1985

REFUSE INCINERATOR

STACK EMISSIONS : DIOXINS AND FURANS

(ng/m³)

Ref.	Dioxins 4D	5D	6D	7D	8D	Furans 4F	5F	6F	7F	8F	TOTAL
ITALY #1 [a]	21	31	190	161	72	–	–	–	–		535
#2 [a]	189	279	38,635	1,403	8,691	184	–	–	–	7,273	56,454
#3 [a]	19	40	6,549	13	778	432	–	–	–	1,010	8,952
#4 [a]	71	36	1,391	170	2,742	1818	–	–	–	1,760	7,987
#5 [a]	10	23	524	56	417	380	–	–	–	92	1,503
#6 [a]	19	11	480	6	72	27	–	–	–	24	639
ITALY #7 [b]	128	–	366	286	126	309	250	314	215	124	2,316
USA #1 [c]	7	–	17	8	3	97	–	67	8	1	208
USA #2 [d]											14,800.
USA #3 [e]	380	530	850	2,000	490	2,600	1,600	1,800	2,200	170	12,600.
HOLLAND (25) [f]	100	800	1,370	1,370	310	460	960	1600	1130	140	8,240.
HOLLAND 26 [g]	130	730	1,130	1,390	780	280	600	1,200	1,260	300	7,800.
HOLLAND 27 [g]	57	244	440	347	452	161	272	528	293	68	2,862
SWITZ. #1 [j]	4	11	25	24	49	22	27	19	12	8	211
SWEDEN #1 [i]	–	–	5	3	20						38
	–	–	100	800	1,000						1,900
	–	–	40	30	300						370
SWEDEN #2 [k]	23	–	–	32	18	328	54	60	28	12	555
CANADA #1 [l]	56	76	376	414	87	220	168	344	227	59	2,029
#2 [l]	4,607	2,517	462	316	67	14,356	6,860	99	37	38	29,358
[m]	700	650	630	280	210	2,350	2,070	970	190	60	8,090.
JAPAN [n]	54	55	33	9	4	239	87	21	6	3	510.
[n]	140	67	46	20	6	2127	594	89	19	4	3,108
GERMANY [n]	6				11	37				2	56
U.S.A. #4 [n]	14	97	53	71	10	3	21	4	1	2	306
CANADA #3 [o]	–	4	10	11	27		50	118	138	324	680
DENMARK [p]	2	3	7	14	12	31	24	29	54	8	224
[p]	16	29	54	184	46	270	190	600	280	60	1,729
[p]	2	5	14	83	64	110	40	40	100	20	483

REFERENCES FOR DIOXIN AND FURAN EMISSIONS FROM MUNICIPAL INCINERATORS (see over).

a) Cavallaro, A. et al Chemosphere 11. 859-868 (1982).

b) Gizzi, F. et al Chemosphere 11, 577-583 (1982).

c) Redford, D.P. et al presented at "The International Symposium on Chlorinated Dioxins and Related Compounds" , Arlington, VA. Oct 25-29 1981.

d) Midwest Research Institute (US EPA sponsored)test of the Hampton, Virginia plant. Figures reported in an internal memo in the N.Y. DEC dated Nov 29 1983.

e) Tiernan, T.O. et al Environmental Health Perspectives 59, 145-158 (1985).

f) Lustenhouwer, J.W.A. et al Chemosphere 9:9 (1980) . Average reading from 60 analyses of 25 incinerators.

g) Hutzinger,O. et al Chemosphere 10:1 (1981)

h) Olie, K et al in"Chlorinated Dioxins and Related Compounds. Impact on the Environment Hutzinger,O. and Safe,S.(eds) pp. 227-244, Pergamon, 1982.

i) Ahling,B. and Lindskog, A. ibid. pp. 215-226. Three measurements on the same incinerator at different combustion temperature ranges.

j) Swiss Federal Office for Environmental Protection(1982). Environmental Pollution Caused by Dioxins and Furans from Communal Refuse Incinerator Plants, Bern, Switzerland.

k) Measurements from Eskjo, Sweden, quoted in Fred C. Hart Assoc. ,"Assessment of Potential Public Health Impcats Associated with Predicted Emissions of Dioxins and Furans from the Brooklyn Navy Yard Resource Recovery Facility" , Aug 17 1984.

l) Ozvacic,V.M., Witness Statement of Head, Source Measurement Unit, Air Resources Branch Ministry of the Environment, Toronto, Ontario, dated January 11, 1983.

m) Ozvacic, V.M. et al Determination of Dioxins and Related Compounds in Air Emissions and Other Process Streams at SWARU in Hamilton, Ontario, Canada Ministry of the Environment, (Report # ARB-02-84-ETRD), 1984, pgs. 16,23,76.

n) Quoted in the Konheim and Ketcham "Evaluation of the Risk of Dioxins and Furans from the Proposed Brooklyn Navy Yard Resource Recovery Facility" , March 1985. No reference are given for these figures.

o) A Ministry of the Environment (Canada) study quoted in "A Burning Question: Air Emissions from Municipal Incinerators", Joanna Kidd , 1984.

p) Danish EPA study, Dec 1984.

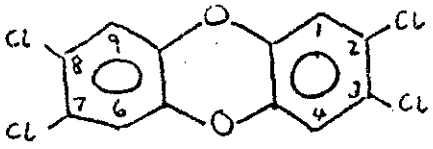
Current News Service

MSW Incinerators, Dioxin and the Hasselriis Affair

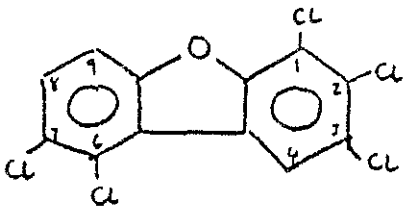
INTRODUCTION: WHAT IS DIOXIN?

There are many pollutants which are emitted from the stacks of MSW incinerators but the one that has generated the most concern worldwide is dioxin. Just recently the Swedish government has imposed a one-year moratorium on the building of MSW incinerators while they do more research on dioxin because they have discovered dioxin in cow's milk[1]. Cows are grazing within a hundred yards of the proposed incinerator site in Ogdensburg!

Dioxin (2,3,7,8 tetrachloro dibenzo-p-dioxin) is one of the most toxic substances ever made by man. There is a whole family of such compounds which vary only by the number and position of the chlorine atoms in the structure. These different arrangements are called isomers. They are all toxic, but 2,3,7,8 tetra chloro isomer is the most toxic and the most studied of the group[2]. There is also another family of closely related compounds called furans. They differ by just one oxygen atom. Furans are also very toxic. In all there are 210 different substances which come under the combined heading "dioxins and furans." They are also very persistent substances and once released into the environment, especially if they combined with particulate matter, they will hang around for many years.



Dioxin = 2,3,7,8 tetrachloro dibenzo-p-dioxin



1,2,3,6,7 pentachloro dibenzofuran.

THE LONG-TERM HEALTH EFFECTS POSED BY LOW LEVELS OF DIOXIN

It is not the acute toxicity of either the furans or the dioxins which is of concern with respect to MSW incinerator emmissions, but their long-term health effects. To varying degrees, members of the dioxin and furan families are thought to cause birth defects and promote cancer[3]. To appreciate their cancer threat it is important to understand the mechanism of their biochemical activity. The dioxins and furans are known to stimulate the production of the enzyme called cytochrome p448[3]. Cytochrome p448 has the ability to convert polyaromatic hydrocarbons, and related substances, into active carcinogens. Thus it is not what dioxin does, but what it forces other substances (eg the polyaromatics) to do, which is the basis for concern about its long-term health effects. Put another way, dioxins and furans are not thought to react directly with DNA, neither do polyaromatics in the form to which we are exposed, but the result of the dioxin interaction with our tissues produces a form of the polyaromatics which does interact with DNA. With this in mind we can begin to appreciate the problems posed by even very small levels of the dioxins and furans emitted from MSW incinerators. There are four very strong reasons to be very cautious about accepting so called "safe levels" of dioxin and furan emissions.

1)It is found that the very small fly ash particles emitted from MSW incinerators (the ones that *no* control device can stop because they are so small) are not only the ones that can enter the lungs, not only the ones that contain the highest concentrations of dioxins and furans, but they also frequently contain polyaromatic hydrocarbons[4]. Thus people will be exposed to both components of the cancer-causing system together.

2) The polyaromatics are produced whenever organic material such as wood, paper, coal, etc. are incompletely burned. In an area in which there is a lot of wood burned (like the North Country), one can expect a higher-than-average concentration of polyaromatics in the air, and consequently in the lung tissues as well.

3) Animal studies[1] which have been used to establish the *no effect level* for dioxin, were performed using dioxin alone. The tests were not performed in the presence of the polyaromatic hydrocarbons. Nor were the tests performed with the fly ash particles from MSW incinerators. Clearly, far more scientific work has to be done before we say with confidence what level of dioxin poses no long-term health threat.

4) In the EPA calculations only exposure via breathing was considered. Clearly, the Swedish concern about dioxin getting into cow's milk would suggest that we have to consider other routes by which dioxin might effect human health over the long haul. This is especially so since dioxin is a very persistent chemical, so that its concentrations in town and city dust may increase steadily with the years.

Another aspect of the dioxin emission problem is also causing concern. Even when the dioxin is caught on particles large enough to be captured in the ESP devices, you still have the problem of what to do with that toxic ash. Not only will this ash contain some dioxins and furans, but it will also contain heavy metals and polyaromatic hydrocarbons plus many other toxic materials. In some places in Europe, they are required to analyze this ash prior to disposal. If they find that it contains unacceptable levels of dioxins, heavy metals or polyaromatics, then the ash is placed into steel cylinders and handled in a hazardous waste facility. Such an operation is very expensive and would seriously undermine the economics of MSW incineration. The current proposal for St. Lawrence County, is much more blasé about the hazards posed by this toxic ash. They plan to mix it with the ash from the grate and put it into a landfill in Lisbon. This is a highly questionable way of handling this kind of material, and is just one of the problems the county may live to regret ever getting into, if in years to come they are required to dig up the waste and ship it off to a hazardous waste facility.

ST. LAWRENCE COUNTY PLANNERS WERE NOT AWARE OF THE DIOXIN ISSUE UNTIL AFTER THEIR INCINERATOR IDEA WAS BORN

Based upon the information contained in their 1980 Solid Waste Report, St. Lawrence County planners were not aware of the dioxin problem when they put forward an MSW incinerator as the key plank in their solid waste program. Air emission problems from the incinerator were treated very lightly and no mention of dioxin as a possible hazard was made[6]. This comes as no surprise, since unless one of the planners was a chemist or an engineer one would not have expected them to come across the reports in the scientific literature. What does come as a great surprise, however, is that when the initial solid waste scheme was analyzed by Battelle Laboratories, they didn't mention dioxin either[7]. Quite frankly, their omission is inexcusable. Their report was issued in 1981, some *four years* after the initial report on dioxin emissions from MSW incinerators appeared in the literature[8]. The least you should expect from an expensive consulting firm is that they should keep up-to-date with the relevent literature in their field. On what other basis do they give their advice and make their judgements? It might well turn out in the long years spent on developing the incineration plan since 1980, this was the fatal flaw. We might well now be paying the frustrating consequences for this 1981 "oversight." To make matters worse, the county is using this same firm (Battelle Laboratories, Columbus, Ohio) to analyze the dioxin emission problem of MSW incinerators for their Environmental Impact Statement. Has Battelle caught up with the literature? Will they make another crucial "oversight?"

HOW MUCH DIOXIN (ie TOTAL DIOXINS AND FURANS) ARE EMITTED FROM MSW INCINERATORS?

From what has already been said about the threats posed by dioxin, it is of the utmost importantce that we know just what levels the proposed incinerator is likely to emit. The Environmental Management Council is still awaiting the actual data. When in arrives it will have to be scrutinized very carefully. A very important question is whether this data is general – referring to all kinds of incinerators – or whether it is specific, relating to the specific model of incinerator to be used in Ogdensburg. Only the latter data should be acceptable. Other crucial questions: under what conditions were the data obtained? Were any data obtained during the start-up and shut-down? How did the emission data relate to how wet the waste was? What kind of day-to-day variation was observed? These kinds of questions have to be answered before one can assess the dangers posed by this incinerator from dioxin emissions.

Until we get this kind of data, we have to make do with the figures to which we have access. According to the California Air Resources Board Report of May 24, 1984[9], who reviewed all the known dioxin emission data from the MSW incinerators up until the time of their report, "It appears that the total PCDD and PCDF emissions (ie total dioxin and furan emissions) factors for refuse-burning facilities can range from .18 to 20.16 micrograms per megajoule." Using the calculation and conversion factors shown in the box, this range yields an *emission rate range of 7 ounces to 49 pounds per year,* for an incinerator buring 200 tons a day for 365 days a year.

Bearing in mind the frantic efforts going on around the country to mop up dioxins (eg Times Beach, Love Canal, Hyde Park, N.Y., etc.) it is hard to believe that anyone would be willing to put this amount of dioxin into the environment. This is especially so, since NONE OF THIS DIOXIN WAS PRESENT IN THE ORIGINAL GARBAGE. It is now believed that the dioxin is actually produced from raw garbage in the incinerator itself.

ATTEMPTS TO CONTROL OR ELIMINATE DIOXINS FROM MSW INCINERATORS: THE HASSELRIIS AFFAIR

Usually, the explanation given by proponents of MSW incineration for the levels of dioxin at the high end of the range is that they weren't being operated under proper conditions. This presupposes that there are conditions which can ensure that dioxin emissions can be satisfactorily controlled. To appreciate whether such controls are possible we need to discuss what is known about the mechanism of dioxin formation in MSW incinerators.

Back in 1977, Olie et al[8] first discovered that incinerators, the first thought was that the dioxins had come from small amounts of dioxin present in the original garbage itself. However, most scientists reject this notion and now favor the idea that dioxins are actually generated in the incinerator itself. The major debate at present is where, and how, in the incinerator the dioxin is formed.

Floyd Hasselriis, a combustion engineer and a key consultant to the DEC, believes that dioxin is formed in the combustion chamber. For Hasselriss, the problem of eliminating dioxin emissions, simply becomes one of maintaining good combustion efficiency and running the furnace at a temperature above that which dioxin is destroyed in the lab, ie 800 degrees Celsius[10].

Others, and Dr. Barry Commoner is a prominent spokesman for this group, believe that the dioxins and the furans are formed after material has left the combustion chamber. They believe that the dioxin is formed on small fly ash particles in the cooler parts of the incinerator, either in the ESPs (electrostatic precipitation devices) or in the chimney stack[11]. They suggest that the likely precursors for this dioxin formation are hydrogen chloride, obtained from the PVC and possibly salt, and aromatic ring compounds generated from the incomplete combustion of the lignin in wood or paper[11]. Some of the evidence which is consistent with this theory is as follows:

a) Olie et al[12] have shown that when you burn PVC or paper alone, negligible amounts of dioxin are formed but when you burn them together dioxins and furans are produced on a level comparable to that formed in incinerators.

b) Eiceman and Rghei[13] have shown that starting with a tetrachlorinated dioxin already absorbed to fly ash particles, they could add more chlorine atoms to it using hydrogen chloride. Thus the actual chlorination can take place on fly ash particles, and hydrogen chloride (known to be in abundant supply in MSW incinerators) is able to do the chlorination. The other significant finding in this experiment was that the process was a relatively cool one. The maximum chlorination occured at the relatively low temperature of 250 degrees Celsius, which is about the temperature you would expect in the ESP or chimney of an incinerator.

c) Commoner[11] analysed a considerable amount of data, obtained by the EPA, from the incinerator in West Hampton, Virginia. He found correlations between the various different isomers of dioxins and furans which are highly suggestive of a simple stepwise chlorination. While one can envisage stepwise chlorination occurring on fly ash particles, it is more difficult to see how this could take place via random collisions in the gaseous phase of the combustion chamber.

Clearly, determining which of these thesis is correct is of the utmost importance if operators of these MSW incinerators are to know how to eliminate dioxin emissions. If Hasselriis is correct, then they can destroy dioxins by ensuring good combustion efficiency is maintained and by running the furnace above 800 degrees Celsius. If Commoner is correct, it won't make any difference how high you run the combustion furnace temperature because the dioxin is formed after the precursors have left the combustion chamber. Commoner advocates separating the components in the garbage which generate hydrogen chloride (PVC) from those that generate the aromatic precursors (wood and paper) and burning them separately.

In order to determine which thesis is correct, the dioxin emission from different incinerators needs to be examined as a function of temperature. Commoner et al[11] have published a table of dioxin emission data for those incinerators for which the temperature was also recorded. There is no obvious relationship between the dioxin levels and the temperature recorded. Some of the low dioxin levels are recorded for low temperatures and vice versa. From the figures presented you cannot say that the higher the temperature at which the furnace is run that the more likely the dioxin emissions are minimized.

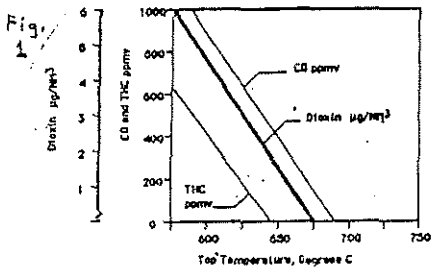
Hasselriis on the other hand has published graphs[14] which purport to show that the dioxin and furan levels decrease as the temperature recorded at the top of the furnace increases. These graphs are based upon data obtained from the SWARU plant in Hamilton, Ontario. The graphs are shown in figures 1 and 2.

At this point, the ordinary reader might declare a stalemate: one set of data says one thing, another says the opposite. However, there is an extremely troubling factor we have to throw into the picture. It would appear that Hasselriis fudged his graphs. If you compare the original [illegible] Hasselriis has [illegible] they

don't match up. Hasselriis's graphs look very clearcut, the original data is all over the place. When data is scattered like this, the usual thing that is done is to perform linear regression analysis to get the best straight line fit to the data (there is nothing magic about this process, the average high school student could do this using a good scientific calculator and a few minutes of instruction). Figure 4 shows the linear regression analysis lines for the dioxin and the furan data. We note that neither regression line matches Hasselriis's line. In the case of the furan data, it actually goes in the opposite direction, i.e. according to the data, there is an actual increase in furan emissions as the temperature is increased. In fact, Hasselriis's lines differ from the conclusions stated by the people who actually obtained the original data and published it[16].

This is an extremely serious matter. If a regular scientist did such a thing in a regular scientific journal, and was caught, he or she would most likely never get published again. Their careers would be ruined. But it is even more serious than that. Hasselriis is not just an ordinary scientist, he is a key consultant to the DEC and the DEC is currently reviewing the standards they wish to impose on MSW incinerator operators. Literally billions of dollars hang on this issue of whether MSW incinerators can operate without producing significant levels of furans. More importantly, the health of millions of people might be adversely effected if these dioxins are not eliminated from the emissions, because the wrong method is used.

Fig. 1



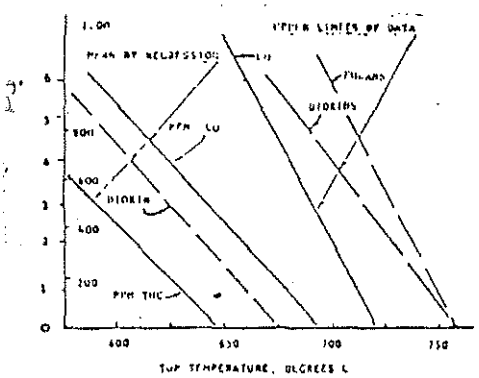
Correlation of Dioxins, CO and THC to Top Temperature
MEAN BY REGRESSION

Source: Hasselriis, Floyd. "Relationship Between Combustion Conditions and Emissions of Trace Pollutants." Paper presented before the New York State Air Pollution Association, May 2, 1984.

* Top Temperature - Measured at the top of the furnace

Important questions have to be asked about the Hasselriis affair. Why did Hasselriis draw the lines the way he did? Why hasn't he withdrawn these lines even though his erroneous treatment has been pointed out to him? (I personally saw Hasselriis confronted by Dr. Commoner on this matter a few weeks ago at a symposium held at Hofstra University and he didn't have any satisfactory explanation). Why does the DEC have this man in such a key advisory role? Does the DEC accept these graphs as legitimate?

Copies of these graphs are now in the hands of Henry Williams, Commissioner for the DEC, and other members of the DEC. Copies are also in the hands of Mary Veriaque of the St. Lawrence County Planning Board and also in the hands of members of the Environmental Management Council. I am eagerly awaiting some answers to the questions this affair raises. At the moment, the silence is deafening.

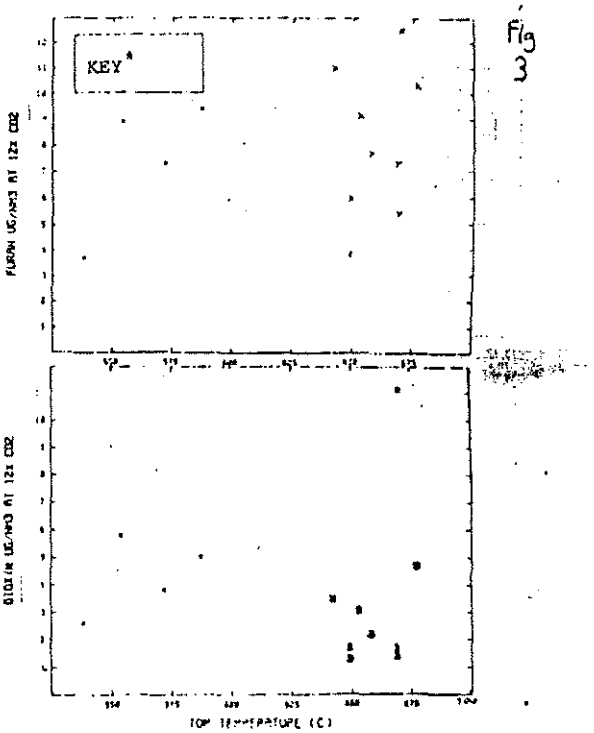


relation lines showing mean concentrations of CO, THC and total ...ing, and lines showing upper limits of data including furans ...ion tests, versus temperatures measured at top of

The Actual Data

FURAN AND DIOXIN CONCENTRATION vs. TOP TEMPERATURE

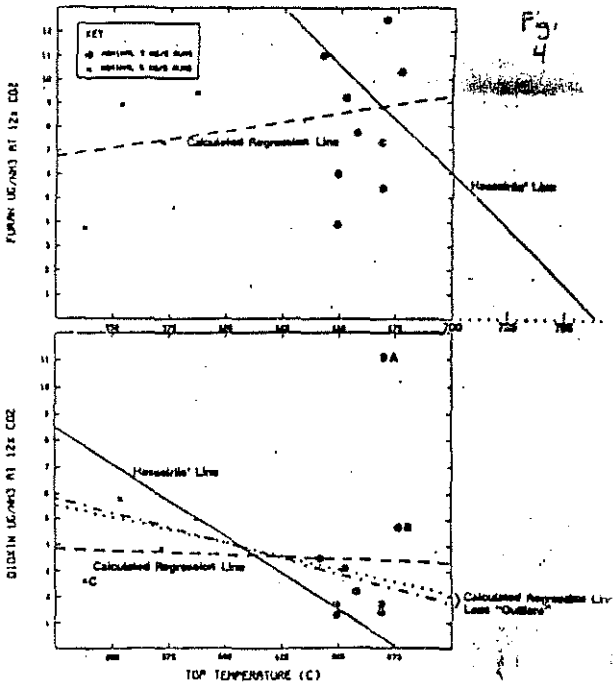
Fig 3



COMPARISON OF TEMPERATURE-EMISSION REGRESSION LINES COMPUTED FROM THE ACTUAL DATA, WITH HASSELRIIS' LINES

FIGURE 22 - FURAN AND DIOXIN CONCENTRATION vs. TOP TEMPERATURE

Fig 4



In this figure we have superimposed, on the original figure from page 70 in the SWARU report, two sets of lines: (a) The regression line for dioxin level vs. temperature shown in Hasselriis' Fig. 7 (see our Fig. B-11, and the line relating furans level to temperature, based on "upper limits of data," also from Hasselriis' Fig. 7. (b) Regression lines which we have computed from the actual SWARU data. In the case of dioxin, we have computed regression lines from the total data and from these data less two pairs of "outliers": points A and B, and points A and C.

January 16, 1986

I would like to refer to Introduction, Section A (Problem Statement), page 3; "It is the perception of the staff that:

> The cost of solid waste management must increase in order to carry out the new directives of state and federal law."

Again from the same section, page 2; *"Recent public opinion polls and opinion surveys indicate among other things that:

> Most of the public is willing to pay between one and five dollars (per month) more for an environmentally safe solid waste system.

A one dollar increase in residential rate would equate to approximately a $14 per ton increase in tip fees or total tip fees of in excess of $30.00 per ton. A five dollar per month increase would equate to an increase of in excess of $70.00 per ton or a total tip fee of over $85.00 per ton.

A reasonable estimate for a multi-site, large scale, incineration reduction system that would reduce the regions solid waste 90% by volume of whatever was left after reduce, reuse, recycle would be an additonal $25.00 per ton. This $25.00 per ton equates to a residential increase of $1.75 per month. This is well within the $1.00 to $5.00 increase that residents have already stated that they are willing to accept.

Also understand that the $25.00 per ton increase is due largely to the depressed energy market at this time. Should the demand for energy increase, this rate increase would be much less.

It is clear that the spirit of this plan is to minimize the amount of solid waste that will ultimately be landfilled. Under Section D in the Introduction, page 5; "The goal of the solid waste management system for the tri-county region shall be to achieve maximum feasible reduction of solid waste being landfilled in accord with the State priorities of action (ORS 459.015).

*Results published by the Oregonian on October 10, 1985.

In order to remain true to this concept, it would be appropriate to plan for a system that would landfill nothing but waste that had been processed. This would insure that:

First, all reusable or recoverable materials had been removed from the waste stream.

Second, all remaining material be processed to remove energy.

The only possible exception to processing would be material that had no recovery value and contained no recoverable energy. An example of such material would be concrete from construction demolition.

This type of waste disposal system is not only technologically possible, but also economically feasible. In fact, over the long term, it is more cost effective than a system that landfills the entire waste stream.

Landfilling only processed solid waste also eliminates all of the vector problems associated with landfills that dispose of unprocessed garbage. Odor problems and methane collection systems are eliminated because no methane is produced. Leachate problems are minimized because the landfill size is reduced to one tenth of what would normally be necessary. The material is much more compact than unprocessed waste and the post processed material is so stable that little or no deterioration occurs.

It is obvious that there is a message contained in the waste reduction plan - that material which can be reused or recycled should not be landfilled or burned.

This position is appropriate, however, equal emphasis should be placed on the position that - after reduce, reuse, recycle, no material should be landfilled as long as it contains energy that is feasibly recoverable.

I would like to call your attention to a letter to Mr. Fred Hansen dated July 9, 1985 (see attached). I believe this letter reflects the spirit of that portion of the region. I commend the legislators who signed it for their continued interest and involvement.

Large scale energy recovery is a practical alternative to over-dependence on landfills. The technology necessary to impliment energy recovery programs is in use all over the world.

There are three sites available at this time for burner facilities, two in Columbia County and one in north Portland. There are local business interest groups that have already been promoting such facilities and vendors who are anxious for the opportunity to construct them. These conditions provide a unique opportunity. The region cannot afford to miss this opportunity.

Presented by Douglas P. Francescon
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Oregon City, OR. 97045
503-631 3988

COUNTY OF CLACKAMAS
BOARD OF COMMISSIONERS
OREGON CITY, OREGON 97045
655-8581

DALE HARLAN, CHAIRMAN
ED LINDQUIST, COMMISSIONER
ROBERT SCHUMACHER, COMMISSIONER

July 9, 1985

Mr. Fred Hansen
Environmental Quality Commission
522 S. W. 5th
Portland, OR

Dear Fred:

Because of the new responsibility given to E.Q.C. by Senate Bill 662 we would like to take this opportunity to express some of Clackamas County's concerns related to solid waste disposal. We have been involved with the problem at both the county and regional level for quite some time.

It is our understanding that Metro will still have responsibility for developing a solid waste reduction plan. It is in the best interest of the region that their plan provides for reduction of as much of the entire region's solid waste as possible. The involved counties need to know that the size requirements and dependence on large general purpose landfills have been minimized. Metro's experience with Wildwood shows that local public opposition to such large landfills makes them difficult if not impossible to site.

Recently, we have watched the Columbia County burner proposal with great interest. We hope that such proposals are given due consideration by both E.Q.C. and Metro.

We also plan to keep county involvement in this regional problem high enough to insure support for the other governmental agencies involved.

Sincerely,

Ed Lindquist, Commissioner

Robert Schumacher, Commissioner

Dale Harlan, Commissioner

Robin Lindquist, State Rep.

Bob Shiprack, State Rep.

TESTIMONY ON METRO'S WASTE REDUCTION PLAN
FOR THE DEPARTMENT OF ENVIRONMENTAL QUALITY
January 18, 1986

Metro's Waste Reduction Program is the best proposal yet developed by that body. What needs to happen in waste reduction is the same thing that has happened in energy conservation. We now realize the the cheapest and most environmentally acceptable way of getting more energy is through conservation rather then building new plants. In the same way, waste reduction/recycling is the cheapest and most environmentally acceptable way of disposing of waste. I hope that this plan is an indication that Metro has accepted this attitude.

I think that the two most significant things Metro can do to reduce waste are establish rate incentives and give grants. Incentives might be in the form of differential rates, surcharges, or diversion credits at the landfill. Grants to public or private entities should be large enough to encourage big steps in recycling activity.

I am glad to see that Metro has included programs to divert yard debris, salvageable building materials, and office paper from the waste stream. I believe there is a large potential for increasing recycling rates of these materials.

In order to keep recyclable yard debris separate from other wastes, Metro should provide space for it at its Washington County transfer station. The fee for yard debris should be lower than for nonrecyclable waste. I did not see this provision in the Program.

I have one problem with Metro's Program. An immediate move toward an alternative technology facility, which seems to be intended, could prevent the recycling program from ever getting off the ground. Three years ago when Metro was considering the Oregon City gargabe burner, I served on its task force to look at the relationship between recycling and a burner. A concern expressed in our task force report was that an energy recovery facility would adversely affect recycling. First, it is easier to plan a facility than it is to plan a recycling program. It's more concrete, costs and benefits are easier to quantify, and you can more easily predict what it will do. Second, a facility would compete for some of the same materials as a recycling effort. Third, if the public felt a new, more acceptable way of disposal had been found, it would lose its incentive to separate its wastes. Our task force concluded that a reycling program must preceed and receive at least equal emphasis as an energy recovery facility. I ask that the wording of this plan be changed so that it is clear that the recycling program would preceed requests for alternative technology proposals.

Jeanne Roy

Jeanne Roy
2420 S. W. Boundary St.
Portland, Oregon 97201

LEAGUE of WOMEN VOTERS OF PORTLAND

610 DEKUM BUILDING — 519 S.W. THIRD
PORTLAND, OREGON 97204
TELEPHONE: (503) 228-1675

January 7, 1986

DEQ, Hazardous and Solid Waste Division
Attention: Lorie Parker
P.O. Box 1760
Portland, Oregon 97207

The League of Women Voters of Portland believes that a solid waste management plan should provide for maximum reuse and recycling. Therefore, we heartily support the Reduce, Reuse and Recycling Program Components and Implementation features of Metro's Draft Waste Reduction Program of November 1985.

We are glad to see that Metro has included yard debris, office paper, and salvageable building materials -- items which consume a large volume of landfill space and have great potential for recycling.

We urge focus on rate incentives. This may be the most effective role Metro can play to increase recycling.

We have concern about Metro seeking proposals for major energy recovery facilities before recycling has become established. An energy recovery facility would be competitive with recycling, would reinforce the out-of-sight, out-of-mind attitude toward waste and discourage source separation. We therefore request change in language of the Alternative Technology section so that Metro would seek letters of interest from vendors rather than Requests for Proposals.

We are requesting that EQC either approve the Metro Solid Waste Reduction Program as submitted or ask Metro to modify the part as we suggest above.

Thank you for your consideration.

Very truly yours,

LEAGUE OF WOMEN VOTERS OF PORTLAND

Leeanne MacColl

Leeanne MacColl
President

Ms. Lori Parker
Solid Waste Reduction Manager
Department of Environmental Quality
522 SW 5th Ave.
Portland, Oregon 97201

Jan. 20, 1986

Dear Ms. Parker,

Thank you for the oppurtunity to comment on the Dec. 19, 1985 Waste Reduction Program and Work Plan prepared for the EQC by the MSD (Metro).

Although I applaud Metro's brnad commitment to recycling and waste reduction, I am confused by some disturbing inconsistancies in the section relating to Alternative Technologies.

For Example, the "Program Strategy" (pg. 23) of the Plan cites specific alternative technologies for evaluation through the RFQ/RFP process, "Composting, RDF, Mass Burn and Cellulose Conversion to Ethanol". However, item #4 of "Summary of Tasks (pg. 24 of the Plan) omits "Cellulose Conversion to Ethanol" from the list of Alternative Technologies for which RFQ's are to designed and issued. Presumably, this omission is a mere clerical oversight and should be corrected. If not, then the omission runs directly afoul of the "Program Strategy" hammered out during the many pubic meetings over the past year.

Even more disturbing is the Plan's Aug. 1987 timetable for evaluation of the " need, feasibility and process for implementing Developmental Technology" (see pg. 25 of the Work Plan).

I realize that the timetable is not written in stone, however it's one sentence cursory description and its position as the last substantive task prior to awarding the contract is merely a placebo for Developmental Technology. Such positioning makes it impossible for Developmental Technology to compete for the light fraction (cellulosics) waste materials.

Cellulose Conversion to Ethanol (CCE) is a technology which produces a clean burning fuel to "replace conventional fuels" and thus should be accorded at least second preferance of the three ordered preferances for Alternative Technologies (see Program Strategy on pg. 24 of the Work Plan).

Item #11 of the "Summary of Tasks", pg. 24 of the Plan,should be deleted because CCE is already an Alternative Technology in the first paragraph of the Program Strategy of pg. 23 of the Plan. Alternately, the date for commencement of an evaluation of "Developmental Technology" should be consistant with item #4 of the "Summary of Tasks" timetable from which CCE has been incorectly omitted.

To avail the region of the option to process waste in the most efficient and environmentally acceptable manner, please carefully consider my comments and recommend the necessary changes to the Plan and Program.

Sincerely,

Lyle Stanley

Lyle Stanley
3950 SW 102nd Ave. #44
Beaverton, Oregon 97005
503 * 644-9350

WEST MULTNOMAH

Soil and Water Conservation District

6645 NE 78th Court
Building 16C Suite C-9

Portland, Oregon 97218
Phone (503) 255-6881

JAN. 21, 1986 vr

SUBJECT: METRO SOLID WASTE REDUCTION PROGRAM

DATE OF HEARING: 16 January 1986

TO: Hazardous and Solid Waste Division, Dept. of Environmental Quality.

Our board and its constituancy has held a longstanding interest in solid waste matters and the ultimate success of waste reduction programs statewide. This board was the author of the"landfill resolution" unanimously passed as the Oregon Association of Conservation Districts convention at Seaside in 1984 (enclosed).

Among the concerns stated in this resolution is the fact that landfills and transfer stations are often located in rural/agricultural areas. These areas are of concern to us. We see thousands of acres of prime farmland lost via redesignation of urban growth boundaries. Further, we are witnes to the cycle of events. The industry that locates brings additional pressure to develop in farmlands when people who work in the area look for residences. The irony is, especially in the Sunset Corridor, here is a major new garbage producing area that is rapidly emerging.

Our board and the OACD Land Resources committee laud Metro's efforts to site transfer stations in or near garbage producing zones, but we are most discouraged when industrial leaders and apparently even the Governor (enclosure 2) take positions that clearly indicate that garbage from the Sunset zone ought to go somewhere else. The time for responsible industrial leadership from this and many other similar areas is now. If there would be continued legal action that prevents urban citizens from shouldering their own burden, then future reliance on agricultural landfill siting are easily questioned as well. We, however, recognize that some good rural sites have been found. Our board can only fear what would happen next if the "Western Av." transfer station becomes too much of an effort for Metro.

At the fall 1985 OACD convention at the Red Lion in Portland solid waste once again attracted considerable attention.The Land Resources Committee of the OACD invited agencies interested in speaking about an aspect of solid waste from DEQ, Soil Conservation Service (Jerry Latshaw), and the Resource Conservation and Development Committee (Dave Dickens).The Committee was updated on solid management matters. A spirit of cooperation was expressed by all parties at this meeting.

West Multnomah SWCD supports Metro's plan provided that Metro understands that SWCD's are also local government capable of enlisting grassroots support for a solid waste reduction program. These comments will be sent to the Governor and will be proposed to be used as OACD's annual report as provided for in the "Resolution" cited above. We certainly hope that regular door-to-door collection of recyclables works quickly and effectively as an urban responce to our concern as well as to those concerns from people in North Portland who have lived close to St. Johns landfill. This effort still may not help Metro attain the highest waste reduction target. We have thought about programs that bring the problem to the level of smaller community groups, such as neighborhood associations.

SWCD's could work with Metro, DEQ, sponsoring industrial associations and other nonprofit organizations in order to support locally staffed recycling depots. Such depots could provide a means to keep the public in touch with the importance of community recognition of a problem. Permits for the depots would be locally secured by sponsoring groups. Building permits would also be obtained with sponsoring community support. The conservation districts could anticipate a possible grant for support daily staff for manning the center. Pickup arrangements would be made in cooperation with the garbage haulers organization. Profits that may accrue through the operatiuon of centers could be retained to support publicly backed SWCD activities or the center itself.

We would appreciate hearing from you in the near future, when we could discuss some initial steps where cooperation is envisioned, perhaps in the publicity area. Both you and Metro are cordially invited to our annual meeting at the World Forestry Center on 1 March 1986.

Sincerely,

Joseph Lucas, Jr.

Joseph Lucas

cf: Governor
OACD, Chr
Bob Elder, Land Res. Com.
Rick Gustafson, Metro
EMSWCD, Chr.
Washington SWCD, Chr.
RC&D, Dave Dickens
Region 2 OACD Chr.
Clackamus SWCD, Chr
Vera Katz

THE SUBURBS

Oregon City official raps Atiyeh's Metro comments

By LINDA McCARTHY
Correspondent, The Oregonian

OREGON CITY — Arnold Wagner, chairman of the Oregon City Planning Commission, is angry at Gov. Vic Atiyeh for getting involved in the Metropolitan Service District's search for a site for a recycling and transfer center in Washington County.

Wagner expressed his frustrations in a three-page letter to Atiyeh. The other members of the Planning Commission agreed Monday to endorse the letter and send it to the governor.

In the letter, which will be typed on city stationery and mailed Friday, Wagner asks Atiyeh to send a representative to a Planning Commission meeting scheduled for Monday, Jan. 28, when the commission will have its annual review of the Clackamas Transfer and Recycling Center, a Metro operation in Oregon City.

Wagner said Atiyeh got involved when the governor sent a letter to former Metro council chairman Ernie Bonner urging Metro not to locate a transfer and recycling center in the Sunset corridor of Washington County. Points of the governor's letter were brought out in an article in the Oct. 28 issue of The Business Journal.

"This is just the latest frustration — for the governor to step in and be a stumbling block or hindrance to that project," Wagner told the commission. "I'd like to send it (the letter), and I'd like to have the backing of the commission so we could put it on the city's letterhead."

The Planning Commission has been eagerly awaiting Metro's decision on a site for a dumping station in Washington County. Currently, the only transfer and recycling center in the metropolitan area is in Oregon City.

The Metro council is scheduled to meet Thursday, Jan. 9, at the council chambers, 527 S.W. Hall St., Portland, for a public hearing to consider a site at 5505 S.W. Western Ave. in Beaverton. The council will meet again Jan. 16 in the council chambers to announce where the transfer station will be built, according to Metro officials.

In his letter to Atiyeh, Arnold said he was "offended" by the governor's comments to Bonner urging Metro not to locate the transfer station in the Sunset corridor. Atiyeh has been promoting the Sunset corridor as a place to locate high-technology businesses, according to Wagner.

"Your letter to Mr. Bonner appears to be along the line of 'I don't care where you dump it, just don't dump any garbage next to my pet project,'" Wagner wrote in his letter. "I hardly consider that to be a responsible position for the governor of our state to take with regard to solid waste management."

Wagner said he would like Atiyeh to send someone to the meeting in January, since it appears the governor is getting involved in the issue.

"We're asking if he could send a representative with some alternatives. The ball's in his court — he could do anything from ignoring us to sending someone," Wagner said.

Metro officials appeared before the Planning Commission numerous times in 1985 for violating the tonnage limit set by the commission when the Oregon City center first opened. Originally, the city imposed a 400-ton-a-day limit, but even before the center opened in 1983, the limit was raised to 800 tons daily.

When the city granted the conditional-use permit to allow the increased tonnage, one of the conditions was that another transfer and recycling center be under construction by March 1985.

In July, Metro approached the Planning Commission asking for a conditional-use permit to allow unlimited tonnage at the Oregon City center. The request was turned down after the commission learned that Metro was exceeding the daily limit already imposed.

Metro officials were back again in August, after the city monitored the amounts of garbage being hauled to the center for a month. The Planning Commission at that time appeared satisfied that Metro was doing its share to lower the tonnage at the center. However, the planners were not happy with the progress Metro was making in finding a Washington County site.

Arnold said in his letter to the governor that Oregon City is tired of "hearing empty promises from Metro."

Oregon Area Council Rec
Adopted Nov 1984

RESOLUTION

Pertaining to Landfill Siting

WHEREAS, the State, having passed and amended in 1979, ORS 459, has declared landfill siting in the Portland Metropolitan Area (6 Counties)to be a regional concern,

WHEREAS, most of the 46 preliminary landfill sites selected for analysis by the Metropolitan Service District were located in agricultural and forest use zones,

WHEREAS, SB 100 does not provide for the location of regional landfills in commercial forests,

WHEREAS, the above stated rural areas are represented by SWCD Directors who are concerned about landfill sites that would cause soil erosion, water degradation, and disruption of the forest/agriculture communities chosen to bear the adverse impacts of an entire region's garbage,

WHEREAS, SWCD Directors are responsible for the use and application of the Landfill Siting Criteria contained in their respective County Soil Surveys,

WHEREAS, the Wildwood Landfill proposal, as selected by the Metropolitan Service District (and located outside the MSD boundaries) violates USDA Landfill Siting Criteria adopted for use in Multnomah County,

WHEREAS, the Directors in OACD Region II believe that landfills present major pollution hazards and therefore, that maximizing their life through recyling and through taking waste out of the waste stream through co-generation,

WHEREAS, Directors realize that many communities have endured landfills in their midst without just compensation for the losses,

WHEREAS, ORS 561.400 Section 2(g) provides the Soil and Water Conservation Division authority for furnishing support and financial assistance for targeted concerns of regional significance,

NOW THEREFORE BE IT RESOLVED, that OACD and its Land Resources Committee examine the regional land fill siting problem, prepare a report, and establish statewide policy that ensures SWCD representation on landfill site selection and criteria matters.

1) This committee shall screen a list of landfill sites in Region II of OACD. They will consult with MSD, the Water Resources Committee, and the DEQ. Sites that meet USDA criteria will be recommended to DEQ for further analysis. Such analysis shall be accomplished in co-operation with the OACD Land Resources Committee and the affected SWCD's.

2) The committee shall especially note those landfill sites which can be reclaimed for public or private benefit in a manner that will fill a public need without disrupting the character of the affected rural or urban locality.

3) The committee shall establish a policy on recycling and co-generation to be used by the affected SWCD's in the spirit of enlisting public support to solve a regional problem.

4) OACD shall provide the governor's office a semi-annual status report until they are advised by the Land Resources Committee that the targeted SWCD landfill concerns are resolved.

5) The Land Resource Committee will provide guidance to OACD regarding the need to co-ordinate and assist SWCD efforts for raising and directing funds to address targeted landfill problems.

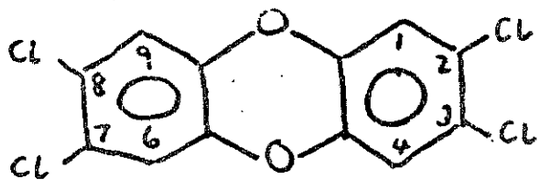
Current News Service

MSW Incinerators, Dioxin and the Hasselriis Affair

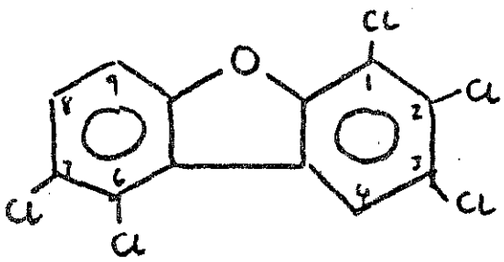
INTRODUCTION: WHAT IS DIOXIN?

There are many pollutants which are emitted from the stacks of MSW incinerators but the one that has generated the most concern worldwide is dioxin. Just recently the Swedish government has imposed a one-year moratorium on the building of MSW incinerators while they do more research on dioxin because they have discovered dioxin in cow's milk[1]. Cows are grazing within a hundred yards of the proposed incinerator site in Ogdensburg!

Dioxin (2,3,7,8 tetrachloro dibenzo-p-dioxin) is one of the most toxic substances ever made by man. There is a whole family of such compounds which vary only by the number and position of the chlorine atoms in the structure. These different arrangements are called isomers. They are all toxic, but 2,3,7,8 tetra chloro isomer is the most toxic and the most studied of the group[2]. There is also another family of closely related compounds called furans. They differ by just one oxygen atom. Furans are also very toxic. In all there are 210 different substances which come under the combined heading "dioxins and furans." They are also very persistent substances and once released into the environment, especially if they combined with particulate matter, they will hang around for many years.



ioxin = 2,3,7,8 tetrachloro dibenzo-p-dioxin



1,2,3,6,7 pentachloro dibenzofuran.

THE LONG-TERM HEALTH EFFECTS POSED BY LOW LEVELS OF DIOXIN

It is not the acute toxicity of either the furans or the dioxins which is of concern with respect to MSW incinerator emmissions, but their long-term health effects. To varying degrees, members of the dioxin and furan families are thought to cause birth defects and promote cancer[3]. To appreciate their cancer threat it is important to understand the mechanism of their biochemical activity. The dioxins and furans are known to stimulate the production of the enzyme called cytochrome p448[3]. Cytochrome p448 has the ability to convert polyaromatic hydrocarbons, and related substances, into active carcinogens. Thus it is not what dioxin does, but what it forces other substances (eg the polyaromatics) to do, which is the basis for concern about its long-term health effects. Put another way, dioxins and furans are not thought to react directly with DNA, neither do polyaromatics in the form to which we are exposed, but the result of the dioxin interaction with our tissues produces a form of the polyaromatics which does interact with DNA. With this in mind we can begin to appreciate the problems posed by even very small levels of the dioxins and furans emitted from MSW incinerators. There are four very strong reasons to be very cautious about accepting so called "safe levels" of dioxin and furan emissions.

1)It is found that the very small fly ash particles emitted from MSW incinerators (the ones that *no* control device can stop because they are so small) are not only the ones that can enter the lungs, not only the ones that contain the highest concentrations of dioxins and furans, but they also frequently contain polyaromatic hydrocarbons[4]. Thus people will be exposed to both components of the cancer-causing system together.

2) The polyaromatics are produced whenever organic material such as wood, paper, coal, etc. are incompletely burned. In an area in which there is a lot of wood burned (like the North Country), one can expect a higher-than-average concentration of polyaromatics in the air, and consequently in the lung tissues as well.

3) Animal studies[5] which have been used to establish the *no effect level* for dioxin, were performed using dioxin alone. The tests were not performed in the presence of the polyaromatic hydrocarbons. Nor were the tests performed with the fly ash particles from MSW incinerators. Clearly, far more scientific work has to be done before we say with confidence what level of dioxin poses no long-term health threat.

4) In the EPA calculations only exposure via breathing was considered. Clearly, the Swedish concern about dioxin getting into cow's milk would suggest that we have to consider other routes by which dioxin might effect human health over the long haul. This is especially so since dioxin is a very persistent chemical, so that its concentrations in town and city dust may increase steadily with the years.

Another aspect of the dioxin emission problem is also causing concern. Even when the dioxin is caught on particles large enough to be captured in the ESP devices, you still have the problem of what to do with that toxic ash. Not only will this ash contain some dioxins and furans, but it will also contain heavy metals and polyaromatic hydrocarbons plus many other toxic materials. In some places in Europe, they are required to analyze this ash prior to disposal. If they find that it contains unacceptable levels of dioxins, heavy metals or polyaromatics, then the ash is placed into steel cylinders and handled in a hazardous waste facility. Such an operation is very expensive and would seriously undermine the economics of MSW incineration. The current proposal for St. Lawrence County, is much more blasé about the hazards posed by this toxic ash. They plan to mix it with the ash from the grate and put it into a landfill in Lisbon. This is a highly questionable way of handling this kind of material, and is just one of the problems the county may live to regret ever getting into, if in years to come they are required to dig up the waste and ship it off to a hazardous waste facility.

ST. LAWRENCE COUNTY PLANNERS WERE NOT AWARE OF THE DIOXIN ISSUE UNTIL AFTER THEIR INCINERATOR IDEA WAS BORN

Based upon the information contained in their 1980 Solid Waste Report, St. Lawrence County planners were not aware of the dioxin problem when they put forward an MSW incinerator as the key plank in their solid waste program. Air emission problems from the incinerator were treated very lightly and no mention of dioxin as a possible hazard was made[6]. This comes as no surprise, since unless one of the planners was a chemist or an engineer one would not have expected them to come across the reports in the scientific literature. What does come as a great surprise, however, is that when the initial solid waste scheme was analyzed by Battelle Laboratories, they didn't mention dioxin either[7]. Quite frankly, their omission is inexcusable. Their report was issued in 1981, some *four years* after the initial report on dioxin emissions from MSW incinerators appeared in the literature[8]. The least you should expect from an expensive consulting firm is that they should keep up-to-date with the relevent literature in their field. On what other basis do they give their advice and make their judgements? It might well turn out in the long years spent on developing the incineration plan since 1980, this was the fatal flaw. We might well now be paying the frustrating consequences for this 1981 "oversight." To make matters worse, the county is using this same firm (Battelle Laboratories, Columbus, Ohio) to analyze the dioxin emission problem of MSW incinerators for their Environmental Impact Statement. Has Battelle caught up with the literature? Will they make another crucial "oversight?"

HOW MUCH DIOXIN (ie TOTAL DIOXINS AND FURANS) ARE EMITTED FROM MSW INCINERATORS?

From what has already been said about the threats posed by dioxin, it is of the utmost importantce that we know just what levels the proposed incinerator is likely to emit. The Environmental Management Council is still awaiting the actual data. When in arrives it will have to be scrutinized very carefully. A very important question is whether this data is general – referring to all kinds of incinerators – or whether it is specific, relating to the specific model of incinerator to be used in Ogdensburg. Only the latter data should be acceptable. Other crucial questions: under what conditions were the data obtained? Were any data obtained during the start-up and shut-down? How did the emission data relate to how wet the waste was? What kind of day-to-day variation was observed? These kinds of questions have to be answered before one can assess the dangers posed by this incinerator from dioxin emissions.

Until we get this kind of data, we have to make do with the figures to which we have access. According to the California Air Resources Board Report of May 24, 1984[9], who reviewed all the known dioxin emission data from the MSW incinerators up until the time of their report, "It appears that the total PCDD and PCDF emissions (ie total dioxin and furan emissions) factors for refuse-burning facilities can range from .18 to 20.16 micrograms per megajoule." Using the calculation and conversion factors shown in the box, this range yields an *emission rate range of 7 ounces to 49 pounds per year,* for an incinerator buring 200 tons a day for 365 days a year.

Bearing in mind the frantic efforts going on around the country to mop up dioxins (eg Times Beach, Love Canal, Hyde Park, N.Y., etc.) it is hard to believe that anyone would be willing to put this amount of dioxin into the environment. This is especially so, since NONE OF THIS DIOXIN WAS PRESENT IN THE ORIGINAL GARBAGE. It is now believed that the dioxin is actually produced from raw garbage in the incinerator itself.

ATTEMPTS TO CONTROL OR ELIMINATE DIOXINS FROM MSW INCINERATORS: THE HASSELRIIS AFFAIR

Usually, the explanation given by proponents of MSW incineration for the levels of dioxin at the high end of the range is that they weren't being operated under proper conditions. This presupposes that there are conditions which can ensure that dioxin emissions can be satisfactorily controlled. To appreciate whether such controls are possible we need to discuss what is known about the mechanism of dioxin formation in MSW incinerators.

Way back in 1977, Olie et al[8] first discovered that incinerators, the first thought was that the dioxins had come from small amounts of dioxin present in the original garbage itself. However, most scientists reject this notion and now favor the idea that dioxins are actually generated in the incinerator itself. The major debate at present is where, and how, in the incinerator the dioxin is formed.

Floyd Hasselriis, a combustion engineer and a key consultant to the DEC, believes that dioxin is formed in the combustion chamber. For Hasselriss, the problem of eliminating dioxin emissions, simply becomes one of maintaining good combustion efficiency and running the furnace at a temperature above that which dioxin is destroyed in the lab, ie 800 degrees Celsius[10].

Others, and Dr. Barry Commoner is a prominent spokesman for this group, believe that the dioxins and the furans are formed after material has left the combustion chamber. They believe that the dioxin is formed on small fly ash particles in the cooler parts of the incinerator, either in the ESPs (electrostatic precipitation devices) or in the chimney stack[11]. They suggest that the likely precursors for this dioxin formation are hydrogen chloride, obtained from the PVC and possibly salt, and aromatic ring compounds generated from the incomplete combustion of the lignin in wood or paper[11]. Some of the evidence which is consistent with this theory is as follows:

a) Olie et al[12] have shown that when you burn PVC or paper alone, negligible amounts of dioxin are formed but when you burn them together dioxins and furans are produced on a level comparable to that formed in incinerators.

b) Eiceman and Rghei[13] have shown that starting with a tetrachlorinated dioxin already absorbed to fly ash particles, they could add more chlorine atoms to it using hydrogen chloride. Thus the actual chlorination can take place on fly ash particles, and hydrogen chloride (known to be in abundant supply in MSW incinerators) is able to do the chlorination. The other significant finding in this experiment was that the process was a relatively cool one. The maximum chlorination occured at the relatively low temperature of 250 degrees Celsius, which is about the temperature you would expect in the ESP or chimney of an incinerator.

c) Commoner[11] analysed a considerable amount of data, obtained by the EPA, from the incinerator in West Hampton, Virginia. He found correlations between the various different isomers of dioxins and furans which are highly suggestive of a simple stepwise chlorination. While one can envisage stepwise chlorination occurring on fly ash particles, it is more difficult to see how this could take place via random collisions in the gaseous phase of the combustion chamber.

Clearly, determining which of these thesis is correct is of the utmost importance if operators of these MSW incinerators are to know how to eliminate dioxin emissions. If Hasselriis is correct, then they can destroy dioxins by ensuring good combustion efficiency is maintained and by running the furnace above 800 degrees Celsius. If Commoner is correct, it won't make any difference how high you run the combustion furnace temperature because the dioxin is formed after the precursors have left the combustion chamber. Commoner advocates separating the components in the garbage which generate hydrogen chloride (PVC) from those that generate the aromatic precursors (wood and paper) and burning them separately.

In order to determine which thesis is correct, the dioxin emission from different incinerators needs to be examined as a function of temperature. Commoner et al[11] have published a table of dioxin emission data for those incincerators for which the temperature was also recorded. There is no obvious relationship between the dioxin levels and the temperature recorded. Some of the low dioxin levels are recorded for low temperatures and vice versa. From the figures presented you cannot say that the higher the temperature at which the furnace is run that the more likely the dioxin emissions are minimized.

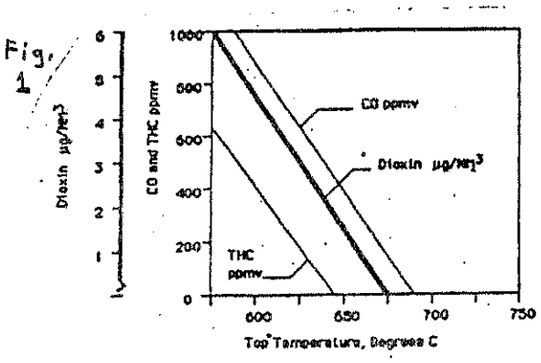
Hasselriis on the other hand has published graphs[14] which purport to show that the dioxin and furan levels decrease as the temperature recorded at the top of the furnace increases. These graphs are based upon data obtained from the SWARU plant in Hamilton, Ontario. The graphs are shown in figures 1 and 2.

At this point, the ordinary reader might declare a stalemate: one set of data says one thing, another says the opposite. However, there is an extremely troubling factor we have to throw into the picture. It would appear that Hasselriis fudged his graphs. If you compare the original [illegible] Hasselriis has drawn, they

don't match up. Hasselriis's graphs look very clearcut, the original data is all over the place. When data is scattered like this, the usual thing that is done is to perform linear regression analysis to get the best straight line fit to the data (there is nothing magic about this process, the average high school student could do this using a good scientific calculator and a few minutes of instruction). Figure 4 shows the linear regression analysis lines for the dioxin and the furan data. We note that neither regression line matches Hasselriis's line. In the case of the furan data, it actually goes in the opposite direction, i.e. according to the data, there is an actual increase in furan emissions as the temperature is increased. In fact, Hasselriis's lines differ from the conclusions stated by the people who actually obtained the original data and published it[16].

This is an extremely serious matter. If a regular scientist did such a thing in a regular scientific journal, and was caught, he or she would most likely never get published again. Their careers would be ruined. But it is even more serious than that. Hasselriis is not just an ordinary scientist, he is a key consultant to the DEC and the DEC is currently reviewing the standards they wish to impose on MSW incinerator operators. Literally billions of dollars hang on this issue of whether MSW incinerators can operate without producing significant levels of furans. More importantly, the health of millions of people might be adversely effected if these dioxins are not eliminated from the emissions, because the wrong method is used.

Fig. 1



Correlation of Dioxins, CO and THC to Top Temperature

MEAN BY REGRESSION

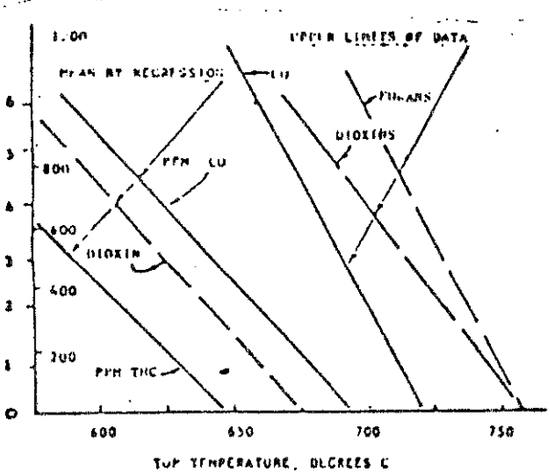
Source: Hasselriis, Floyd. "Relationship Between Combustion Conditions and Emission of Trace Pollutants." Paper presented before the New York State Air Pollution Association, May 2, 1984.

6

* Top Temperature - Measured at the top of the furnace

Important questions have to be asked about the Hasselriis affair. Why did Hasselriis draw the lines the way he did? Why hasn't he withdrawn these lines even though his erroneous treatment has been pointed out to him? (I personally saw Hasselriis confronted by Dr. Commoner on this matter a few weeks ago at a symposium held at Hofstra University and he didn't have any satisfactory explanation). Why does the DEC have this man in such a key advisory role? Does the DEC accept these graphs as legitimate?

Copies of these graphs are now in the hands of Henry Williams, Commissioner for the DEC, and other members of the DEC. Copies are also in the hands of Mary Verlaque of the St. Lawrence County Planning Board and also in the hands of members of the Environmental Management Council. I am eagerly awaiting some answers to the questions this affair raises. At the moment, the silence is deafening.



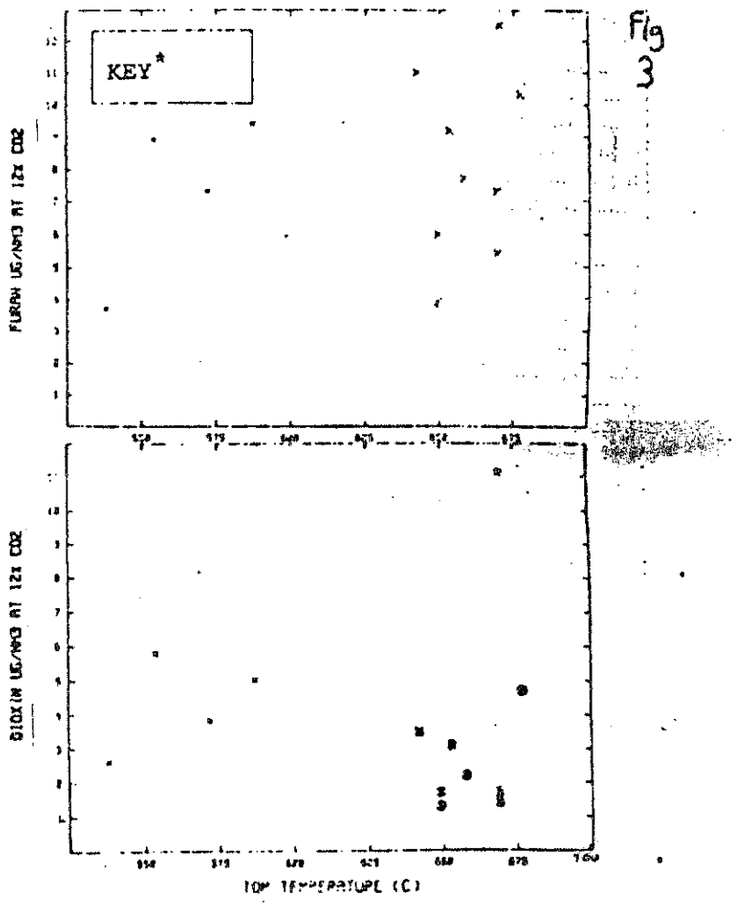
relation lines showing mean concentrations of CO, THC and total ...ins, and lines showing upper limits of data including furans ...ition tests, versus temperatures measured at top of

The Actual Data

3

FURAN AND DIOXIN CONCENTRATION vs. TOP TEMPERATURE

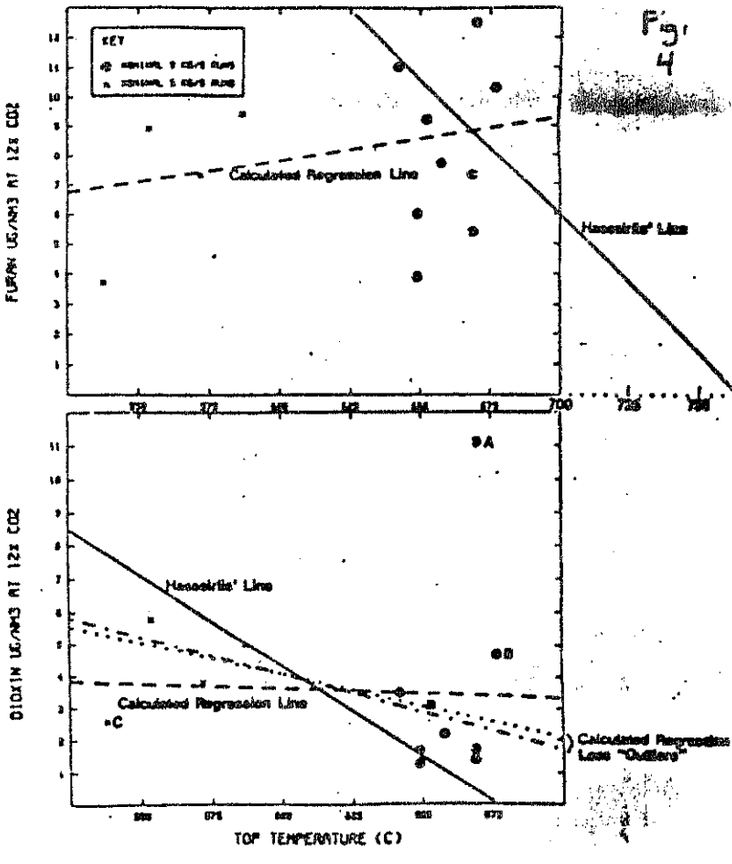
Fig 3



COMPARISON OF TEMPERATURE-EMISSION REGRESSION LINES COMPUTED FROM THE ACTUAL DATA, WITH HASSELRIIS' LINES

FIGURE 23 - FURAN AND DIOXIN CONCENTRATION vs. TOP TEMPERATURE

Fig 4



In this figure we have superimposed, on the original figure from page 70 in the SWARU report, two sets of lines: (a) The regression line for dioxin level vs. temperature shown in Hasselriis' Fig. 7 (see our Fig. B-1), and the line relating furans level to temperature, based on "upper limits of data," also from Hasselriis' Fig. 7. (b) Regression lines which we have computed from the actual SWARU data. In the case of dioxin, we have computed regression lines from the total data and from these data less two pairs of "outliers": points A and B, and points A and C.

annotated copy

VICTOR ATIYEH
GOVERNOR

Environmental Quality Commission

Mailing Address: BOX 1760, PORTLAND, OR 97207
522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item B, February 7, 1986, EQC Meeting

Metro Request for Review and Approval of Waste Reduction Program

Summary of Recommendation:

The Department recommends that the Commission allow Metro 90 days to modify its Waste Reduction Program to comply with the requirements of SB 662.

Background

The Metropolitan Service District (Metro) estimates that 962,000 tons of solid waste is generated annually by the people living in the Portland tri-county area. Approximately 22% of that waste is recycled, one of the highest recycling rates in the nation. But it is still necessary to landfill nearly 755,000 tons of garbage each year. Most of that waste is buried at St. Johns Landfill in North Portland. St. Johns has been in operation since 1934 and is nearly full. It is scheduled to close in June 1989.

Metro's attempts in the past eight years to site a general purpose landfill and waste-to-energy facility have failed. Because of these failures and the imminent closure of the only metropolitan all-purpose landfill, the 1985 Oregon Legislative Assembly intervened to avert a regional garbage crisis.

The 1985 Legislative Assembly passed SB 662 (Attachment 1) which gave the Environmental Quality Commission (EQC) the authority to locate and establish a disposal site(s) for Clackamas, Multnomah and Washington Counties. The legislature also directed Metro to prepare a waste reduction program to be submitted by January 1, 1986 for review and approval by the EQC. If the EQC does not approve this Program as submitted, the Commission shall allow Metro not more than 90 days to modify the Program. If the EQC does not approve the

Program by July 1, 1986, Metro's solid waste management functions and powers transfer to DEQ.

The direction to Metro to prepare a waste reduction program is not a new task for Metro. ORS 459.017(1)(b) assigns primary responsibility for developing a solid waste management plan to local government, which includes Metro. In addition, in response to Resource Conservation and Recovery Act requirements, Governor Straub issued Executive Orders in November 1977 and May 1978 which designated Metro as the solid waste planning and implementing authority for the tri-county area. At the time that SB 662 was passed, Metro was already in the process of updating the out-of-date 1974 Metropolitan Service District Solid Waste Management Action Plan (COR-MET Plan) and 1981 Waste Reduction Plan which set a goal of reducing waste through resource recovery (mass burn).

Metro has direct authority for the operation of solid waste disposal facilities in the Metropolitan Service District region. This includes the authority to set disposal rates, to control the flow and destination of waste materials, and to ban certain materials from disposal. Metro also has direct authority for solid waste planning in Multnomah, Clackamas, and Washington counties.

However, Metro does not have direct authority over the collection of wastes. This means that certain direct waste control measures are not available to Metro, including the authority to require garbage collectors to provide recycling programs or to reorganize their collection of commercial wastes in order to produce "high-grade" loads (loads containing large quantities of recyclable material), and to take the loads to processing centers where the materials can be recovered. This lack of authority to regulate collection has made it necessary for Metro to use indirect methods such as rate incentives and the certification program rather than direct regulatory methods in order to attempt to change the existing collection systems.

After SB 662 was signed into law on July 13, 1985, Metro speeded up its planning process for development of a new waste reduction plan. The planning and public involvement process included a resource recovery symposium, opinion leader interviews, a public opinion survey, preparation and distribution of a program summary and a series of seven fact sheets on waste reduction options, a full-page newspaper ad in five regional newspapers, nine informational meetings for special interest groups, three open houses, an informal workshop, and a public hearing before the Metro Council on December 5, 1985.

The Department Director and staff met regularly with and worked cooperatively with Metro staff during the months that the Waste Reduction Program was being developed by Metro. In addition, the Director wrote three letters to Metro Executive Officer Rick Gustafson and the Metro Council outlining what the Department expected the Program to include. Fred Hansen letters dated August 20, December 3 and December 12, 1985 (Attachment 2). Most of the Department's concerns discussed in the following evaluation of the Waste

Reduction Program were raised in these letters and in informal discussions with Metro staff.

The Metro Council held a work session on December 12, 1985 to debate a proposed resolution which states nine general waste reduction policies and directs Metro's Executive Officer to prepare a waste reduction program consistent with the resolution policies and to submit it to the EQC. On December 19, 1985, the Metro Council adopted Resolution No. 85-611-A. (Included in Final Report).

Metro submitted its Waste Reduction Program to the EQC on December 31, 1985. It is that Program which is the subject of this staff report.

The Department held a Public Hearing on the Metro Program on January 16, 1986. Nineteen persons testified, and several others submitted written comments. The Hearings Officer report is Attachment 3.

Waste Reduction Program Documents Submitted to EQC
(All documents are dated December 31, 1985)

Resolution No. 85-611-A, Adopting Solid Waste Reduction Policies: Adopted by Metro Council on December 19, 1985.

Final Report, including transmittal letter, the above Resolution, Summary of Program, Framework and Background Information: Not adopted by Metro Council.

Work Plan and Timeline: Not adopted by Metro Council.

Appendices:

Alternative Technologies Chapter

Source Reduction and Recycling Chapter

Metro Region Recycling Conditions

Public Involvement and Comment

Introduction to Metro's Waste Reduction Program

Metro's Waste Reduction Program is structured on the concept of maximum feasible reduction and on the state's solid waste management priorities of reduce, reuse, recycle, recover energy, and lastly, landfilling. ORS

459.015(2)(a). The Program is divided into three phases, with implementation of each phase dependent on the success of previous phases.

Phase I depends upon indirect measures such as education, disposal rate incentives and certification programs, as well as on compliance with the requirements of SB 405, the Oregon Recycling Opportunity Act, to maximize the reduction and recycling of wastes. Residents and businesses would have the opportunity to recycle through curbside collection programs and depots at disposal sites. (Opportunity to Recycle Act). Commercial waste collection systems would be reorganized to collect loads that contain high amounts of recyclable materials. These "high-grade" waste loads would then be taken to waste processing centers where office paper and cardboard would be removed for recycling. The wastes remaining after source separation and other material recovery would then be processed further through "alternative technology" for the production of fuel or compost, or for direct energy recovery through mass burning. In Phase I, Metro sets the maximum amount of wastes to be allocated to these alternative technologies at 1,300 tons per day, which equals 48% of the total waste stream including recycled materials or 61% of the waste stream presently going to landfills.

Phase II would begin January 1, 1989, if the recycling goals that Metro plans to set are not achieved by that date. In this phase, loads of wastes containing a high percentage of recyclable materials would not be accepted at disposal facilities, but would be required to go to materials recovery facilities if such facilities are available.

Phase III would begin on January 1, 1993, or possibly earlier. In this phase, Metro would re-evaluate the amount of waste that continues to be landfilled, and would allocate further amounts of wastes to energy recovery if the recycling goals of Phases I and II are not achieved. At this point, theoretically all wastes would be processed for materials and/or energy recovery. Only the ash from the energy recovery facility(s) would be landfilled.

Evaluation Criteria for Review of Metro Waste Reduction Program

SB 662, Section 8 requires the Waste Reduction Program to include:

(1) A commitment by the district to substantially reduce the volume of solid waste that would otherwise be disposed of in land disposal sites;

The Department has told Metro both informally and by letters dated December 3 and 12, 1985 (Exhibit C) that "commitment" to implementation includes (1) choosing a particular strategy; (2) stating the method and timeline for accomplishing the strategy; (3) setting performance standards against which the Program's success will be measured; (4) establishing checkpoints for judging the effectiveness of the Program strategies and alternative

strategies which will be implemented should the original strategies prove unsuccessful or less successful than anticipated; and (5) formal adoption by Metro Council.

(2) A timetable for implementing each portion of the solid waste reduction programs. At least a part of the program must be implemented immediately;

(3) Energy efficient, cost-effective and legally, technically, and economically feasible approaches to waste reduction; under current conditions

(4) Approaches which carry out the existing state solid waste management priorities as established by SB 405 in 1983 (ORS 459.015(2)(a)):

First, to reduce the amount of solid waste generated;

Second, to reuse material for the purpose for which it was originally intended;

Third, to recycle material that cannot be reused;

Fourth, to recover energy from solid waste that cannot be reused or recycled; and

Fifth, to landfill waste that cannot be reused, recycled or from which energy cannot be recovered; and

(5) Effective and appropriate methods for waste reduction (i.e. procedures commensurate with the type and volume of solid waste generated within the region).

Evaluation:

The following evaluation describes each component of the Program following the order of its position in the solid waste management hierarchy. It also notes any public comments related to the component. It evaluates the component against the criteria for approval established in SB 662. Finally, it notes the Department recommendation for modification to the component in order to comply with SB 662.

At the end of the Program components discussion, the Program is analyzed as a whole to determine whether it meets the requirements of SB 662 and should be approved, or whether it does not meet the requirements and Metro should be allowed up to 90 days to modify the program.

METRO WASTE REDUCTION PROGRAM FRAMEWORK AND WORK PLAN PHASE I

Reduce and Reuse (Framework, Page 7)

1. **Promotion and education. Metro commits to education and promotion in both the Reduce, Reuse Component and the Recycling component.**

   Public Comments:

   Mike Durbin, Portland Area Sanitary Service Operators (PASSO) and Ken Spiegle, Clackamas County, both felt that Metro should put a major emphasis on recycling education/promotion.

   John Trout, Teamsters Local Union #281, felt that Metro improperly assigned itself the control of and responsibility for recycling education, promotion and notification. He felt that supervision of this task rests with the cities and counties.

   Analysis:

   A multi-year campaign is to be developed by February 1986 and adopted by the Metro Council in March 1986. The Work Plan does not discuss any education activities specifically targeted at convincing the public to reduce the amount of solid waste it produces or to reuse products, nor does it address education in schools. (Work Plan, Page 4.)

   Recommended Modifications:

   Metro should submit a comprehensive promotion and education program, including a detailed work plan for a multi-year promotion and education campaign and the financial commitment made to support it. One element of the program should be targeted to teach consumers the need for and how to change consumption habits in order to reduce the amount of solid waste generated and to maximize reuse of products. Another element should include a strategy for development and introduction of a curriculum for the region's public school system.

2. **Possible plastics reduction legislation. Metro will explore possible plastics reduction legislative action by participating in meetings of DEQ's Plastics Task Force which is currently being established. (Work Plan, Page 10.)**

   Public Comments: None

Analysis:

Working with the DEQ plastics task force would be an acceptable first step in developing alternatives for reducing plastic waste.

Recommended Modifications: None

3. **Possible legislative actions for packaging reduction, including expansion of the Bottle Bill. (Work Plan, Page 8).**

Public Comments: None

Analysis:

As a regional government, Metro cannot implement statewide legislative solutions, but can use its influence to affect the development, passage, and implementation of legislative solutions.

Recommended Modifications: None

4. **Possible salvage of building materials and other items at disposal facilities. (Work Plan, Pages 8 and 10).**

Public Comments: None

Analysis:

The Framework indicates that Metro will consider salvaging building materials at the landfill and transfer stations. The Work Plan indicates it will be done.

Recommended Modifications:

Metro should clarify whether it commits to incorporation of salvage facilities at the landfill and transfer stations.

5. **Possible Waste Exchange. Metro will explore the possibility of an information clearinghouse for industrial and manufacturing waste, with a decision to be made by May 1987.**

Public Comments: None

Analysis:

According to the Association of Oregon Recyclers, the Northwest is the only region of the country without an industrial waste exchange service.

Though there can be debate about whether such an exchange should be operated by a private or governmental entity, a regional waste exchange is needed.

Recommended Modifications:

Metro should commit to the establishment of a regional waste exchange. The exchange can be operated privately, with or without Metro assistance, or by Metro.

Recycle (Framework, Pages 7 - 11).

1. **Technical assistance. Metro commits to offering technical assistance to assist in implementation of SB 405, the Recycling Opportunity Act. (Work Plan, Page 14).**

Public Comments: None

Analysis:

Technical assistance has the potential to help local governments and collectors implement recycling programs if persons are made aware that assistance is available.

Recommended Modifications:

Metro should commit to promote aggressively their technical assistance program.

2. **Education and Promotion Campaign. Metro commits to a multi-year education and promotion campaign, to be developed by February 1986 and adopted by Metro Council in March 1986. (Work Plan, Pages 4 - 7).**

Public Comments, Analysis and Recommended Modifications: See discussion on Page 6.

3. **Recycling Information Center (RIC) enhancement. Metro commits to further enhancing their Recycling Information Center, by developing (1) a computerized information storage and retrieval system; (2) a series of educational flyers and handbooks; (3) a library on recycling and waste reduction; (4) a volunteer program; and (5) a network with community organizations. (Framework Page 8 and Work Plan Page 11).**

Public Comments: None

Analysis:

Metro plans to train and use volunteers to staff RIC. Though the enthusiasm of volunteers will be invaluable to the Program, Metro should not expect RIC to be run entirely by volunteers.

Recommended Modifications:

Metro should commit adequate financial resources to operate RIC with paid staff so as to most effectively utilize volunteers.

4. Local collection service certification. Metro commits to a certification program to encourage:

   (a) Optimally effective curbside collection programs for SB 405 materials.

   (b) A collection system for yard debris (if EQC does not list yard debris as a principal recyclable material).

   (c) Collection and delivery to materials recovery centers of high-grade loads (paper and cardboard) from commercial waste.

   "Standards and measurements will be developed to assure effective local collection programs which meet source separation goals for principal recyclable materials, remove yard debris from the waste stream, and provide high-grade loads of mixed waste" (Work Plan, Page 28).

The incentive for local jurisdictions, collectors and recyclers to be certified will be differential disposal rates. Metro's existing Solid Waste Planning Advisory Committee (SWPAC) will decide or recommend to Metro Council whether an entity should be certified. (Work Plan, Pages 29 - 31).

In the first year of the certification program, beginning January 1, 1987, Metro will reward with a lesser disposal rate those who have passed DEQ's review of their Recycling Report indicating compliance with SB 405.

Metro will add as yet undecided requirements beyond the minimum requirements of SB 405 in the following years. However, a rate differential for those standards will not be applied until either January 1988, (Work Plan Timeline) or January 1989. (Work Plan, Page 32).

Public Comments:

Merle Irvine, Oregon Processing and Recovery Center, supported the concept of using economic rate incentives to reward those who participate in recycling programs.

Jeanne Robinette, Oregonians for Cost-Effective Government, felt the certification program would increase Metro's bureaucracy and costs and was unnecessary.

John Trout, Teamsters Local Union #281, testified that Metro had no authority to establish a certification program because it usurps local government's authority over collection. He also felt that collection service must be franchised throughout the Metro district in order for the Metro program to work.

Estle Harlan, Oregon Sanitary Service Institute, testified against the certification program because it is a duplication of the wasteshed reports required by SB 405. She also said that the DEQ Wasteshed reports need to be more encompassing to recognize the total volume of recycling from all sources.

Ken Spiegle, Clackamas County, considered the certification program an interference in local franchise control.

Kathy Cancilla, Portland Recycling Refuse Operators, Inc. (PRROS), supported the idea of a certification program, but wanted more definition of the process and how it would work.

Brian Lightcap, West Multnomah Soil and Water Conservation District/Oregon Association of Conservation Districts, suggested that Metro and local governments, including the SWCD, work together to set up recycling programs and motivate the public interest.

Analysis:

If one assumes that not all jurisdictions will comply with SB 405, then the certification program, by punishing the non-compliers or rewarding the compliers, depending on one's viewpoint, will help to convince the noncompliers that there are economic reasons to comply with the law. If one assumes that all jurisdictions will comply with the law which requires education and promotion and curbside collection of recyclable materials, then the certification program is unnecessary duplication until additional requirements beyond SB 405 requirements are added.

Recommended Modifications:

Metro should step up its certification process to initiate standards beyond SB 405 and apply rate incentives for those standards by January 1, 1987. Metro could enact a multi-tiered rate structure in which a rate incentive is offered for compliance with SB 405, and a larger rate incentive is offered for meeting standards beyond the requirements of SB 405. Metro should also indicate in the Program the rates to be applied, or at least the range within which the differential rates will be set. Further rate incentives should be applied by January 1, 1988 to encourage (1) generation of high-grade commercial loads for delivery to materials recovery centers and (2) collection systems for yard debris.

Metro should clarify whether SWPAC or Metro Council will decide whether to grant certification to a certification unit.

Metro should explain how it will resolve the potential problem of penalizing collectors and ratepayers who are meeting the standards of the certification program but are charged the higher disposal rate because they are included within a noncomplying certification unit.

5. Yard debris. Metro commits to a program of yard debris processing and collection, to include (Work Plan, Pages 16 - 18):

   (a) Establishing a yard debris processing facility at St. John's Landfill capable of processing up to 200,000 cubic yards annually.

   (b) Promoting home composting and use of processed yard debris.

   (c) Providing analysis to the EQC on including yard debris as a principal recyclable material in the Metro region.

   If the EQC does not list yard debris as a principal recyclable material, then in addition Metro will:

   (d) Adjust disposal rates to encourage recycling of yard debris.

   (e) By January 1, 1989, use the certification process to offer a lower disposal fee to those who implement yard debris collection and/or processing systems.

   (f) By July 1988, ban disposal of yard debris if the recycling goal is not met by above methods. The recycling goal has not yet been established.

Public Comments:

John Trout, Teamsters Local Union #281, testified that inclusion of yard debris as a recyclable material under SB 405 will create public opposition and jeopardize Metro's solid waste program.

Estle Harlan, Oregon Sanitary Service Institute, testified that it is industry's position that only dropbox loads or greater of yard debris can be economically collected and diverted to a processor. Rather than requiring an unsightly residential yard debris collection system, Metro should concentrate on education and market development.

Jeanne Roy, Portland citizen, supported the yard debris component but stated that Metro should set a lower disposal fee for source separated yard debris than for nonrecyclable waste. She also suggested that Metro provide a collection area for yard debris at the Washington Transfer and Recycling Center.

Analysis:

Yard debris is the largest single component in the waste stream. Metro estimates that at a 75% recovery rate of yard debris, the volume of waste going into the landfill would be reduced 10%. Accordingly, Metro must plan an aggressive program to recycle yard debris.

The timeline in the Work Plan allows banning of yard debris from the landfill in July 1988 based on the failure of the local collection service certification program and other methods for encouraging source separation and processing of yard debris. But the certification program will not be implemented until January 1, 1989 or January 1, 1988, depending on whether one reads the Work Plan, Page 32 or Timeline.

Recommended Modifications:

Metro should move up the date of initiation of rate incentives for compliance with yard debris certification standards to January 1988 or earlier (or clarify the Work Plan), and should commit to banning source separated yard debris from the landfill by January 1, 1989 when Phase II will be initiated. Source separated yard debris could be banned immediately.

Metro should commit to providing a collection or processing area for yard debris at all its transfer stations, or to diverting source separated loads to a processing center, and to keeping the yard debris piles free of contaminants. Metro should also commit to adjusting its disposal rates to encourage recycling of yard debris regardless of whether the EQC lists yard debris as a principal recyclable material.

6. Post-Collection Recycling/Materials Recovery. Metro commits to programs to recover recyclable materials by processing commercial waste with few contaminants, to include:

(a) Using rate incentives and the certification program to encourage redesign of collection routes so that loads contain a high percentage of recyclables and will be delivered to a materials recovery center (see Page 15 for further discussion).

(b) Establishing private, franchised or public high-grade material recovery centers at transfer stations "when feasible". (Framework, Page 9.) Metro seems to commit to designing a materials recovery center into the yet-to-be-established Washington Transfer and Recycling Center (WTRC). WTRC start-up date is not indicated. It is unclear whether Metro is committed to retrofitting the Clackamas Transfer and Recycling Center (CTRC) -- "CTRC will be redesigned", (Framework, Page 9 and Work Plan, Page 19), -- versus, "Determine appropriate design modifications for CTRC...if indicated." (Work Plan, Page 22.)

Public Comments:

Representative Mike Burton, District 17, Oregon Legislative Assembly, commented that the Program conflicts with itself on the role of the private sector in operating materials recovery facilities. Work Plan, Page 20 implies that Metro will operate the transfer station materials recovery facilities. Metro should allow private industry to operate such a facility if industry so proposes.

Merle Irvine, Oregon Processing and Recovery Center, testified that he supports the concept of high-grading waste and using economic incentives to reward those who participate. He noted problems with providing economic incentives to collectors who operate under a franchise which requires a pass-through of all disposal savings, and stated that the certification program should address the problem. His major concerns with the Program were: (1) Metro not allowing private ownership of materials recovery facilities; and (2) Metro acting too hastily to change the system and hurting existing recycling operations. He suggested that Metro test its concepts by using his materials recovery center by transferring high-grade loads from CTRC and banning high-grade loads from the landfill.

Jeanne Robinette, Oregonians for Cost-Effective Government, testified orally that material recovery facilities were not going in soon enough. Privately operated processing centers coupled with rate incentives would be enough to achieve substantial reduction.

Analysis:

The success of Metro's Waste Reduction Program is predicated largely on this component, operating in conjunction with the certification program and rate incentives. According to Metro estimates, processing of commercial waste for materials recovery could reduce the amount of commercial waste being landfilled by 18.4%. It is important that materials recovery facilities be available early in the Program, and that incentives be large enough to encourage collectors to high-grade loads and deliver them to such facilities.

Metro seems to commit to designing a materials recovery center into the yet-to-be-established Washington Transfer and Recycling Center (WTRC). WTRC start-up date is not indicated. It is unclear whether Metro is committed to retrofitting the Clackamas Transfer and Recycling Center (CTRC) -- "CTRC will be redesigned", (Framework, Page 9 and Work Plan, Page 19), -- versus, "Determine appropriate design modifications for CTRC...if indicated" (Work Plan, Page 22).

Recommended Modifications:

Metro should indicate the expected date of completion of the materials recovery facility to be built in conjunction with WTRC. Metro should commit to either retrofitting CTRC for materials recovery or allowing a private materials recovery center to be established within easy access of CTRC. Until CTRC is retrofitted or a recovery center is established nearby, Metro should use its flow control authority to require high-grade loads delivered to CTRC to be diverted or transferred to existing materials recovery centers. Metro should also require high-grade loads delivered to St. Johns to be diverted to Oregon Processing and Recovery Center (OPRC).

transfer by Metro

7. **Rate incentives. Metro commits to the concept of adopting rate incentives, to include:**

   (a) **Incentives for operation of materials recovery centers. Metro will revise its ordinances by July 1, 1986 to provide incentives for start-up and operation of materials recovery centers. (Work Plan, Page 33). Currently these incentives are granted through a variance. Metro will consider various strategies to encourage garbage collectors to high-grade their loads and deliver them to materials recovery centers. The Work Plan lists potential strategies, but it will be January 1987 before a rate mechanism is selected and enacted.**

(b) Incentives to encourage local collection services to comply with the standards of the certification program. No specific incentive has been chosen, although differential rates to haulers within a certification unit and a local government grant program are options discussed (Work Plan, Pages 37 - 38). A program approach is to be adopted by September 1986. According to Metro, rate modifications "should be implemented on or after January 1, 1987" (Work Plan, Page 38).

(c) User fee rates to fund Work Plan commitments. (Work Plan, Page 33).

Public Comments:

Jeanne Robinette, Oregonians for Cost-Effective Government strongly supported rate incentives, stating that rate incentives by themselves will change recycling and disposal behavior.

John Trout, Teamsters Local Union No. 281, testified that Metro has no authority to establish disposal rates based on performance of the solid waste generator or collector. According to Trout, Metro's authority to fix rates at disposal sites is limited to payment for services performed by Metro and repayment of its investment in solid waste facilities.

John Drew, Association of Oregon Recyclers, supported rate incentives to encourage recycling for high percentage recyclable materials, but was concerned about the mechanics of the program as described in the Work Plan, Pages 34 - 38.

Analysis:

A major portion of the Metro Program for recycling relies on rate incentives to bring about the changes which will make the Program work. Because Metro has not decided on the types of rate incentives to be used, or the spread in differential rate structures, it is difficult to assess whether rate incentives can produce the results Metro plans.

There is some evidence from other cities that charging more for garbage has a modest effect on recycling behavior. It is not entirely clear, however, that reduced disposal fees to garbage haulers will be enough to convince them to redesign collection routes and deliver high-grade loads to a materials recovery center. Disposal fees are only approximately 20% of a total garbage bill. Unless the garbage hauler owns enough equipment to have some flexibility in operation, the cost of investing in new equipment to run a high-grade route will far outweigh disposal savings. If the hauler has to transport the high-grade load much farther to a material recovery center than to a landfill, the cost of that time and transport outweighs the disposal savings (unless the differential rate spread is enormous). Furthermore, under some franchises, there is little incentive for the garbage hauler because the hauler is required to charge

the disposal costs directly to the generator. The hauler, therefore, would receive no disposal savings for delivering the load to a processor.

The Department understands Metro's dilemma in trying to prepare an effective waste reduction program. Because of its lack of collection regulation authority, Metro has turned to the regulatory tools it does have -- rate regulation and flow control. The dilemma is compounded by the fact that there are few if any models in this country for the Waste Reduction Program required of Metro, and very little data to indicate whether rate incentives can effect the changes in the disposal system that Metro is attempting. Metro has therefore had little choice but to propose what is in effect a grand experiment.

The Department is willing to let Metro try its rate incentive and certification experiment. But because of the uncertainties surrounding the effectiveness of rate structures to produce substantial amounts of recycling both in the residential sector under the SB 405 programs, and in the commercial sector using the materials recovery centers, Metro must plan for alternative strategies to be implemented to achieve the recycling goals if rate incentives fail.

Recommended Modifications:

Metro should move up its consideration of rate options and differentials so that the direction to be taken, though perhaps not adopted, is more clearly defined and can be included in the resubmittal of the Program to EQC. See also Phase II discussion on Page 22.

8. **Possible development and distribution of recycling containers for home or office (Work Plan, Page 12).**

Public Comments: None

Analysis:

Recycling programs that distribute home recycling containers have been very successful.

Recommended Modification: None

9. **Possible waste auditing and consulting service for waste generators, including high quantity paper generators. (Work Plan, Page 21).**

Public Comments: None

Analysis:

Metro's Framework discusses the possibility of a program for high quantity paper generators for waste auditing and consulting services (Framework, Pages 8 and 9). The Work Plan does not discuss specific programs for high quantity generators, but does propose to develop a plan, by December 1986, for a waste auditing and consulting service. It is not clear from the Work Plan whether Metro intends to implement this service, or just to evaluate its need.

The waste auditing program could be useful in educating businesses about the options available for their wastes, such as the waste exchange and the cost savings of having their material hauled to a processing center rather than a landfill.

Recommended Modifications: None

10. **Possible grants, loans and diversion credits for materials recovery service. (Work Plan, Page 12).**

Public Comments: None

Analysis:

Grants and loans would be targeted to local governments, businesses, and/or recyclers to support waste reduction and recycling programs. Metro plans to work with local governments and others between January 1 and May 1, 1987 to consider this program and the program for developing recycling containers for home or office mentioned above. Final decision on these and other possible projects is scheduled by Metro Council for May 1987, with possible implementation starting the next month.

Recommended Modifications: None

11. **Possible materials markets assistance, which may include market surveys and analysis, legislative proposals, grants and loans, development of institutional purchasing policies, and materials brokerage (Framework, Page 11 and Work Plan, Pages 40-41).**

Public Comments: None

Analysis:

The only market assistance activities that Metro is committed to doing are developing a Market Research Plan and promoting recycled products to institutional purchasers.

Recommended Modifications:

Metro should commit to actively approaching institutional purchasers with the message that purchasing of recycled products can assist recycling markets, rather than wait to be asked for assistance as the Work Plan contemplates (Work Plan, Page 43).

Recover Energy

1. **Metro will consider "The technical and economic feasibility of alternative technologies for disposal of up to 48% of the waste" (Framework, Page 11). 48% of the waste is 1,300 tons per day.**

   The technologies to be evaluated include composting, refuse-derived fuel (RDF), mass burn incinerator, and cellulose conversion to ethanol. Feasibility will be determined by issuing a Request for Qualifications (RFQ) in March 1986. Metro will by July 1986 allocate the amount of waste to selected technologies, determine how much the Council is willing to spend, and develop a list of vendor finalists for each type of acceptable technology, as determined from review of the RFQ responses. The finalists may be invited to compete in a Request for Proposal (RFP) to be issued in December 1986. If the Council decides to award a contract, commercial operation of the alternative technology is scheduled to begin in December 1990.

   Public Comments:

   Greg Niedermeyer, Niedermeyer-Martin Co., supports Signal-Resco's efforts to site a burner in Columbia County. He thought Metro should allow the 52% of the waste ultimately planned for recycling to be committed to a burner on an "as available" basis. He did not think that the Metro Program supported the conclusion that 52% recycling is technically feasible. He also was concerned about the availability of revenue bonding after 1986, a concern shared by Pete Williamson of the Port of St. Helens.

   Estle Harlan, Oregon Sanitary Service Institute, testified that the industry supports implementing alternative technology concurrently with recycling.

Michael Bick, Ebasco Services, Inc. and Schnitzer Steel Products, expressed concern that Metro's Program does not demonstrate a commitment to waste reduction because it does not commit to alternative technology. He also expressed concern about the slow schedule for implementation. He thinks that the post-contract timeline is unrealistic, and that it will take at least 36 months from waste flow agreements to start-up. Metro should begin negotiations immediately with energy recovery suppliers who have acceptable sites so that financing can be completed in 1986 before new tax laws eliminate Industrial Revenue Bond financing. Finally, he states that Metro should set disposal fees in excess of $40 to reflect the true cost of landfills. This level of fee would provide the kind of incentives needed to encourage waste generators to reduce, reuse and recycle.

Douglas Francescon, Citizen, supported the concept of a large scale energy recovery facility prior to landfilling. He said we must first process waste through the hierarchy of reduce, reuse, recycle, recover, and landfill only processed waste. He urged that we take advantage of the three current proposals in the Portland area for alternative technology/energy recovery while the opportunity is there.

Rebecca Marshall, GFA, supported Metro's proposal for alternative technology and the flexibility in the plan. She prefers diversification rather than one mass burner because its volume dependency could undermine recycling. She discussed the need for criteria to rank alternative technology by technical and economic feasibility, and the need for a revenue-producing facility with developed markets.

Jeanne Roy, Citizen, and Leanne MacColl, League of Women Voters, were concerned about Metro seeking proposals for a major energy recovery facility before recycling has become established. They are concerned that the energy recovery facility would compete for the same materials as recycling, and discourage the public from recycling.

Analysis:

Metro has a process for consideration of alternative technology to process the 48% of the waste that cannot be recycled, but has not committed to using such technology.

The Department believes that 48% is a reasonable amount to assume cannot be recycled even with the aggressive recycling program planned by Metro. Therefore, it is imperative to process that waste to recover energy and to reduce the volume. Metro should either commit approximately 1,300 tons per day of waste to alternative technology, or commit to paying a price per ton for alternative technology which at a minimum reflects the true cost of landfilling plus a premium for its higher position in the state solid waste management hierarchy, and is within the price range of

alternative technology facilities built and being built by local governments throughout the country.

According to Metro's timeline, Metro plans to decide on the allocation of waste to alternative technology and the range of acceptable costs by July 1986. The Department recognizes that these decisions, to be based partially on the response to the RFQ, probably cannot be made by the proposed May resubmittal deadline. But these decisions could be made before the EQC's final review of the Waste Reduction Program on June 27.

Recommended Modifications:

Metro should either commit approximately 1,300 tons per day of waste to alternative technology, or commit to allocating as much of the 1,300 tons as can be processed by an alternative technology or combination of technologies within a price per ton cap to be determined by Metro. The price cap must at a minimum reflect the true cost of landfilling plus an adequate premium for resource recovery's higher position in the state solid waste management hierarchy, and be within the price range of alternative technology facilities built and being built by local governments throughout the country. If Metro chooses to establish a price cap for selecting alternative technology rather than to commit 48% of the waste to alternative technology, then Metro must by ordinance adopt the price cap as an amendment to the Waste Reduction Program and submit it by June 13, 1986 to the EQC for approval.

2. **Metro will consider the need and feasibility of committing up to 50 tons per day of waste to a developmental technology.**

Public Comments:

Judy Dehen, Sierra Club, and Lyle Stanley, Citizens, suggested specific changes in the Alternative Technologies Section to promote the early consideration of developmental technologies. Both requested the inclusion of "Cellulose Conversion to Ethanol" technology in the summary of tasks (Work Plan, Page 24), and urged earlier consideration (date moved from 8/87 to 3/86) of developmental technology in the timetable. In addition, Dehen expressed concerns regarding the emissions of dioxins from incineration of municipal solid waste.

Analysis:

Metro will evaluate various types of alternative technologies, including developmental technology for approximately 50 tons per day of waste, and has stated that they will bear a somewhat greater risk for implementation of small-scale developmental technology. The work plan does not schedule the evaluation of the need, feasibility and process for implementing developmental technology until August 1987. The Work Plan is not

consistent in stating whether cellulose conversion to ethanol is a technology to be evaluated in the RFQ/RFP process.

Recommended Modifications:

Metro should clarify whether cellulose conversion to ethanol is a process which is to be evaluated through the RFQ/RFP process.

Waste Reduction Performance Goals:

1. **Metro plans to do a waste substream composition study to survey the volumes, composition and places of origin of waste generated by distinct generator types. Based on the study, the Council will set reduction performance goals for each individual wastestream.**

The 52% figure in the Final Report is not a goal but only a figure to set the outside parameter of the material which can be recycled. If the recycling goals yet to be set by Metro are substantially less than 52%, the increment of waste left will be allocated to alternative technology in 1993. See Phase III discussion, Page 23.

Public Comments: None

Analysis:

Because Metro has not yet set its waste reduction goals and because it is difficult to predict the success of the planned Reduce, Reuse, Recycle Program, it is impossible for the Department to find with any certainty that a set percentage of the wastestream will be recovered through Reduction, Reuse and Recycling. If all components of the Programs are implemented aggressively, including the crucial public education and promotion needed to change the region's disposal behavior, over time the region may be able to approach a 52% recycling rate. The Department agrees with Metro that time must be allowed for the recycling program to become established and for the public's attitude toward waste reduction to change. By 1993, if it is obvious that the 52% recycling rate cannot be achieved, then the strategy for waste reduction will shift to more alternative technology so that the reduction goals can be met.

Recommended Modifications: None

System Measurement (Framework, Page 4)

1. **In addition to the initial waste substream composition study, Metro proposes:**

   (a) **Periodic sampling of wastes to determine the amount of recyclable material being burned or landfilled instead of recycled.**

   (b) **Measurement of the quantities of wastes delivered to each facility.**

   (c) **Periodic survey of the quantities of materials recycled and the participation rates.**

   (d) **An on-going evaluation of the economic feasibility and cost-effectiveness of each program and the entire waste reduction effort.**

   Public Comments: None

   Analysis:

   The multiple means of measurement, including independent measurement of the amount and composition of materials disposed of, the quantities of materials recycled, and the participation rates in different recycling programs, should provide necessary information to evaluate the program and should show the effects of external factors such as changes over time in the quantities of materials available for recycling. If Metro commits the necessary resources to gather sufficient sample sizes, then Metro should obtain information valuable not only to measure the success of the program at meeting waste reduction goals, but also information that can help improve the recycling programs. The Work Plan (Page 46) commits to development of the ongoing systems measurement plan by May, 1986.

   Recommended Modifications: None

PHASE II

If the waste reduction goals for the individual substreams are not achieved by January 1, 1989, then Metro will ban landfill disposal of loads containing a high percentage of recyclable materials if more appropriate disposal options are available.

Public Comments: None

Analysis:

Phase II will affect change only if there are high-grade recyclable loads being dumped in the landfill. However, the more likely scenario is that if Phase I is failing, it is because local governments and garbage haulers have not responded to rate incentives and have failed to redesign collection routes to maximize wastestream differentiation and collect high-grade loads of recyclables (i.e. cardboard, office paper, yard debris). If that is the case, then there will be few loads of high-grade recyclables to divert to a processing center, and Phase II will have little effect.

Much of Metro's difficulty in devising the Waste Reduction Program is related to the fact that Metro has rate-setting and flow control authority, but not collection authority. If the indirect management tools Metro has been forced to use are not enough to achieve substantial reduction, then Metro should leave itself the option to request authority sufficient to accomplish the waste reduction goals established by Metro.

Recommended Modifications:

Metro should revise Phase II to commit to seek sufficient authority from the Oregon Legislature to ensure that the solid waste system will be managed to accomplish the waste reduction goals established by Metro.

PHASE III

If Phases I and II do not make significant progress toward maximum feasible waste reduction by January 1, 1993, or possibly earlier, then all waste not being recovered or processed for energy will be allocated to alternative technologies.

Analysis:

January 1, 1993 is a reasonable checkpoint to pick up any waste which several years of experience indicates cannot be recovered through the curbside recycling collection program and high-grade materials recovery centers. By 1993, either the Program is successful and recovering materials and energy from the entire waste stream, or will be as soon as Phase III is implemented.

Metro allows itself the option of implementing Phase III before 1993 if "the Metro Council determines that Phases I and II are unable to make significant progress toward maximum feasible waste reduction." (Framework, Page 15). This means that the Metro Council could potentially call the recycling program a failure shortly after 1989 and commit all the waste being landfilled to alternative technology. The

attitudes and system changes which will make the reduction and recycling programs successful will not happen overnight. Furthermore, as the League of Women Voters of Portland commented, having the option to commit the recyclable portion of the waste to alternative technology may well discourage source separation and a total commitment by Metro and the region's population to successfully implement the reduction and recycling programs.

Recommended Modifications:

Metro should revise Phase III to delete the possibility of implementation before January 1, 1993.

Evaluation of the Metro Waste Reduction Program as a Whole

Metro is to be congratulated for considering every feasible waste reduction technique which, to the Department's knowledge, is being used in this country, and preparing a Waste Reduction Program which is innovative and multi-faceted. The program is properly based on the state's hierarchy of solid waste management methods, emphasizing reduction, reuse and recycling first, and allowing only the portion of the wastestream deemed nonrecyclable to be allocated to energy recovery.

The deficiencies in the Program are not in the conceptual framework, but in the lack of specificity and Metro Council commitment to actually implement. To a large extent, the Program is a plan to plan rather than a plan for implementation. The Department recognizes that the Program was developed under severe time constraints imposed by the legislature, and that for many of the Program components, more planning is necessary before implementation. The Department, however, does not believe the criteria of SB 662 can be met without more specificity and commitment to implement. Allowing Metro 90 days to modify its Program in effect gives Metro an additional five months from adoption of its Resolution to hone its concepts and continue its planning efforts.

For several components, there needs to be clarification of the timetable or text. For others, the implementation dates need to be accelerated so that the region will begin to benefit from waste reduction activities in the near future.

All the Program components appear to be legally feasible. Technical feasibility and degree of effectiveness are more problematic. The local collection service certification and rate incentives components, both keystones of the Program, are untested and may or may not succeed in encouraging substantial waste reduction activities. Whether or not they will succeed depends to a large extent upon how these components are designed and administered. Metro should be given additional time to further develop and explain these proposed components.

For many of the components, Metro has promised only "to consider" carrying out the component. These components cannot be found to contribute to substantial waste reduction. Even the components which the Final Report and Work Plan state will be implemented may in fact not be. The Metro Council, the elected body which holds the purse strings and makes the policy decisions for Metro, has not adopted either document. The Council has indicated its commitment to the Program only so far as the very general language in its Resolution No. 85-611-A indicates commitment.

The resolution states that budget amendments "will be considered for selected programs contained in the Solid Waste Reduction Program." Metro "will consider" a higher premium for reduction or recovery based on the state priority list, and Metro "will determine the range of acceptable costs and other specific criteria" for alternative technology projects. This kind of language does not indicate commitment from which findings can be made that a program component will be implemented. Nor does the resolution supply the specificity and timelines required by SB 662.

Finally, since shortly after SB 662 was passed, the Department has told Metro that a plan for household and small quantity hazardous wastes should be included in the Waste Reduction Program. (See Attachment 2 letters). The Department has now agreed with Metro that a plan for household and small quantity hazardous waste can be submitted separately from the Waste Reduction Program, if it is submitted to DEQ by August, 1986, and if the Department is assured, prior to the EQC's final evaluation of the Waste Reduction Program, that such a plan will be developed.

See Chart on next page for summary of evaluation of Metro Waste Reduction Program.

Recommended Modification:

SB 662, Section 8 requires a "commitment by the district to substantially reduce the volume of solid waste" and a "timetable for implementing each portion of the solid waste reduction program." The Metro Council must adopt by ordinance the Framework and Work Plan in order for the EQC to find that the Council is committed to the Program, the timetable for implementation, and providing the necessary funds. The Framework and Work Plan should be adopted as the Waste Reduction element of Metro's Solid Waste Management Plan.

SUMMARY OF EVALUATION OF THE METRO WASTE REDUCTION PROGRAM

Component	Metro Council Commitment to Implement	Program Commitment to Implement	Beginning Immediate Implementation	Legally Feasible	Technically Feasible	Economically Feasible	Effective & Appropriate	Recommended Modification
Phase I								
Reduce and Reuse								
A. Promotion and education	No	Commit	Yes	Yes	Yes	Yes	Yes	Yes
B. Plastics reduction legislation	No	Consider	Yes	Yes	Yes	Yes	Yes	No
C. Packaging reduction legislation	No	Consider	Yes	Yes	Yes	Yes	Yes	No
D. Salvage of building materials	No	?	No	Yes	Yes	Yes	Yes	Yes
E. Waste exchange	No	Consider	No	Yes	Yes	Yes	Yes	Yes
Recycle								
A. Technical assistance	No	Commit	Yes	Yes	Yes	Yes	Yes	Yes
B. Promotion and education	No	Commit	Yes	Yes	Yes	Yes	Yes	Yes
C. Recycling information center enhancement	No	Commit	Yes	Yes	Yes	Yes	Yes	Yes
D. Certification	No	Commit	No	Yes	?	Yes	?	Yes
E. Yard debris programs	No	Commit	Yes	Yes	Yes	Yes	Yes	Yes
F. Post collection materials recovery	No	Commit	No	Yes	Yes	Yes	Yes	Yes
G. Rate incentives	No	Commit	No	Yes	?	Yes	?	Yes
H. Recycling container development	No	Consider	No	Yes	Yes	?	Yes	No
I. Waste auditing consulting service	No	Consider	No	Yes	Yes	Yes	Yes	No
J. Grants, loans, diversion credits	No	Consider	No	Yes	Yes	Yes	Yes	No
K. Materials markets assistance	No	Consider	No	Yes	Yes	Yes	?	Yes
Recovery Energy								
A. Alternative technology	No	Consider	No	Yes	Yes	Yes	Yes	Yes
B. Developmental technology	No	Consider	No	Yes	?	?	?	Yes
Goals & System Measurement								
Waste reduction performance goals	No	Commit	Yes	Yes	Yes	Yes		No
System measurement	No	Commit	No	Yes	Yes	Yes	Yes	No
Phase II								
A. Bans on disposal of recyclables	No	Commit if Phase I goals not met	No	Yes	Yes	Yes	Yes	Yes
Phase III								
A. Commitment of remaining waste to alternative technology	No	Commit if Phase I and II goals are not met	No	Yes	Yes	Yes	Yes	Yes

(SM79)

Alternatives

The following potential alternatives for EQC action are identified:

1. Approve the Metro Program as submitted, with findings that the Program meets the criteria set out in SB 662, Section 8.

   Because of the problems cited in the prior analysis, the Department does not believe that the criteria of SB 662 are met.

2. Allow Metro not more than 90 days to modify the program to meet the Commission's objections.

   The Commission may adopt in whole or part the Department's list of objections and directions to Metro for modifying the Program, or may adopt its own list of objections and directions.

   The Commission may allow Metro less than 90 days for modification, but the Department recommends that the entire 90 day period allowed by SB 662 be granted. Three months will be a short but sufficient period of time for Metro to make the required modifications.

3. Delay a decision and adoption of findings and request further comment or analysis from Metro and/or the Department.

   This alternative will necessarily cut short Metro's 90-day modification period if the Commission ultimately decides to return the Program to Metro for modification. The Program must be resubmitted in time to allow Department review, a Public Hearing and comment period, and a Commission decision before July 1, 1986. The July 1, 1986 deadline for final review of the Program is statutorily set and can therefore not be changed. If the Commission fails to act or to approve the Program by July 1, 1986, all of Metro's solid waste management functions and powers automatically transfer to DEQ.

Summation:

1. The EQC cannot find that the Metro Council has made a commitment to substantial reduction of the volume of solid waste currently being landfilled because it has not adopted by ordinance the Framework or Work Plan and is therefore not bound to implement the Program.

2. The EQC finds that there are textual conflicts that need to be resolved.

3. The EQC finds that at least a portion of the program is to be immediately implemented, but most of the immediate implementation is planning rather than waste reduction activities which will immediately reduce the volume of waste being landfilled.

4. The EQC finds that the proposed program does use approaches which follow the state's solid waste management priorities (ORS 459.015(2)(a)).

Director's Recommendation:

It is recommended that the Commission adopt the above evaluation and summation as its findings and conclusions, and pursuant to SB 662, Section 8 (3), should allow Metro 90 days to modify the Waste Reduction Program to comply with SB 662.

In order for the EQC to find that Metro's Waste Reduction Program complies with the standards set out in SB 662, the Metro Council must:

(1) Make the modifications listed in the evaluation and summarized below;

(2) Show how the objections will be met by another method; or

(3) Justify why the recommended modifications are not legally, technically or economically feasible.

Modifications for Compliance with SB 662

The Metro Council must:

6. 1. Prepare a comprehensive promotion and education program, including a detailed work plan for a multi-year promotion and education campaign and the financial commitment made to support it.

7. ok 2. Clarify whether it commits to incorporation of salvage facilities at the landfill and transfer stations.

8. NO 3. Commit to the establishment of a regional waste exchange.

8. OK 4. Commit to promote aggressively the technical assistance program.

9. OK 5. Commit adequate financial resources to operate RIC with paid staff.

6. Accelerate the certification process to initiate standards beyond SB 405 and apply rate incentives for those standards by January 1, 1987.

7. Accelerate consideration of rate options and differentials, and indicate the rates or range of rates to be applied in the certification program.

8. Apply rate incentives by January 1, 1988 to encourage (1) generation of high-grade commercial loads and (2) collection systems for yard debris.

9. Clarify whether SWPAC or Metro Council grants certification to a certification unit.

10. Explain how the certification program will be implemented so as to not penalize complying collectors and rate payers.

11. Accelerate the date of certification for yard debris to January 1988, or clarify that the Program already indicates that date.

12. Commit to ban source separated yard debris from the landfill by January 1, 1989.

13. Indicate the expected date of completion of the WTRC materials recovery facility.

14. Commit to either retrofitting CTRC for materials recovery or allowing a private materials recovery center to be established within easy access of CTRC.

15. Until CTRC is retrofitted, require high-grade loads delivered to CTRC to be diverted to existing materials recovery centers.

16. Require high-grade loads delivered to St. Johns to be diverted to Oregon Processing and Recovery Center.

17. Actively approach institutional purchasers about the need for purchasing recycled products.

18. Commit 1,300 tons per day of waste to alternative technology, or commit to establishing a price cap and allocating as much of the 1,300 tons as can be processed within that price cap.

19. Clarify whether cellulose conversion to etehanol is a process which is to be evaluated in the RFQ/RFP process.

20. Revise Phase II to commit to seek sufficient authority from the Oregon Legislature to ensure that the solid waste system will be managed to accomplish the waste reduction goals established by Metro.

21. Revise Phase III to delete the possibility of implementation before January 1, 1993.

22. Adopt by ordinance the Framework and Work Plan as an element of the Metro Solid Waste Management Plan.

Fred Hansen

Attachments:
1. Senate Bill 662
2. Letters from DEQ to Metro dated August 20, December 3 and December 12, 1985, and January 30, 1986.
3. Hearing Officer's Report

Lorie Parker:m
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January 31, 1986