Agenda

2000 S.W. First Avenue Portland, OR 97201-5398 503 221-1646

METRO

*PLEASE NOTE: NEW STARTING TIME

DATE :	January 14, 1993
MEETING:	METRO COUNCIL
DAY:	Thursday
TIME:	4:00 p.m.*
PLACE :	Metro Council Chamber

Approx. Time*

Presented By

Buchanan

Devlin

4:00 ROLL CALL/CALL TO ORDER (5 min.)

- INTRODUCTIONS
 - CITIZEN COMMUNICATIONS TO THE COUNCIL ON NON-AGENDA ITEMS EXECUTIVE OFFICER COMMUNICATIONS
- CONSENT AGENDA (Action Requested: Motion to Adopt the 4:05 4. (5 min.) Consent Agenda)
 - 4.1 Minutes of December 10, 1992

REFERRED FROM THE SOLID WASTE COMMITTEE

- 4.2 Resolution No. 93-1675, For the Purpose of Appointing Jeffrey Kee, Jim Michels and Larry Scruggs to Fill Three Expiring Terms on the North Portland Rehabilitation and Enhancement Committee
- 5. ORDINANCES, SECOND READINGS

REFERRED FROM THE GOVERNMENTAL AFFAIRS COMMITTEE

4:10 5.1 Ordinance No. 93-479A, An Ordinance Creating the Office of Moore (10 min.) Citizen Involvement; Establishing a Citizen's Involvement Committee and a Citizen Involvement Process; and Declaring an Emergency Public Hearing (Action Requested: Motion to Adopt the Ordinance)

REFERRED FROM THE FINANCE COMMITTEE

- 4:20 Ordinance No. 93-480A, An Ordinance Amending Ordinance No. Devlin 5.2 (10 min.) 92-449B Revising the FY 1992-93 Budget and Appropriations Schedule for the Purpose of Funding Councilor Salaries and Benefits and a Citizen Involvement Program; and Declaring an Emergency <u>Public Hearing</u> (Action Requested: Motion to Adopt the Ordinance)
- 4:30 5.3 Ordinance No. 93-481, An Ordinance Amending Metro Code (10 min.) Section 2.01.170 to Repeal Councilor Per Diem Procedures; Establish Councilor Salary Procedures; and Declaring an Emergency Public Hearing (Action Requested: Motion to Adopt the Ordinance)

6. RESOLUTIONS

REFERRED FROM THE GOVERNMENTAL AFFAIRS COMMITTEE

4:40

6.1 Resolution No. 93-1724, For the Purpose of Establishing Appointing Authorities for the Metro Apportionment (10 min.) Commission (Action Requested: Motion to Adopt the Resolution)

* All times listed on this agenda are approximate; items may not be considered in the exact order listed.

METRO COUNCIL AGENDA January 14, 1993 Page 2

REFERRED FROM THE REGIONAL FACILITIES COMMITTEE

- 4:50 6.2 Resolution No. 93-1726, For the Purpose of Authorizing the (10 min.) Metro Washington Park Zoo to Solicit Bids and the Executive to Execute a Contract for the Multi-Year Lease/Purchase of Staff Pagers (Action Requested: Motion to Adopt the Resolution)
- 5:00 6.3 Resolution No. 93-1729, For the Purpose of Authorizing the Washington (10 min.) Execution of the Energy Service Contract with Pacific, Power and Light Company (Action Requested: Motion to Adopt the Resolution)

REFERRED FROM THE SOLID WASTE COMMITTEE

5:10 6.4 Resolution No. 93-1732, For the Purpose of Authorizing (10 min.) Issuance of a Request for Bids for the Construction of an Improved Cover System, Gas Collection System, Motor Blower Flare Facility, and Stormwater Collection System on a Portion of St. Johns Landfill (Action Requested: Motion to Adopt the Resolution)

BEFORE THE CONTRACT REVIEW BOARD

5:20 6.5 Resolution No. 93-1733, For the Purpose of Authorizing an (10 min.) Exemption to the Competitive Procurement Procedures of Metro Code Chapter 2.04.053, and Authorizing a Change Order to the Design Services Agreement with Parametrix, Inc. (Action Requested: Motion to Adopt the Resolution)

REFERRED FROM THE PLANNING COMMITTEE

5:30 6.6 Resolution No. 93-1743, Endorsing the Region's Proposal to (10 min.) Participate in the FHWA Congestion Pricing Pilot Program (Action Requested: Motion to Adopt the Resolution)

5:40 COUNCILOR COMMUNICATIONS AND COMMITTEE REPORTS 7.

(10 min.)

6:00 ADJOURN

* All times listed on this agenda are approximate; items may not be considered in the exact order listed.

Buchanan

McFarland

Washington

Meeting Date: January 14, 1993 Agenda Item No. 4.1

MINUTES

MINUTES OF THE COUNCIL OF THE METROPOLITAN SERVICE DISTRICT

December 10, 1992

Council Chamber

Councilors Present:

Presiding Officer Jim Gardner, Deputy Presiding Officer Judy Wyers, Roger Buchanan, Tanya Collier, Richard Devlin, Sandi Hansen, Ruth McFarland, Susan McLain, George Van Bergen and Ed Washington

Councilors Excused:

Ed Gronke and Terry Moore

Presiding Officer Gardner called the regular meeting to order at 5:34 p.m.

1. INTRODUCTIONS

None.

2. <u>CITIZEN COMMUNICATIONS TO THE COUNCIL ON NON-AGENDA ITEMS</u> None.

3. EXECUTIVE OFFICER COMMUNICATIONS

None.

4. CONSENT AGENDA

4.1 Minutes of November 12, 1992

Councilor McFarland corrected the November 12, 1992, minutes. She noted page 7, paragraph 7 should read "trails" rather than "trials." She noted page 8, paragraph 7, should read (additions underlined; deletions bracketed): "Councilor McFarland noted because [funds were leveraged with matching grants, Metro received \$1 million last year] of matching grants, projects received additional matching funds for a value of approximately \$1 million to the region and hopefully projects would receive [a] similar amount[s] amount this year or possibly more. Councilor McFarland noted the excellent work performed by Mel Huie, Senior Regional Planner, on the projects."

Councilor McFarland explained it was misleading for the minutes to state Metro had received \$1 million in leveraged funds when the projects, not Metro, had received those funds.

<u>Motion</u>: Councilor McFarland moved, seconded by Councilor Buchanan, for approval of the Consent Agenda as corrected.

> <u>Vote</u>: Councilors Buchanan, Collier, Devlin, Hansen, McFarland, McLain, Van Bergen, Washington, Wyers and Gardner voted aye. Councilors Gronke and Moore were excused. The vote was unanimous and the Consent Agenda was adopted as corrected.

5. ORDINANCES, FIRST READINGS

5.1 Ordinance No. 92-474, An Ordinance Amending Ordinance No. 92-449B Revising the FY 1992-93 Budget and Appropriations Schedule for the Purpose of Funding Increases in the Solid Waste Revenue Fund Operating Account

The Clerk read the ordinance for a first time by title only.

Presiding Officer Gardner announced Ordinance No. 92-474 had been referred to the Finance and Solid Waste Committees for consideration.

5.2 Ordinance No. 92-478, An Ordinance Amending Ordinance No. 92-449B Revising the FY 1992-93 Budget and Appropriations Schedule for the Purpose of Fully Funding the Portland/Oregon Visitor Association Marketing Plan for the Oregon Convention Center

The Clerk read the ordinance for a first time by title only.

Presiding Officer Gardner announced Ordinance No. 92-478 had been referred to the Finance Committee for consideration.

- 6. ORDINANCES, SECOND READINGS
- 6.1 Ordinance No. 92-475, An Ordinance Amending Ordinance No. 92-449B Revising the FY 1992-93 Budget and Appropriations Schedule for the Purpose of Funding a Hardware Upgrade and Software Support Services Enhancements to Metro's Financial System and for Funding Improvements to the Efficiency of Metro's Business Operations

The Clerk read the ordinance for a second time by title only.

Presiding Officer Gardner announced Ordinance No. 92-475 was first read on November 24 and referred to the Finance Committee for consideration. The Finance Committee recommended the ordinance to the full Council for adoption on December 3, 1992.

<u>Motion</u>: Councilor Hansen moved, seconded by Councilor Devlin, for adoption of Ordinance No. 92-475.

Councilor Hansen gave the Finance Committee's report and recommendations. She explained the ordinance would allow the purchase of a new battery for the mainframe computer and that the purchase of one within the next 30 days would save \$1,000; an additional \$8,010 for Metro's software support agreement; and the purchase of four new personal computers to use as training machines or substitutes while other personal computers were being repaired at a cost of \$6,000 for hardware and \$2,752 for software. Councilor Hansen said the total amount, \$20,817, would be taken from the Support Services Fund Contingency.

Presiding Officer Gardner opened the public hearing.

No persons appeared to testify and the public hearing was closed.

7. RESOLUTIONS

Presiding Officer Gardner adjourned the Council of the Metropolitan Service District and convened the Contract Review Board of the Metropolitan Service District to consider Agenda Item No. 7.1.

7.1 <u>Resolution No. 92-1721, For the Purpose of Accepting a</u> <u>Donation from Louisiana Pacific Foundation, Waiving</u> <u>Competitive Bidding and Authorizing a Contract with</u> <u>Halstead's Arboriculture Consultants</u>

<u>Motion</u>: Councilor McFarland moved, seconded by Councilor Wyers, for adoption of Resolution No. 92-1721.

Councilor McFarland gave the Regional Facilities Committee's report and recommendations. She explained consultants had said the new Roosevelt Elk exhibit in the Cascades exhibit at the Zoo should have several large trees for shade and protection. She said Zoo staff determined six Douglas Fir trees 40 to 60 feet tall would be appropriate for that display and found only one company that had successfully dealt with trees of that size. She said Louisiana Pacific Corporation would give Metro \$18,000 to move the trees and that the trees themselves would not cost Metro anything. She said the area in which the trees originated would be cleaned up also.

Vote:

Councilors Buchanan, Collier, Devlin, Hansen, McFarland, McLain, Van Bergen, Washington, Wyers and Gardner voted aye. Councilors Gronke and Moore were excused. The vote was unanimous and Resolution No. 92-1721 was adopted.

7.2 <u>Resolution No. 92-1717, For the Purpose of Adopting the</u> <u>Metro Washington Park Zoo's "A Great Zoo - Framework for the</u> <u>Future"</u>

<u>Motion</u>: Councilor McFarland moved, seconded by Councilor Devlin, for adoption of Resolution No. 92-1717.

Councilor McFarland gave the Regional Facilities Committee's report and recommendations. She explained amendments made at committee per the Committee's request. She said the plan did not constitute a commitment on the Council's part to approve everything requested in the Plan. She said it was a 25-year plan and that other plans would be incorporated as they arose. She said the plan was philosophical in nature and did not relate to sequential, specific events. She explained the exhibits planned for by the Zoo as well as plans for animal conservation.

Councilor Van Bergen expressed strong concern about funding for future construction and projects at the Zoo. He said the Council must start thinking about that and other financial issues now because funds were scarce for all new projects. The Council discussed financing and future projects at the Zoo further.

- <u>Vote</u>: Councilors Buchanan, Collier, Devlin, Hansen, McFarland, McLain, Van Bergen, Washington, Wyers and Gardner voted aye. Councilors Gronke and Moore were excused. The vote was unanimous and Resolution No. 92-1717 was adopted.
- 7.3 <u>Resolution No. 92-1723A, For the Purpose of Approving a</u> <u>Request for Proposals Document for Financial Advisory</u> <u>Services and Waiving the Requirement for Council Approval of</u> <u>the Contract and Authorizing the Executive Officer to</u> <u>Execute the Contract Subject to Conditions</u>
 - <u>Motion</u>: Councilor Wyers moved, seconded by Councilor Hansen, for adoption of Resolution No. 92-1723A.

Councilor Wyers gave the Finance Committee's report and recommendations.

<u>Vote</u>: Councilors Buchanan, Collier, Devlin, Hansen, McFarland, McLain, Van Bergen, Washington, Wyers and Gardner voted aye. Councilors Gronke and Moore were excused. The vote was unanimous and Resolution No. 92-1723A was adopted.

8. COUNCILOR COMMUNICATIONS AND COMMITTEE REPORTS

The Council discussed recent Joint Policy Advisory Committee on Transportation (JPACT) activity and legislation forwarded by same to the Transportation and Planning Committee on Monday, December 14.

Councilor Wyers distributed her December 10 memorandum, "Update on Apportionment Commission Legislation" and said it would be discussed at the December 16 Governmental Affairs Committee meeting.

Councilor Van Bergen noted his December 7 memorandum, "Trailblazer Negotiations" enquiring about the current status of Metro's agreement to transfer the Memorial Coliseum back to the City of Portland per their agreement with the Oregon Arena Corporation (OAC).

Councilor McLain, Regional Facilities Committee Chair, said the Regional Facilities Committee had held more discussions on the proposed childcare center at Metro Regional Center and additional meetings with staff would be held to discuss advisory committee issues.

Presiding Officer Gardner announced a Council work session would be held December 14 to discuss issues related to Councilor salaries, a draft ordinance budget amendment to fund same and the Metro Committee on Citizen Involvement as well as General Counsel Dan Cooper's opinion on waiving all or part of Councilor salaries and how the Metro Charter would be interpreted on those issues.

All business having been attended to, Presiding Officer Gardner adjourned the meeting at 6:05 p.m.

Respectfully submitted,

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Paulette Allen Clerk of the Council

Meeting Date: January 14, 1993 Agenda Item No. 5.1

ORDINANCE NO. 93-479A

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503/221-1646

DATE: January 8, 1993

TO: Metro Council Executive Officer Interested Parties

FROM: Paulette Allen, Clerk of the Council

RE: AGENDA ITEM NO. 5.1; ORDINANCE NO. 93-479A

The Finance Committee report on Ordinance No. 93-479<u>A</u> will be distributed in advance to Councilors and available at the Council meeting January 14, 1993.

GOVERNMENTAL AFFAIRS COMMITTEE REPORT

ORDINANCE NO. 93-479<u>A</u>, CREATING THE OFFICE OF CITIZEN INVOLVEMENT; ESTABLISHING A CITIZEN'S INVOLVEMENT COMMITTEE AND A CITIZEN INVOLVEMENT PROCESS; AND DECLARING AN EMERGENCY

Date: January 14, 1992 Presented by: Councilor Moore

<u>COMMITTEE RECOMMENDATION</u>: At its January 7, 1993 meeting the Governmental Affairs Committee voted 3-0 to recommend Council adoption of Ordinance No. 93-479 as amended. Voting in favor: Councilors Gates, Moore and Wyers. Excused: Councilors Gardner and Hansen. Other Councilors present: Buchanan, Devlin, Kvistad, McLain, and Washington.

<u>COMMITTEE DISCUSSION/ISSUES</u>: Council Administrator Don Carlson presented the staff report. He said the ordinance implemented the provisions of the Charter, section 28, for the Office of Citizen Involvement and the committee for citizens involvement. Additionally, the ordinance would approve the Metro Committee for Citizen Involvement (MCCI) as the committee outlined in the Charter.

Councilor Hansen asked for the budget impact. Mr. Carlson stated the impact was \$26,800 for the current fiscal year, and that Judy Shioshi, Associate Council Analyst would move to full-time employment. The budget adjustment is included in a separate ordinance. Councilor Hansen asked about a need for additional funds for office expenses, and Mr. Carlson explained the costs would be absorbed in the existing budget and information would be evaluated as work progresses. If it became necessary, an additional amendment might be requested and that the FY 93-94 budget would include projected expenses.

Councilor Buchanan expressed concern over problems in the appointment process, and the committee discussed Councilor participation in that process. Councilor Devlin noted that if the Council wanted to make changes to the process, a separate resolution would be required to amend the MCCI bylaws. Chair Gates requested copies of the bylaws be distributed to the committee for review.

Committee discussion then centered on three points: 1) how the MCCI will report to the Council, 2) the placement of the office, and 3) the relationship of the members or alternates to the citizens within, and in the surrounding area of, Metro.

Councilor Moore moved that the committee forward the ordinance with the following amendments to address these issue areas:

• 2.12.010, Creation and Purpose: There is hereby created an Office of Citizen Involvement consisting of such employees as

the Council may provide. The Office of Citizen Involvement shall report to the Metro Council and is not a department of Metro.

 2.12.020, Establishment of Metro Committee for Citizen Involvement: (b)(5) Members (or designated alternates) shall be expected to [represent] present a balanced representation of the interests of their [constituency] district at all meetings of the Metro CCI.

The first amendment was developed to clarify the reporting and placement of the office within the Metro organization.

The second amendment was proposed to clarify the relationship of the MCCI, as they do not represent the citizens directly, but should broadly present a balanced representation of the interests of those in the district.

The Committee received testimony from Sidney Bass, a MCCI member and participant in the committee which developed the bylaws. Addressing Councilor Buchanan's concerns, he stated the group was to be a process group, not an advocacy group, and that the intent of the MCCI was to advise all standing committees as necessary. He supported the Ordinance.

Councilors discussed holding the Ordinance for action at a future date. The committee concluded that inasmuch as appointments require Council ratification, and the appointment process itself is contained in the MCCI bylaws, which would be a separate discussion, that the bylaws might be reconsidered for potential amendments at a later time.

The committee then approved the ordinance with the amendments.

BEFORE THE METRO COUNCIL

AN ORDINANCE CREATING THE OFFICE OF CITIZEN INVOLVEMENT; ESTABLISHING A CITIZEN'S INVOLVEMENT COMMITTEE AND A CITIZEN INVOLVEMENT PROCESS; AND DECLARING AN EMERGENCY ORDINANCE NO. 93-479A

Introduced by the Governmental Affairs Committee

THE METRO COUNCIL ORDAINS AS FOLLOWS:

Section 1. Amending the Metro Code. Section 2 of this Ordinance is an amendment to the Metro Code.

<u>Section 2. Adding Chapter 2.12.</u> The following chapter is added to the Metro Code.

CHAPTER 2.12

OFFICE OF CITIZEN INVOLVEMENT

2.12.010 Creation and Purpose: There is hereby created an Office of Citizen Involvement consisting of such employees as the Council may provide. The Office of Citizen Involvement <u>shall</u> <u>report to the Metro Council and</u> is not a department of Metro. The purpose of the Office of Citizen Involvement is to develop and maintain programs and procedures to aid communication between citizens of Metro and the Council and Executive Officer.

2.12.020 Establishment of Metro Committee for Citizen Involvement:

(a) There is hereby established the Metro Committee for Citizen Involvement (Metro CCI) within the Office of Citizen Involvement. The Metro CCI will be responsible for assisting with the development, implementation and evaluation of Metro's citizen involvement programs and advising the Council, Executive

ORDINANCE NO. 93-479<u>A</u> - Page 1

Officer, and appropriate Metro committees in ways to involve citizens in regional planning activities and other Metro programs.

(b) The Council shall by Resolution appoint members and alternates to the Metro CCI. The positions shall be as follows:

- (1) The Metro CCI shall have nineteen (19) members. Each member position shall have an alternate. Membership shall consist of:
 - (A) One (1) representative from each of the thirteen (13) Metro Council districts (for a total of 13);
 - (B) One (1) representative from each of the areas outside of the Metro boundaries in Clackamas, Multnomah, and Washington Counties (for a total of 3);
 - (C) One (1) representative from each of Clackamas County's Committee for Citizen Involvement (CCI), Multnomah County's Citizen Involvement Advisory Committee (CIAC) and Washington County's Committee for Citizen Involvement (CIC) (for a total of 3).
- (2) A Metro staff member shall act as a non-voting advisor for the Metro CCI.
- (3) Members and alternates shall not be elected officials.
- (4) Alternates for each member shall be appointed to serve in the absence of the regular members (and shall be encouraged to attend meetings on a participatory but non-voting basis).

(5) Members (or designated alternates) shall be expected to [represent] present a balance representation of the interests of their [constituency] district at all meetings of the Metro CCI.

Section 2.12.030 Approval of Bylaws and Appointments: The Council shall approve bylaws by which the Metro CCI will proceed. Bylaws shall include: the committee's name; the geographical area served; the mission and purpose of the committee; membership and terms of office; officers and duties; meetings, conduct of meetings and quorum standards; and methods for amending the bylaws.

The Council shall by resolution make reappointments to the Metro CCI from time to time, and revise the organizational structure of the Metro CCI as made necessary by changes to Metro Code.

Section 3. Recognizing and Continuing Effect of <u>Resolutions.</u> Until such time as existing members terms expire the Metro CCI appointed pursuant to Resolutions 92-1666A and 92-1702 shall serve as the Metro CCI created by this Ordinance. The bylaws adopted pursuant to Resolution 92-1580 shall be the bylaws of the Metro CCI subject to amendment pursuant to Metro Code Section 2.12.030.

<u>Section 4.</u> Effective Date. This Ordinance being necessary for the health, safety, or welfare of the Metro area, for the reason that the Metro Charter takes effect January 1, 1993 and requires the establishment of the Office of Citizen Involvement and a citizen's involvement committee, an emergency ORDINANCE NO. 93-479<u>A</u> - Page 3 is declared to exist, and this Ordinance takes effect upon passage.

ADOPTED by the Metro Council this ____ day of _____, 1993.

ATTEST:

Judy Wyers, Presiding Officer

Clerk of the Council

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ORDINANCE NO. 93-479<u>A</u> - Page 4

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503 221-1646

Memorandum

Date: December 17, 1992

To: Governmental Affairs Committee

From:

Donald E. Carlson, Council Administrator

Re: Committee Introduction of Citizen Involvement Program Ordinance

Please find attached Draft Ordinance No. 93-479. The purpose of the ordinance is to recognize the creation of the office of citizen involvement and continue the existing Metro Committee for Citizen Involvement as the charter mandated citizen involvement committee. Ordinance No. 93-479 is the same as that reviewed and discussed be the Council at it's December 14 Work Session.

Also attached is a copy of the December 7, 1992 memo that was considered by the Council at the Work Session.

Council Staff recommends that the Governmental Affairs Committee adopt a motion to introduce Ordinance No. 93-479 for filing with the Council Clerk and First Reading at the December 22, 1992 Council Meeting.

Ord. 93-479.memo

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503/221-1646

Memorandum

Date: December 7, 1992

To: Metro Council

From:

Donald E. Carlson, Council Administrator Judy Shioshi, Associate Council Analyst

Re:

Draft Ordinance on the Office of Citizen Involvement and the Metro Committee for Citizen Involvement

Please find attached a draft copy of an ordinance which implements the provisions of Section 28 of the Metro Charter. Section 28 reads as follows:

"Section 28. Metro Office of Citizen Involvement

(1) <u>Creation and purpose.</u> The Metro office of citizen involvement is created to develop and maintain programs and procedures to aid communication between citizens and the council and executive officer.

(2) <u>Citizen's committee in office of citizen involvement.</u> The council shall establish by ordinance (a)a citizen's committee in the office of citizen involvement and (b) a citizen involvement process. The council shall appropriate sufficient funds to operate the office and committee."

Prior to the adoption of the Charter the Council started the process for creating a regional citizen involvement program. The ordinance adopting the Regional Urban Growth Goals and Objectives required creation of a citizen's involvement committee and process for Metro. Bylaws have been approved by the Council creating the Metro Committee for Citizen Involvement (Metro CCI) and an extensive recruitment, nominating and appointment process has just been completed. The Council has provided staff support for this effort.

The Draft ordinance recognizes the efforts to date and the provisions of the Metro Charter. The ordinance 1) creates the Office of Citizen Involvement including continuation of Council Department staff support for the Office; 2) establishes the Metro Committee for Citizen Involvement continuing the previously adopted Bylaws and recognizing the current membership of the Metro CCI; and 3) declares and emergency and sets an immediate effective date for the ordinance.

Based upon the level of staffing effort to date provided by Ms. Shioshi (she has averaged 29 hours per week) and the need to

continue implementation of the council outreach program, Council Staff is recommending the Associate Council Analyst position be increased to a full time position. It is currently budgeted at .50 FTE. The staff effort for the Metro CCI also includes meeting notice, agenda preparation and distribution, meeting recording and record retention duties. The Council Department will provide these activities with existing resources.

The cost of increasing the Associate Council Analyst position to full-time is approximately \$26,800 for the current fiscal year. Details of the necessary budget adjustment are included in the proposed ordinance amending the Council Department budget regarding Council salaries.

cc: Rena Cusma, Executive Officer Metro Committee for Citizen Involvement

Ord. 93-xxx Cit.Inv.memo

BEFORE THE METRO COUNCIL

AN ORDINANCE CREATING THE OFFICE OF CITIZEN INVOLVEMENT; ESTABLISHING A CITIZEN'S INVOLVEMENT COMMITTEE AND A CITIZEN INVOLVEMENT PROCESS; AND DECLARING AN EMERGENCY

ORDINANCE NO. 93-479

Introduced by the Governmental Affairs Committee

THE METRO COUNCIL ORDAINS AS FOLLOWS:

<u>Section 1. Amending the Metro Code.</u> Section 2 of this Ordinance is an amendment to the Metro Code.

<u>Section 2. Adding Chapter 2.12.</u> The following chapter is added to the Metro Code.

CHAPTER 2.12

OFFICE OF CITIZEN INVOLVEMENT

2.12.010 Creation and Purpose: There is hereby created an Office of Citizen Involvement consisting of such employees as the Council may provide. The Office of Citizen Involvement is not a department of Metro. The purpose of the Office of Citizen Involvement is to develop and maintain programs and procedures to aid communication between citizens of Metro and the Council and Executive Officer.

<u>2.12.020</u> Establishment of Metro Committee for Citizen Involvement:

(a) There is hereby established the Metro Committee for Citizen Involvement (Metro CCI) within the Office of Citizen Involvement. The Metro CCI will be responsible for assisting with the development, implementation and evaluation of Metro's citizen involvement programs and advising the Council, Executive

ORDINANCE NO. 93-479 - Page 1

Officer, and appropriate Metro committees in ways to involve citizens in regional planning activities and other Metro programs.

(b) The Council shall by Resolution appoint members and alternates to the Metro CCI. The positions shall be as follows:

- (1) The Metro CCI shall have nineteen (19) members. Each member position shall have an alternate. Membership shall consist of:
 - (A) One (1) representative from each of the thirteen (13) Metro Council districts (for a total of 13);
 - (B) One (1) representative from each of the areas outside of the Metro boundaries in Clackamas, Multnomah, and Washington Counties (for a total of 3);
 - (C) One (1) representative from each of Clackamas County's Committee for Citizen Involvement (CCI), Multnomah County's Citizen Involvement Advisory Committee (CIAC) and Washington County's Committee for Citizen Involvement (CIC) (for a total of 3).
- (2) A Metro staff member shall act as a non-voting advisor for the Metro CCI.
- (3) Members and alternates shall not be elected officials.
- (4) Alternates for each member shall be appointed to serve in the absence of the regular members (and shall be encouraged to attend meetings on a participatory but non-voting basis).

(5) Members (or designated alternates) shall be expected to represent the interests of their constituency at all meetings of the Metro CCI.

Section 2.12.030 Approval of Bylaws and Appointments: The Council shall approve bylaws by which the Metro CCI will proceed. Bylaws shall include: the committee's name; the geographical area served; the mission and purpose of the committee; membership and terms of office; officers and duties; meetings, conduct of meetings and quorum standards; and methods for amending the bylaws.

The Council shall by resolution make reappointments to the Metro CCI from time to time, and revise the organizational structure of the Metro CCI as made necessary by changes to Metro Code.

Section 3. Recognizing and Continuing Effect of Resolutions. Until such time as existing members terms expire the Metro CCI appointed pursuant to Resolutions 92-1666A and 92-1702 shall serve as the Metro CCI created by this Ordinance. The bylaws adopted pursuant to Resolution 92-1580 shall be the bylaws of the Metro CCI subject to amendment pursuant to Metro Code Section 2.12.030.

Section 4. Effective Date. This Ordinance being necessary for the health, safety, or welfare of the Metro area, for the reason that the Metro Charter takes effect January 1, 1993 and requires the establishment of the Office of Citizen Involvement and a citizen's involvement committee, an emergency is declared to exist, and this Ordinance takes effect upon ORDINANCE NO. 93-479 - Page 3 passage.

ADOPTED by the Metro Council this ____ day of _____, 1993.

ATTEST:

, Presiding Officer

Clerk of the Council

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ORDINANCE NO. 93-479 - Page 4

Meeting Date: January 14, 1993 Agenda Item No. 4.2

RESOLUTION NO. 93-1675

SOLID WASTE COMMITTEE REPORT

CONSIDERATION OF RESOLUTION NO. 93-1675, FOR THE PURPOSE OF APPOINTING JEFFREY KEE, JIM MICHELS AND LARRY SCRUGGS TO FILL THREE EXPIRING TERMS ON THE NORTH PORTLAND REHABILITATION AND ENHANCEMENT COMMITTEE

Date: January 7, 1993 Presented by:

<u>Committee Recommendation:</u> At the January 5 meeting, the Committee voted 4-0 to recommend Council adoption of Resolution No. 93-1675. Voting in favor: Councilors Buchanan, McLain, Washington and Wyers. Councilor McFarland was excused.

<u>Committee</u> Issues/Discussion: Katie Dowdall, Enhancement Coordinator, explained the recruitment, interview and selection process used to select the proposed appointees. Councilor Hansen introduced Mr. Michels and Mr. Kee and provided a brief biographical sketch of each appointee.

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF APPOINTING JEFFREY KEE, JIM MICHELS AND LARRY SCRUGGS TO FILL THREE EXPIRING TERMS ON THE NORTH PORTLAND REHABILITATION AND ENHANCEMENT COMMITTEE

RESOLUTION NO.93-1675

Introduced by Rena Cusma Executive Officer

WHEREAS, The Metro Council adopted Resolution No. 86-682 on August 28, 1986, creating the North Portland Rehabilitation and Enhancement Committee; and

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WHEREAS, The North Portland Rehabilitation and Enhancement committee consists of seven members: Metro Councilor from District 12 as chair, three neighborhood appointments and three Metro appointments; and

WHEREAS, The three expiring terms on the committee are Metro appointments; and

WHEREAS, The Executive Officer solicited applications from individuals residing within the rehabilitation and enhancement boundary during October and November 1992 to serve on the North Portland Rehabilitation and Enhancement Committee for a four year term; and

WHEREAS, The Executive Officer received 19 applications and 5 applicants were interviewed, and

WHEREAS, The Executive Officer has authority to appoint members to the Committee for Council confirmation, and

WHEREAS, Upon consultation with Councilor Hansen, Chair of the Committee, the Executive Officer recommends to the Metro Council for confirmation the following names for appointment to the Committee: Jeffrey Kee, Jim Michels and Larry Scruggs; now therefore,

BE IT RESOLVED,

1. THAT the Metro Council hereby confirms the appointment of Jeffrey Kee, Jim Michels, and Larry Scruggs to the North Portland Rehabilitation and Enhancement Committee.

2. THAT the committee membership and term of service for these individuals shall be from this date through December 1996.

ADOPTED by the Metro Council this _____day of _____, 1993.

Presiding Officer

KD:clk s:\dowd\npec\re931675 METROPOLITAN SERVICE DISTRICT 2000 SW First Avenue Portland, OR 97201-5403 (503) 221-1646

RECEIVED SEP 30 1992

APPOINTMENT INTEREST FORM

Special Interests, If Any Preference:

NORTH PORTLAND ENHANCEMENT COMMITTEE

* REFERTO 1992	APPUCATION.	******	*******
IAME: SEFFILIEN A. KEE	Date:	· · ·	
IOME DDRESS:			
Street	City	State	Zip
ADDRESS:Street	City	State	Zip
Iome Phone:	BUSINESS PHONE	· ·	
OCIAL SECURITY NO	METRO DISTRICT (i.e., the district that y	NO.: ou live in)	•
THE FOLLOWING INFORMATION IS VOLUNTARY	:		•
Sex: Еп-	INIC ORIGIN		
METRO STRIVES FOR ETHINIC AND MINORITY BALANCE, AS WI	ELL AS GEOGRAPHIC REPRESENTATION, I	N ITS MEMBERSHIP COMP	osition.)
SCHOOL (INCLUDE HIGH SCHOOL)	LOCATION	Majorof	DEGREE

LIST MAJOR EMPLOYMENT AND/OR VOLUNTEER ACTIVITIES, BEGINNING WITH MOST RECENT (INCLUDE ALL EXPERIENCES YOU BELIEVE TO BE RELEVENT)

DATE (TO/FROM) EMPLOYER/ORGANIZATION Ροςιτιόν . . EXPERIENCE, SKILLS, OR QUALIFICATIONS YOU FEEL WOULD CONTIBUTE TO A PUBLIC SERVICE APPOINTMENT. OUTLINE YOUR REASONS AND INTERESTS IN APPLYING FOR AN APPOINTMENT: ۰. 9/28/92 Applicant * REFER VO JAN 1992 APPCICATION

PLEASE ATTACH A SEPARATE SHEET/RESUME IF YOU SO DESIRE

* CHECK GPRECING ON APPLICATION.

Jeffrey A. Kee 4722 N. Depauw Portland, Or 97203 (503) 240-0233

OBJECTIVE To secure a demanding position with an organization that recognizes people as its greatest resource.

EDUCATION Bachelor of Science degree in Industrial Management, marketing option. Oregon Institute of Technology.

EXPERIENCE Telemarketing, Oregon Environmental Council. Called individuals who had shown support for the Council in the past and asked if they were interested in continuing their support for 1991.

> Advertising, Oregon Trout, Inc. Created an advertising pamphlet for a fund raising, direct mail raffle. Mailing to just under 30,000 households.

Executive Assistant, Association of Northwest Steelheaders. Aided Executive Director in a variety of functions, included new membership mailings, newsletter production, scheduling, information collecting, and hearing participation.

Vehicle Specification Writer, Freightliner Corp. Designed Class 8 vehicles, systems analysis. Communications Director for the Freightliner Recreation Club.

Business Editor, 'Central Oregonian'. Reported business activity of Crook County, Oregon. Special projects. Community Business Assistance Team, Oregon Marketplace Advisory Board, COIC.

ADDITIONAL Other positions include Conference Coordinator, Maintenance Supervisor, Resident Advisor, Business Manager, Managing Editor, Associate Editor, Veneer Grader, Private Contractor, Foreman and Ranch Hand.

SEMINARS Employee wellness/fitness, persuasion, How to promote your group, leadership and counseling.

OTHER SKILLS

Have a working knowledge of Spanish, LOTUS 1-2-3, a variety of word processing programs and am currently working on developing strong grant writing skills.

MEMBERSHIPS Rocky Mountain Elk Foundation, Nature Conservancy, Oregon Trout and Association of Nortwest Steelheaders.

METROPOLITAN SERVICE DISTRICT 2000 S.W. First Avenue Portland, OR 97201-5403 (503) 221-1646

APPLICATION FORM FOR APPOINTMENT	r to:		· ·
NORTH PORTLAND ENHANCEMENT COMMITTEE			
**************************************	*****	*****	****
*****	****	• • • • • • • • • • • • • • • • • • •	
NAME: SEFFREY ALLEN KEE	DA1	re:1/1/92	*****
HOME ADDRESS: 4722 N. DEPAUN	PORTIAND	Dre	97203
Street	City	State	Zip
BUSINESS ADDRESS:	·		•
Street	City	State	Zip
HOME PHONE: (503) 240-0233 BU	JSINESS PHONE:	SAME	ана сталина.
DATE OF BIRTH: $18/63$ SOCI	AL SECURITY #	:	-00
Affirmative Action Information: Sex_M Racial/Ethnic Backgrou (To assist in the program, you a which is necessary for statistical and Federal law, this information against you)	und <u>CAUCASUN</u> are asked to p reporting pur may not be us	provide info poses. Unde sed to discr	rmation r State iminate
bankruptcy? yes	in a civil ac no <u>x</u>	tion or fil	ed for
Have you been arrested for any cr. offense? yes	ime, violatior no <u>×</u>	, or major t	raffic
School (Include High School) Loc	cation Date	s Major/I)egree
ORGEDAN INSTITUTE OF TECHNOLOGY KLAMATH	FAUS, DRE 196	7 INDUSTRIAL	MANAGEMENT
		MARKETING	
•		RECEIT	VE 1992

List major paid employment (include significant volunteer activities). List chronologically beginning with most recent experiences and include all experiences you believe are relevant.
Date (to/from) Employer/Organization & Position Held Address Memselship Divertor 5/91 PARSENT ASSOCIATION OF NORTHWEST STERLYRADERS MILWAVILLE ORE
5/89 to 2/91 FREIGHTUNGI CORP. COMMUNICATIONS DIRELTOR PORTIAND ORE 80 CENTRAL DREIDONIAN BUSINESS ROMOR /PROSECT EDITOR PRINEVILLE DRE
OF ONGLOW INSTRUTE OF TRUGDING RESIDENT ADVISOR KLAMATTIFALLS, ORG

LIST EXPERIENCE, SKILLS OR QUALIFICATIONS WHICH YOU FEEL WOULD QUALIFY YOU FOR THE POSITION: HAVE BUDGETING, PROSECT EVALVATION & DEVELOPMENT EXPERIENCE. HAVE SAT ON A VARIETY OF ADVISORY BODIES INCLUDING STUDENT SENATE, INCIDENTAL FEE COMMISSION, STUDENT MEDIA ADVISORY COUNCIL, DRELON MARKETPLACE ADVISORY BOARD, SHOW COMMITTERS, BANQUET COMMITERS. HAVE EXTENSIVE COMMUNICATION EXPRANCE, WRITING, EDITING, PHOTOGRAPHY, INTERVIEWING, TRAINING, WORD MOLESSING IN THE SPACE PROVIDED, STATE YOUR REASONS AND PURPOSES FOR APPLYING FOR THE POSITION: I HAVE SOME EXPERIENCE BUDGETING & EVALUATING PROGRAMS. BELIEVE I CAN BENEFIT NONTH PONTAND AND NELD ITS RESIDENTS FOCUS ON PROSERTS AND PROGRAMS THAT WILL IMPROVE THE QUALITY OF LIFE IN THE AREA. IT IS A UNIQUE AREA WITH A RICH, RICH IT KIDRY, & MALE IT PROSPEROUS. I AM WANT TO HELP CLEAN IT UP CONCERNED ABOUT PUBLIC & ENVIRONMENTAL HEALTH. I WANT TO HELP

I certify that the information provided on this form is true to the best of my knowledge.

Signature

(To provide additional information or references, please attach a separate sheet/resume)

a

METROPOLITAN SERVICE DISTRICT 2000 SW First Avenue Portland, OR 97201-5403

(503) 221-1646 Plarge porestris to APPOINTMENT INTEREST FORM KATIC DOWBALL

Special Interests, If Any Preference

enhancement	hancement
LOONDINATOR	COONDINATOR

NORTH PORTLAND ENHANCEMENT COMMITTEE

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IFTRO OFFICE COMMENTS:			• `
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Street	City	State Zip	· · ·
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540.45		CTNO: 12	
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	A/	R.L. LANS TO	
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Marlford H.S.	plantford	14:5 DIPL	0 have

Larry G. Scruggs, CMP 6942 North Villard Street Portland, Oregon 97217-5157 Home 503/285-5488, Fex 503/285-0949 Business 503/283-7273, Fax 503/283-7399

PROFESSIONAL APPOINTMENTS AND EXPERIENCE

Director of Auxiliary Services (1983-present), University of Portland. Senior Administrative position responsible for the management and operation of the Bookstore, the Conference Office, the Earle A. Chiles Center Arena, Facilities Coordination, Marketing University facilities and services throughout the nation, the Department of Safety and Security, Neighborhood Relations, Parking, Space Allocation, and various special projects as assigned, such as construction and renovation projects, building permits, the space analysis of the campus, selected strategic planning, and the campus facilities master plan.

Conference Director (1975-1983), University of Portland. Staff level position responsible for the rental of on-campus facilities and services to off-campus groups. Additional responsibilities during this time included Facilities Coordinator (1976-1980) and Director of Student Activities (1979-1980).

MAJOR ACCOMPLISHMENTS

Sales and Marketing: Have marketed the University and the City of Portland as a conference and convention destination for the past 17 years. Have participated with P/OVA at various national conventions, trade shows, the Destination Showcase, the Golfe, the GWSAE Springtime and Summertime events, the National Tour Association Fly-ins, fam trips, regional events, and sales calls in various cities. These efforts made the conference program at the University the most successful for its size in the country and helped to bring hundreds of conferences and conventions to Portland.

Conference and Event Management: Have chaired or managed many conferences and/or conventions and coordinated the work of thousands of volunteers since 1975. Largest convention was an international four day conference with an attendance of 2,600 people, 120 exhibits, and a hotel block of 1,600 rooms at peak night. Largest event had an attendance of 400,000 people, and a live television audience of 12,000,000. Have hosted many dignitaries and political figures including the President of the United States.

Strategic Planning and Construction: Current project is leading the team, including staff, architects, attorneys, land use planners, and municipal code experts, which is developing a campus facilities master plan for the University. Completed projects include strategic plans for eight areas of responsibility within Auxiliary Services in 1991 and 1992 and a space inventory analysis for the campus in 1984. Have led strategic planning and goal planning sessions for various nonprofit associations since 1988. Major construction projects include the Earle A, Chiles Center Arena, Harry A. Merio Soccer Field, the Pilot House Student Center and the West Hall renovation project.

SELECTED PROFESSIONAL AND CIVIC AFFILIATIONS

The American and Oregon Society of Association Executives, Meeting Planners International and its Oregon Chapter, the Greater Washington D.C. Society of Association Executives, the Golfe, thePortland/Oregon Visitors Association, the Portland Chamber of Commerce, the Portland Rose Festival Association, the National and Western Associations of College Auxillary Services, the National Association of College and University Business Officers, the Association of College and University Housing Officers-International Conference Services Workshop,

(over please)

FORMAL EDUCATION, PROFESSIONAL EDUCATION AND CERTIFICATION

Ph.D. (probable) In Urban Studies, Portland State University. Schedulod completion is in March of 1994. Major field areas are Policy Analysis and Urban Social Patterns: Social Change in the Twentleth Century. Dissertation is in process and is a non-decision policy analysis in the area of unrolated business onterprises by nonprofits.

M.S. In General Studies/Social Science, Southern Oregon College, 1972.

B.S. in Law Enforcement, Southern Oregon College, 1971.

Certified Meeting Professional (CMP), Convention Liaison Council, 1989.

Finance and Administration Certificate, American society of Association Executives, 1990. Graduate of the WACUBO Business Management Institute, Stanford University, 1986.

PUBLICATIONS AND PRESENTATIONS

Conferences on Campus: Marketing and Managing, Fourth Revised Edition, The University of Portland Press, 1988.

Seventy-nine presentations, seminars and workshops for various associations since 1978: Nine articles in various professional journals since 1981.

SELECTED PUBLIC AND PROFESSIONAL SERVICE AND AWARDS

Presidencies and Chairmanships:

City of Portland Noise Review Board 1989-present, Oregon Chapter of Meeting Planners International 1990-1991, Lombard North Business Association 1989-1990, Portland Oregon Sales and Marketing Executives International 1990-1991, Western Association of College Auxiliary Services 1982, American Society for Engineering Education 1988 International Conference, Portland Rose Festival Grand Floral Parade 1987 and 1988, Portland Rose Festival Starlight Parade 1982, 1983 and 1984, Big Thunder District of the Columbia Pacific Council, Boy Scouts of America 1987. Queen of Peace Parish Septemberfest 1982 and 1984.

Major Boards and Committees:

International Council of Presidents -Meeting Planners International 1990-1992. (Executive Committee 1991-1992), Portland/Oregon Visitors Association 1984-present (Executive Committee 1986-1990), Portland Rose Festival Association 1980-present (Executive Committee 1984-1989), Steering Committee for the Portland Rose Festival CART Races from 1984-1988, "Blue Ribbon" Steering Committee for the NAACP National Convention, Fund Raising Committee for the 1988 International Association of Chiefs of Police Conference, Columbia Pacific Council-Boy Scouts of America 1987-1989. Queen of Peace Parish Council 1978-1984. Pope John XXIII School Board 1976-1980, Central Catholic High School Board of Regents 1982-1984. Steering Committee of the North Portland Revitalization Project (1991present), and the North Portland Promotions Committee of Peninsula Neighbors/NPCC.

Recognition and Awards:

President's Award, Portland/Oregon Visitors Association, 1992. University of Portland, Charles A. Miltner Award (Outstanding Administrator), 1985. Who's Who in the West, Marquis Who's Who, 1983, 1985, 1987, 1989, 1991. Bob Hasson Award (25 new members), Portland Chamber of Commerce, 1986. Profiled in Food Management Magazine, 1989.

Excellence in Journalism Award, National Association of College Auxiliary Services, 1982. Numerous certificates of appreciation and awards of meril from various nonprofit, civic and community organizations

REFERENCES AND A COMPLETE CURRICULUM VITA FURNISHED UPON REQUEST

LIST MAJOR EMPLOYMENT AND/OR VOLUNTEER ACTIVITIES, BEGINNING WITH MOST RECENT (INCLUDE ALL EXPERIENCES YOU BELIEVE TO BE RELEVENT)

DATE (TO/FROM) ENTLOYER/ORGANIZATION POSITION See ATTAchan Volusteen Acrisitie's D. PONTAN REDITALISIS CAMMITTEE D. PORTIAN PROMOTIN Committee Loubras plank Busider trave ALGOL LODGE Dength backnown ASGOL EXPERIENCE, SKILLS, OR QUALIFICATIONS YOU FEEL WOULD CONTIBUTE TO A PUBLIC SERVICE APPOINTMENT: Degotister experies ADMINISTATOR OUTLINE YOUR REASONS AND INTERESTS IN APPLYING FOR AN APPOINTMENT: I want to help make A positive Differences RA MALL plan to Lin' 10.30-92 Date

PLEASE ATTACH A REPARATE SHEET/RESUME IF YOU SO DESIRE
JIM MICHELS 1922 North Terry Street Portland, OR 97217-6547

October 28, 1992

Rena Cusma, Executive Officer Metropolitan Service District 2000 SW First Ave. Portland, OR 97201

SUBJECT: North Portland Enhancement Committee.

On January 23 of this year the Metropolitan Service District Council, acting upon your recommendation appointed me fill the unexpired term of Michael Vernon on the North Portland Enhancement Committee when Mr. Vernon resigned (Resolution No. 92-1544). I have nearly completed Mr. Vernon's term now and am seeking appointment to a term in my own name.

I do not have an application form, however I have review my original application form and find it substantially unchanged. Please accept this letter and the previous form as my application to succeed myself.

It has been a rewarding experience serving on and with the North Portland Enhancement Committee even though economic conditions have prevented us from recommending some very worthy projects; I hope I may continue.

Sincerely,

Jim Michels

cc: Sandi Hansen Kathleen Dowdell -

METROPOLITAN SERVICE DISTRICT 2000 S.W. First Avenue Portland, OR 97201-5403 (503) 221-1646

APPLICATION FORM FOR APPOINTMENT TO:

NORTH PORTLAND ENHANCEMENT COMMITTEE

**************************************	*********	******		
AME: Jim Michels OME DDRESS: 1922 N Torry St			******	******
OME DDDFSS 1922 N Torry St		DATE: 1	16/92	
	Dent 3	·		
Street	Portland,	OR	<u> </u>	7-6547
USINESS same DDRESS:	City	2		Zīb
Street	City	S	tate	Zip
DME PHONE: 283-1600	BUSINESS PHO	ONE:_same		•
ATE OF BIRTH: 5/9/34 S	OCIAL SECURI	ry #:_542_	34-9242	•
TRO DISTRICT # 12		· · · · ·		
ve you ever been a defendan nkruptcy? yes <u>x</u> Ve you been arrested for some	t in a civi	l action	or file	ed for
fense?	crime, viola	tion, or	major t	raffic
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hool (Include High School) Salem High School Salem,	no <u>x</u> Location OR 547	Dates	Major/D	egree
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List major paid employment (include significant volunteer activities). List chronologically beginning with most recent experiences and include all experiences you believe are relevant. Date (to/from) Employer/Organization & Position Held Address · SEE ATTACHED LIST EXPERIENCE, SKILLS OR QUALIFICATIONS WHICH YOU FEEL WOULD QUALIFY YOU FOR THE POSITION: 1 am comfortable and experienced in similar positions. IN THE SPACE PROVIDED, STATE YOUR REASONS AND PURPOSES FOR APPLYING FOR THE POSITION: I have a strong interest in North Portland and it's people. I would like it's character and way of life preserved while enhancing economic justice. I certify that the information provided on this form is true to the best of my knowledge. Jan. 6. 1992 Applicant's Signature Date

(To provide additional information or references, please attach a separate sheet/resume)

EMPLOYMENT HISTORY

1989-present	Semi retired, writing
1986-1989	Macdonald Center, Executive Director
1986 & twice	
previously	Neighborhood Mediation Service, Mediator
1983-1986	Michels Store
1975	Graduate School, PSU
1975-1983	New Century Education Corp.
1973-1975	Graduate School, U of P
1970-1972	National Camp Fire Girls, Field Advisor
1966-1970	Student, baccalaureate, MAC

OTHER EXPERIENCE

(major)

Currently: I am on the Board of Catholic Charities and Vice President of Catholic Community Services of Portland

Previously, I have: Been on the Board of North Portland Citizens Committee, six years, three as secretary,

Was the first Chair of Kenton Neighborhood, served until it dishanded.

Was incorporator of Kenton Firehouse, also on Board of Kenton Firehouse #30 for several years. Negotiated with City for use of Kenton Firehouse.

Six Years on Board of Delaunay Mental Health Center.

Three years on Portland Park Bureau Budget Committee, two as co-chair.

Two years Co-chair of Portland Emergency Communications Budget Committee

Oregon Wing, Civil Air Patrol: Director of Logistic, Director of Cadet Activities, Director of Promotion Board.

Volunteer Neighborhood Mediator for many years (in addition to the time I was contract staff.)

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 93-1675 FOR THE PURPOSE OF APPOINTING JEFFREY KEE, JIM MICHELS, AND LARRY SCRUGGS TO FILL THE THREE EXPIRING TERMS ON THE NORTH PORTLAND REHABILITATION AND ENHANCEMENT COMMITTEE

Date: January 5, 1993

Presented by: Katie Dowdall

FACTUAL BACK GROUND

The North Portland Rehabilitation and Enhancement Committee was created by Metro in 1986. Resolution No. 86-682 specifies that the Committee shall consist of seven (7) members as follows:

(a) Three members of the Committee are appointed by the Metro Council from a list prepared by the Executive Officer, all of whom shall reside in the Rehabilitation and Enhancement program boundary;

(b) Three members appointed by the organization designated by the City of Portland to provide neighborhood participation services to North Portland. These members shall reside within the rehabilitation and enhancement program boundary;

(c) The Metro Councilor representing District 12, who shall be the Committee Chair.

The initial term of service for members involved two year terms for three members and four year terms for three members, in order to provide staggered membership expiration dates. Two-year term members could be reappointed one time. Terms of committee members are now four years; every two years the terms of three committee members expire. Members may not serve more than one term.

The three expiring terms are Metro's appointments. Pam Arden and Steve Roso have been on the committee for six years. They may not be reappointed. Jim Michels filled the unexpired vacancy left by Michael Vernon on January 1, 1992, that expired December 31, 1992. The resolution provides that he may apply again for one full four-year term. The three appointments must reside in the North Portland Enhancement boundary and their terms will be for four years.

A recruitment process was conducted to fill the three expiring terms in October and November 1992. The Executive Officer solicited names from individuals residing within the Rehabilitation and Enhancement boundary. Public announcements were placed in the *St. Johns Review*, *Neighbors Between the Rivers, The Oregonian, the Scanner and the Observer* and in the Neighborhood Newsletters of St. Johns, Arbor Lodge, Cathedral Park, Overlook, Portsmouth and University Park. The Executive Officer also sent letters to each North Portland Neighborhood Association, North Portland Neighborhood Office, River City North, St. Johns Boosters and Lombard North and Kenton Business Association to solicit their input for applicants. Letters were also sent to the seven previous applicants who applied to fill Michael Vernon's vacancy December 1991.

Nineteen applications were received. The Executive Officer, Rena Cusma prepared a list of names from the large applicant pool identifying the geographic representation of each applicant. Councilor Sandi Hansen, Don Rocks, and Katie Dowdall interviewed five of the applicants on December 3, 1992. Jim Michels was not one of the five interviewed as he has served on the committee for a year and his background is well known by the Chair.

After consultation with Councilor Sandi Hansen, Chair of the Committee and after considering Metro's and the community's needs, the Executive Officer recommends the appointment of Jeffrey Kee, Jim Michels, and Larry Scruggs to serve a four-year term on the North Portland Rehabilitation and Enhancement Committee.

EXECUTIVE OFFICER RECOMMENDATION

The Executive Officer concurs with the selection committee and recommends adoption of Resolution No. 93-1675, confirming appointments of Jeffrey Kee, Jim Michels and Larry Scruggs to the North Portland Rehabilitation and Enhancement committee for a four-year term beginning January 1993 and ending December 1996.

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KD:clk s:\dowd\npec\re931675.arp

Meeting Date: January 14, 1993 Agenda Item No. 5.2

ORDINANCE NO. 93-480A

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503/221-1646

Memorandum

DATE: January 8, 1993

TO: Metro Council Executive Officer Interested Parties

FROM: Paulette Allen, Clerk of the Council

RE: AGENDA ITEM NO. 5.3; ORDINANCE NO. 93-480A

The Finance Committee report on Ordinance No. 93-480A will be distributed in advance to Councilors and available at the Council meeting January 14, 1993.

BEFORE THE METRO COUNCIL

AN ORDINANCE AMENDING ORDINANCE) NO. 92-449B REVISING THE FY) 1992-93 BUDGET AND) APPROPRIATIONS SCHEDULE FOR THE) PURPOSE OF FUNDING COUNCILOR) SALARIES AND BENEFITS AND A) CITIZEN INVOLVEMENT PROGRAM;) AND DECLARING AN EMERGENCY) ORDINANCE NO. 93-480A

Introduced by the Finance Committee

WHEREAS, Voters of the Metropolitan Service District approved a Metro Charter on November 3, 1992; and

WHEREAS, The Metro Charter removes the authority to pay Metro Councilors a per diem payment and authorizes the payment of a salary to Councilors for services rendered; and

WHEREAS, The Metro Charter creates an Office of Citizen Involvement and requires the Metro Council to establish a citizen's committee, a citizen involvement process and appropriate sufficient funds to operate the office and committee; and

WHEREAS, The Metro Council has reviewed and considered the need to transfer appropriations within the FY 1992-93 Budget; and

WHEREAS, The need for a transfer of appropriation has been justified; and

WHEREAS, Adequate funds exist for other identified needs; now therefore,

THE METRO COUNCIL ORDAINS AS FOLLOWS:

1. That Ordinance No. 92-449B, Exhibit B, FY 1992-93 Budget, and Exhibit C, Schedule of Appropriations, are hereby amended as shown in the column titled "Revision" of Exhibits A

ORDINANCE NO. 93-480A - Page 1

and B to this Ordinance. The amendment transfers [\$184,416] <u>\$159,416</u> from the General Fund Contingency to the Council Department Personal Services category and [\$60,000] <u>\$85,000</u> from the Council Department Materials and Services category to the Personal Services category for the purpose of paying Councilors salaries and benefits and providing for the Office of Citizen Involvement and citizen's committee.

2. This Ordinance being necessary for the health, safety, or welfare of the Metro area, for the reason that the Metro Charter takes effect January 1, 1993, requiring that compensation to Councilors be in the form of a salary, and that an Office of Citizen Involvement and a citizen's committee be established and funded, an emergency is declared to exist and this Ordinance takes effect upon passage.

ADOPTED by the Metro Council this _____ day of _____, 1993.

Judy Wyers, Presiding Officer

ATTEST:

Clerk of the Council

L:\OR93-480A.AM1

ORDINANCE NO. 93-480A - Page 2

Exhibit A Ordinance No. 93-480A

<u></u>	FISCAL YEAR 1992-93		CURRENT BUDGET		REVISION		PROPOSED BUDGET	
ACCT#	DESCRIPTION	FTE	AMOUNT	FTE	AMOUNT	FTE	AMOUNT	
GENERA	L FUND:Council					· · · · ·	-	
.]	Personal Services							
511110	ELECTED OFFICIALS							
	Councilors	• .	0	2.34	162.400	2.34	162.400	
511121	SALARIES-REGULAR EMPLOYEES (full time)		•					
	Council Administrator	[•] 1.00	67,766		0	1.00	67,766	
	Sr. Management Analyst	3.00	136,188		. 0	3.00	136,188	
	Assoc. Management Analyst	0.50	19,000	0.50	20,000	1.00	39,000	
	Clerk of the Council	1.00	30,600		. 0	1.00	30,600	
511221	WAGES-REGULAR EMPLOYEES (full time)						•	
	Administrative Secretary	3.00	79,366		0	3.00	79,366	
	Secretary	1.00	19,199		0	1.00	19,199	
511400	OVERTIME		2,500		0	,	2,500	
512000 1	FRINGE		120,570	e t	62,016		182,586	
-	Total Personal Services	9.50	475,189	2.84	244,416	12.34	719,605	
· .	Materials & Services					•		
521100	Office Supplies	· ·	7,100		· 0		7,100	
521320	Dues		500		0		500	
524110	Accounting & Auditing Services		60,000		0		60,000	
524190	Misc. Professional Services		20,000		0		20,000	
525640	Maintenance & Repairs Services-Equipment		1.000		0		1.000	
525733	Operating Lease Payments-Other	•	15,000		0	•	15,000	
526200	Ads & Legal Notices		1,300		0		1.300	
526310	Printing Services		3,200	*	. 0		3,200	
526410	Telephone		900		. 0		900	
526440	Delivery Services		700		. 0		700	
526500	Travel		10,000		0		10.000	
526800	Training, Tuition, Conferences		5,500		• . 0		5,500	
528100	License, Permits, Payments to Other Agencies		9,500		0		9,500	
528200	Election Expense		188,000		(25,000)		163,000	
529110	Council Per Diem		104,400		(60,000)		44,400	
529120	Councilor Expenses		33,250		Ó		33,250	
529500	Meetings		11,000		0		11,000	
-	Total Materials & Services		471,350	· · · ·	(85,000)		386,350	
	Capital Outlay							
571500	Purchases-Office Furniture & Equipment		4,000		0		4,000	
-	Total Capital Outlay		4,000	-	0		4,000	
-	TOTAL EXPENDITURES		9 50,539		159,416		1,109,955	

Exhibit A Ordinance No. 93-480A

FISCAL YEAR 1992-93		CL	CURRENT BUDGET R		EVISION	PROPOSED BUDGET	
ACCT #	DESCRIPTION	FTE	AMOUNT	FTE	AMOUNT	FTE	AMOUNT
GENERA	AL FUND:General Expenses						
	Total Interfund Transfers		2,912,757		0		2,912,757
	Contingency and Unappropriated Balance	-					•
599999	Contingency		452,085		(159,416)		292,669
599990	Unappropriated Fund Balance	•	261,912		0		261,912
	Total Contingency and Unappropriated Balance		713,997		(159,416)		554,581
	TOTAL EXPENDITURES	16.25	5,233,578	2.84	0	19.09	5,233,578
			-				

Exhibit B Schedule of Appropriations Ordinance No. 93-480A

· ·	Current	Revision	Proposed
· · · · · · · · · · · · · · · · · · ·	Appropriation	Nevision	
ENERAL FUND			
Council			•
' Personal Services	\$475,189	\$ 244, 4 16	\$719,605
Materials & Services	\$471,350	(\$85,000)	\$386,350
Capital Outlay	\$4,000	\$0	\$4,000
Subtotal	\$950,539	\$159,416	\$1,109,955
Executive Management	•	• .	· ,
Personal Services	\$330,171	\$0	\$330,171
Materials & Services	\$142,742	\$0	\$142,742
Capital Outlay	\$0	\$0	\$0
Subtotal	\$472,913	\$0	\$472,913
Office of Government Relations			
Personal Services	\$100,901	\$0	\$100,901
Materials & Services	\$82,471	\$0	\$82,471
Capital Outlay	\$0	\$0	\$ 0
Subtotal	\$183,372	\$0	\$183,372
General Expenses			· · · ·
Interfund Transfers	\$2,912,757	\$0	\$2,912,757
Contingency	\$452,085	(\$159,416)	\$292,669
Subtotal	\$3,364,842	(\$159,416)	\$3,205,426
Unappropriated Balance	\$261,912	\$0	\$261,912
otal General Fund Requirements	\$5,233,578	\$0	\$5,233,578
•			

ALL OTHER APPROPRIATIONS REMAIN AS PREVIOUSLY ADOPTED

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503 221-1646

Memorandum

Date: December 16, 1992

To: Finance Committee

From:

Donald E. Carlson, Council Administrator

Re: Finance Committee Introduction of Councilor Salary Ordinances

Please find attached Draft Ordinance No. 93-480 and Draft Ordinance No. 93-481. The purpose of Ordinance No. 93-480 is to amend the FY 92-93 Budget and Appropriations Schedule to pay for Councilor salaries and benefits and the citizen involvement program required under the Charter. The ordinance is the same as reviewed and discussed by the Council at it's December 14 Work Session.

The purpose of Ordinance No. 93-481 is to amend the Metro Code to provide establish procedures for the payment of Councilor salaries including a waiver procedure. The ordinance also repeals the provisions in the Code for the payment of per diem. This ordinance is different from that discussed at the December 14 Work Session in that:

- 1. In response to the concern expressed by Councilor Buchanan about the waiver period, the six month period has been deleted and language has been added to state that the waiver will remain in effect until canceled in writing by the councilor. The cancellation would be effective at the beginning of the next pay period.
- 2. In response to the question about the base for the provision of benefits language has been added to clarify that benefits would be based on the full salary provided by law regardless of the waiver of any salary payments.

Both these changes have been developed with the assistance of General Counsel Dan Cooper.

Also attached is a copy of the December 9, 1992 memo to the Council which explains the purpose of the two ordinances.

Council Staff recommends that the Finance Committee adopt a motion to introduce both ordinances for filing with the Council Clerk and First Reading on the December 22, 1992 Council Meeting.

Council Salary Ordinances.memo

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503/221-1646

Date: December 9, 1992

To: Metro Council

From: Donald E. Carlson, Council Administrator

Re:

Draft Ordinances to Implement Charter Provisions for Councilor Salaries

Memorandum

The purpose of this memo is to provide draft ordinances to implement the salary provisions of the Metro Charter. The memo also contains two legal opinions from General Counsel on the subject.

The first opinion is in the form of a letter to the Presiding Officer dated December 7, 1992 (see Attachment 1) which states that a councilor, including the Presiding Officer, may waive all or a portion of the salary provided for in the Metro Charter. The opinion also recommends that the Council adopt an ordinance establishing procedures to implement the waiver provisions. That draft ordinance is included in this memo as Attachment 4.

The second opinion is a memo to me dated December 7, 1992 (see Attachment 2) which states that the general powers clause of the Charter (Section 9) contains sufficient authority for councilors to receive fringe benefits such as provided to Metro employees.

Attachment 3 is a draft ordinance which amends the current year budget and appropriations schedule to provide funds for councilor salaries and fringe benefits as well as additional funds for the citizen involvement program. As shown in Exhibit A the councilor salary and fringe portion of the amendment is an additional \$217,616 and the salary and fringe costs for the citizen involvement program is an additional \$26,800. The latter amount would provide sufficient funds to increase the Associate Council Analyst position to full-time (see Carlson/Shioshi memo dated December 7, 1992). The proposed amendment assumes all councilors will receive the full amount of the salary and a fringe rate of 34%. These additional costs are proposed to be funded with unspent Councilor Per Diem funds (\$60,000) and a transfer from the General Fund Contingency (\$184,416). Council Staff recommends the use of any unspent election expense funds left over after paying for the November election to reduce the draw on the Contingency. The costs of the election should be known prior to action on this ordinance in January 1993.

Attachment 4 is a draft ordinance suggested by General Counsel. It provides for councilors to be paid on a twice-a-month basis at the same time as Metro employees and a requirement for councilor's who wish to waive all or a portion of their salaries to do so for a period of not less than six months and to sign a release form upon receipt of each pay check.

Please review this material and bring it with you to the Council workshop on December 14, 1992. If you have any questions or need additional information, please let me know.

cc: Rena Cusma, Executive Officer Dan Cooper, General Counsel

ord. 93-xxx Cousal.memo

ATTACHMENT 1



METRO

2000 SW First Avenue Portland, OR 97201-5398 (503) 221-1646 Fax 241-7417

December 7, 1992

The Honorable Jim Gardner Presiding Officer 2930 S.W. Second Avenue Portland, OR 97201

Dear Councilor Gardner:

Re: Waiver of Councilors' Salaries Under the 1992 Metro Charter

You and other Councilors have asked this Office to advise you regarding the ability of a Councilor or the Presiding Officer to waive all or part of the salary provided for in the new Metro Charter.

The case law in Oregon as well as most of the case law elsewhere approaches the validity of a salary waiver from the standpoint of an officer who is seeking a judgment for full pay after having purportedly "waived" all or part of a salary. These are cases where the officer has at first seemingly agreed to take less than the authorized salary and then at a later time sought to be paid in full. Our opinion is that the Charter clearly would preclude any challenge to the validity of an agreement by a Metro Councilor including the Presiding Officer to waive all or part of a salary. However, we believe an implementing ordinance is advisable in order to ensure that there is certainty as to the commitment to waive the salary both as to the amount waived and the duration of the wavier.

In understanding the scope and nature of this opinion, it is important to recognize that the discussion of the law starts from the premise that no legal prohibition exists against accepting a paycheck for less than what someone is willing to pay. The issue is whether an elected official or other officer ever gives up the ability to change their mind and at a later date ask the courts to force payment of the amount that they voluntarily relinquished. Since the Charter addresses the issue of waiver of a salary, it is appropriate for the District as an entity to know what its right is to expect that any waiver of a salary, whether partial or in full, be final and not subject to being rescinded at a later time. This opinion addresses that question and that question only. We specifically do not address questions regarding the effect of a waiver on individual Councilor's income tax liability or other employment or other legal issues personal to individual Councilors. We also do not address any questions related to the perceived political implications of any salary waiver decisions.

Executive Officer Rena Cusma

Metro Council Jim Gardner Presiding Officer District 3

Judy Wyers Deputy Presiding Officer District 8

Susan McLain District 1

Lawrence Bauer District 2

Richard Devlin District 4

Edward P. Gronke District 5

George Van Bergen District 6

Ruth McFarland District 7

Tanya Collier District 9

Roger Buchanan District 10

Ed Washington District 11

Sandi Hansen District 12 Councilor Jim Gardner Page 2 December 7, 1992

I. <u>Background</u>

Chapter V, Section 21(1), of the 1992 Metro Charter provides that "[a] councilor may waive a salary." The Charter does not specifically state whether a Councilor may waive <u>part</u> of a salary. It also does not specifically state whether the Presiding Officer may waive all or part of a salary.

II. <u>Ouestions Presented</u>

Can a Councilor validly waive part of a salary?

Can the Presiding Officer validly waive all or part of a salary?

III. Answer to Ouestions Presented

Yes, for both questions. However, in order to avoid any possible ambiguities, it would be desirable for the Council to enact an ordinance implementing the Charter's waiver provision by providing for binding salary waiver agreements and written releases by each Councilor who waives part of a salary, and for any salary waivers by the Presiding Officer, upon periodic receipt of any salary remaining after the waiver.

IV. <u>Analysis</u>

A. <u>Common Law</u>

"At common law, acceptance by a public officer of an amount less than his or her salary does not represent a waiver, estoppel or accord and satisfaction." McQuillin Mun Corp § 12.191. (3rd Ed). See, e.g., De Boest v. Gambell, 35 Or 368, 58 P2d 72 (1899); Brown v. Department of Military Affairs, 386 Mich. 194, 191 N.W.2d 347 (1971). Accordingly, courts have often held that even a voluntary agreement by a public officer to accept less than the statutorily mandated salary of his/her office is void, and the public officer may, in an appropriate legal action, recover the full amount of the salary notwithstanding any agreements to the contrary. <u>Fisher v. Lane</u>, 174 Or 438, 149 P2d 562 (1944); McQuillin § 12.191., <u>supra</u>.

Courts base this common law doctrine on two separate principles. The first consideration is that a public official's salary is not contractual in nature, but rather a matter determined by statute or by organic Councilor Jim Gardner Page 3 December 7, 1992

> enactment. Since the salary under this view is simply not a matter governed by contract law in the first place, no purported amendment or waiver of the salary provisions mandated by law can be deemed effective. <u>Dunn v. Meyer</u>, 193 Ga. 91, 17 S.E.2d 275 (1941).

The second principle behind the common law rule is a court-formulated notion of public policy. The vast majority of American courts have reasoned that allowing a public official to waive all or part of a salary would offend public policy by transforming the election process into an "auction method," whereby the candidate willing to serve for the least amount of salary would gain an electoral advantage. <u>Allen v. City of Lawrence</u>, 61 N.E.2d 133 (1945); <u>Sparks v. Boggs</u>, 339 S.W.2d 480, (1960).

Oregon Supreme Court Precedents

Oregon courts have generally followed this widespread national rule, but with a significant exception. The primary case in this area is <u>De</u> <u>Boest v. Gambell</u>, 35 Or 368, 58 P2d 72 (1899). In <u>De Boest</u>, the plaintiff, an officer of the City of Portland, accepted a salary less than the amount fixed by law, and then, upon leaving office, brought an action for the remainder. The Oregon Supreme Court stated the general rule governing these cases:

> "It may be stated at the outset that, where the compensation of a public officer is fixed by law, it cannot be reduced by his superior officer or the person by whom he is employed, and the mere fact that he takes the reduced salary does not prevent him from claiming the residue; nor is an agreement or promise to accept such reduced salary binding upon him. The statutory salary of a public office belongs to the incumbent, as an incident of the office and as a matter of right; and he is entitled to receive it, not by force of any contract, but because the law attaches it to the office. It cannot be reduced except by some valid statute, and hence any at-

B.

Councilor Jim Gardner Page 4 December 7, 1992

> tempted reduction thereof by any officer or board is void, and the mere acceptance of such reduced salary does not constitute a waiver or create an estoppel." <u>De Boest, supra</u>, 35 Or at 372-373. (emphasis added) (citations omitted)

However, the court in <u>De Boest</u> recognized an apparent exception to this rule for agreements between the public official and the public body which have been "fully executed and performed":

> "Notwithstanding the fact that the resolution of the board [improperly reducing the plaintiff's salary] and the plaintiff's agreement to accept the reduced salary were void, he clearly had a right to release the city from any claim for his salary over and above the stipulated amount; and when at the end of each month he accepted the reduced salary as full compensation for this services for the preceding month, in pursuance of his agreement, it was, in our opinion, substantially the same as if he had made a donation to the city of the difference between his agreed and the statutory salary. It was a voluntary act on his part, in pursuance of an agreement or contract entered into by him, and there is no reason why he ought not now to be bound by it." De Boest, supra, 35 Or at 374-5.

follows:

The Court stated the general rule governing these situations as

"Where a public officer enters into an agreement with the board or person by whom he is employed or appointed to accept an office and discharge the duties Councilor Jim Gardner Page 5 December 7, 1992

> thereof for a less compensation than that provided by law, and such an agreement has been fully executed and performed, although invalid, as against public policy, at its inception, it is, <u>after having</u> <u>been so executed</u>, in our opinion, binding in law, as it always was in morals.

...[W]here the officer actually agrees to the acceptance of the reduced salary, and, <u>after it has been earned</u>, does so accept it, he will be held to be bound by his agreement and contract, the same as in any other case." <u>De Boest, supra</u>, 35 Or at 375-378.

The Supreme Court followed this doctrine, in <u>Chandler v. City of</u> <u>Elgin</u>, 129 Or 558, 278 P2d 581 (1929). In <u>Chandler</u> a city marshall accepted a lower salary than prescribed by law. After leaving office, the official brought an action for the entire amount, even though, during each month of his service, he had requested only the lower amount and signed a receipt acknowledging full payment. The Court, citing, <u>De Boest</u>, <u>supra</u>, held that, while such an agreement was invalid <u>prior</u> to performance:

"after the performance of the services the party may receive less compensation therefor than the legal salary, if he choose [sic] to do so. And where he renders a bill purporting to cover such services, and the whole thereof, and such bill is allowed and paid as rendered, and payment accepted without objection or protest, it amounts to an adjudication, and, in the absence of surprise, accident, or mistake of fact, cannot be reopened. Parties cannot so divide their claims and present them by installments.

... This we believe to be the law, in accord with the great weight of authority

Councilor Jim Gardner Page 6 December 7, 1992

> and controlling here." <u>Chandler, supra</u>, 129 Or at 562, <u>citing De Boest</u>, <u>supra</u>, and <u>O'Hara v. Town of Park River</u>, 1. N.D. 279, 47 N.W. 380.

A contrary result occurred in <u>Fisher v. Lane</u>, 174 Or 438, 149 P2d 562 (1944). There, the Court refused to apply the <u>De Boest</u> and <u>Chandler</u> exception to a waiver executed by a justice of the peace, because allowing a waiver in that situation would have violated the separate public policy interest in an impartial judiciary.

C. Effect of 1992 Metro Charter

Significantly, none of the courts in the cases cited above were presented with specific legislative or constitutional authority allowing public officials to waive their salaries, in whole or in part. Therefore, these cases, and the reasoning behind them, are of limited usefulness in light of the explicit salary waiver provision contained within the 1992 Metro Charter:

"Section 21. <u>Compensation of Elected</u> <u>Officers</u>

(1) <u>Council</u>. The salary of the council presiding officer is two-thirds the salary of a district court judge of this state. The salary of every other councilor is one-third the salary of a district court judge of this state. A councilor may waive a salary." Chapter V, Section 21(1), of the 1992 Metro Charter.

By specifically permitting a Councilor to "waive a salary," the Charter effectively does away with much of the rationale that supported the common law anti-waiver rule in the first place. The non-contractual nature of a Councilor's salary can no longer support the notion that the salary cannot be waived where, as here, the organic legislation of the public body in question specifically allows waiver. More importantly, the court-formulated concept of what constitutes good public policy has clearly been supplanted by the judgment of the Councilor Jim Gardner Page 7 December 7, 1992

Metro electorate that salary waivers ought to be permitted. Finally, even the Oregon cases prohibiting waiver do not apply when "some valid statute" would permit the waiver. <u>De Boest</u>, <u>supra</u>, 35 Or at 372-373.

While it is clear that the Charter's provisions make it possible for a Councilor to "waive a salary," the Charter is silent on the question of whether a Councilor may waive part of a salary. Because the electorate of the region has, through the Charter, effectively overruled the common law rationale for prohibiting waivers in the first place, there is no longer a need for a court to determine what public policy in this area should be. The electorate has determined that, as a matter of public policy, salary waivers ought to be permitted for Metro Councilors. Thus, the Charter has dispensed with the major public policy consideration upon which the cases cited above were based. For this reason, the cases disallowing salary waivers are of doubtful validity where Metro Councilors are concerned.

Moreover, the Oregon cases do allow for salary waivers under certain specified conditions. Although stating consistently that salary reduction agreements are void while executory, the Oregon Supreme Court has held that such agreements are nevertheless binding if a public official voluntary releases the public body from any claims he/she may have, upon performance of the duties in question, and pursuant to an agreement between the public body and the official. Based on these precedents, even if the Charter were silent on the issue of a salary waiver, there would seem to be nothing prohibiting the Council from enacting an ordinance or resolution implementing the salary waiver provision of the Charter by requiring Councilors who wish to waive all or a part of a salary to do so by formal agreement with Metro, including the signing of a release upon each periodic receipt of compensation which acknowledges that the Councilor has been fully compensated for all services rendered during the period in question, and releasing Metro from any future salary claims. Given the explicit language of the Charter which clearly provides for a waiver of all of a salary, we conclude there is no basis for a court to invalidate a partial waiver of a salary.

As quoted above, the relevant Charter section provides "a <u>councilor</u> may waive a salary." We believe that in the context of Section 21(1), the term "councilor" includes the Presiding Officer. The first

Councilor Jim Gardner Page 8 December 7, 1992

> sentence of Section 21 describes the salary of the Presiding Officer. The second sentence describes the salary of "every other councilor." In this context the use of the term "a councilor" in the next sentence means all Councilors, not "every other councilor."

Charter Section 16(5) provides that the Presiding Officer is elected from the Council membership. With the exception of the salary provided for in Section 21, there is no other language in the Charter that would indicate that the Presiding Officer is not a Councilor for the purpose of being authorized to waive a salary. Further, as is indicated above, even if the Charter is construed as being silent on this issue, under Oregon law a salary waiver by the Presiding Officer would be upheld as long as the procedural requirements established by the Oregon Supreme Court are complied with.

V. <u>Conclusion</u>

Pursuant to the 1992 Metro Charter, any Metro Councilor, including the Presiding Officer, may waive all or part of a salary.

However, in order to assure that such waivers are valid and binding, it would be desirable that they take place within the framework of a duly enacted ordinance. Such an enactment should implement the salary and waiver sections of the 1992 Metro Charter by providing that any Councilor may waive part of a salary by signing a written agreement to that effect. Also, the ordinance should specify that Councilors' salary shall be paid periodically, and that each periodic payment shall represent full payment for all services rendered during the period in question. Finally, each Councilor who waives part of a salary should be required to sign a release upon receipt of each periodic salary payment stating that the Councilor has been paid in full for all public services for that period, and releases any and all further salary claims against Metro for the period in question.

Yours very truly,

Daniel B. Cooper, General Counsel

DBC/MBW/dr 1645/6.#22.C CC:

Metro Councilors

ATTACHMENT 2

Memorandum

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503/221-1646

Date:	December 7, 1992
То:	Don Carlson, Council Administrator
From:	Daniel B. Cooper, General Counsel
Regarding:	BENEFITS FOR METRO COUNCILORS Our file: 6.§22.C

You have requested that this Office review the 1992 Metro Charter and advise you whether it is permissible for the Council to provide that, in addition to the salary provided for Councilors pursuant to Charter Section 21, Councilors receive an employee benefits package (medical, dental, insurance, etc.) similar to that provided for other Metro employees.

For the reasons stated below, we believe since there is no provision in the Charter that prohibits the Council from providing for the payment of such a benefit package, the general powers clause (Section 9) contains sufficient authority for doing so.

Section 21 of the Charter establishes the salary for Councilors, the Presiding Officer, the Auditor, and the Executive Officer. No other provision of the Charter specifically authorizes or restricts the ability of the Council to establish a compensation package for all Metro employees. This Office previously has advised the Council that pursuant to the provisions of ORS 268.160, the Council was precluded from paying for medical insurance and other benefit costs for Councilors because Councilors were not considered to be employees of the District pursuant to the statute, rather as officers, they were restricted to receiving only the compensation provided for by the statute (per diem and other necessary expenses). The provision of the Charter, Section 21, authorizing and directing the payment of a salary to the Councilors, indicates that the voters have approved a significant policy shift and that the Councilors no longer are restricted in this fashion.

District court judges receive salary and a benefit package pursuant to Oregon law. The Charter ties the salary of Councilors, the Presiding Officer, the Auditor, and the Executive Officer to the salary of a district court judge. The Charter specifically restricts the Metro Executive Officer (Section 17) and the Metro Auditor (Section 18) to serve full-time and prohibits their employment by any other person or entity while serving in that office. The Charter does not provide a similar restriction for the offices of Councilors, including the office of Presiding Officer. The Charter, however, does not provide for the specific payment of benefits in the form of additional compensation for any persons including the Auditor or the Executive Officer. Don Carlson Page 2 December 7, 1992

The only way to conclude that Councilors would not be eligible for receipt of employment benefits, such as health and medical and dental insurance, etc., would be to reach the conclusion that the Executive Officer and the Auditor were also ineligible for such benefits. Since the Charter does not specifically prohibit the payment of compensation benefits, Section 9 of the Charter (General Grant of Powers) is sufficient to grant authority to the Council to legislate a benefits package for itself, the Executive Officer, the Auditor, and all other Metro employees.

I am attaching for your reference the previous opinion of this Office to Councilor Bauer dated April 9, 1990, in this regard.

dr 1646

Attachment

Date: April 9, 1990

To: Councilor Larry Bauer

From: Daniel B. Cooper, General Counsel

Regarding: REIMBURSEMENT TO METRO COUNCILORS FOR THE COST OF METRO HEALTH INSURANCE COVERAGE

I understand that you have requested that funds be included in the FY 1990-91 budget to allow any Councilor who chooses to join the District's health insurance program to receive reimbursement for this expense.

I have been asked by the Council Administrator to review the proposal to determine whether it would be possible for the Council to so budget and for such reimbursement payments to be made.

For the reasons stated below, my conclusion is that reimbursement of Metro Councilors by the District for the expense of obtaining medical insurance in all probability violates the provisions of ORS 268.160.

ORS 268.160 provides in pertinent part:

"Councilors shall receive no other compensation for their office other than a per diem for meetings, plus necessary meals, travel and other expenses as determined by the council."

The provisions of ORS 268.160 pertaining to the Metropolitan Service District Council are similar to the provisions of ORS 198.190 relating to special districts in general:

> "The governing body may provide for reimbursement of a member for actual and reasonable traveling and other expenses necessarily incurred by member in performing official duty."

Similarly, the provisions of ORS 267.112(5) pertaining to Tri-Met Directors provide:

Councilor Larry Bauer December 2, 1992 4/9/90 Page 2

> "Directors shall not be entitled to compensation for their services but shall be entitled to reimbursement for actual and necessary expenses incurred or paid in the performance of their duties as members of the board."

The provisions of some city charters are also similar:

"No compensation shall be paid for members of the council except for 'allowance for expenses incidental to that service in an amount and in a manner set by the council by ordinance.'" Section 13, Lake Oswego City Charter.

Research has revealed no Oregon Appellate Court decisions construing any of these statutory provisions regarding the question of whether or not reimbursement for medical or other insurance costs could be considered to be a reimbursable expense.

In general the question of whether or not an expense is reimbursable for a municipal officer is considered to depend upon necessity of the official incurring the expense as a function of their official duties and the benefits received by the public or the municipality from the incurrence of the expense. McQuillan Municipal Corporations states:

> "The true test in all such cases is, was the act done by the officer relative to a manner in which the local corporation had an interest or have an affect on municipal rights or property, or the rights or property of the citizens which the officer was charged with an official obligation to protect and defend."

McQuillan Municipal Corporations, Section 12.190.

In <u>Brown v. Wingard</u>, 285 S.C. 478, 330 S.E.2d, 301 (1985), the South Carolina Supreme Court held that a statutory provision that stated:

> "The mayor and council may also receive payment for actual expenses incurred in the performance of their official duties with limitations prescribed by ordinance."

Councilor Larry Bauer December 2, 1992 4/9/90 Page 3

Precluded the reimbursement of the mayor and council members of the City of Greenwood, South Carolina, for the expenses of their spouses travelling with them to attend a National League of Cities convention in Los Angeles in 1982. The Court found that such expenses were not directly related or required in the performance of the official duties of the mayor and council members.

In reaching the conclusion that reimbursement of medical insurance costs for Councilors is not a permissible expense for which Council members may be reimbursed, I have considered the following factors as discussed below.

Medical insurance is normally provided as a benefit furnished to employees as part of their overall compensation package. See ORS 243.205 in general. ORS 268.160 has the effect of precluding the District from treating Council members as employees in that payment of any salary is clearly prohibited. Payment of medical benefits which is commonly included as part of the overall compensation package for employees would probably be considered as compensation not reimbursement of an expense. This is particularly true if the reimbursement was for only expenses incurred in purchasing the coverage as part of the package furnished to Metro employees.

Secondly, and most importantly, the expense of obtaining medical insurance is not directly related to the functions of being a Metro Councilor. Applying the test set forth in McQuillan, I can find no rational connection between the need to incur the expense of obtaining medical coverage and holding the office of being a Metro Councilor. All individuals in our society face the question of whether they should obtain medical insurance coverage and face the risk associated of not having such coverage and finding themselves in a position of needing to pay for needed medical care directly. While it is possible to envision certain fact scenarios where holding a certain public office might greatly increase the risk of incurring medical expenses or place an individual in such a category that medical insurance otherwise available to citizens at large would not be available because of factors associated with holding a certain public office, I am aware of no information that makes me believe that is true of holding the office of Metro Councilor. There are no factual circumstances of which I am aware of which would support a finding by the Council that there is a direct connection between the need for obtaining medical insurance and holding the office of Metro Councilor. Absent such a finding by the Council I believe the courts would not support a Council determination that medical insurance was in fact a reimbursable expense. The fact

Councilor Larry Bauer December 2, 1992 4/9/90 Page 4

that the insurance expense being reimbursed is that provided to the District's employees would also make it more difficult to sustain the position that medical insurance is a reimbursable expense.

If the members of the Council desire to pursue this matter further I would recommend that clarifying legislation be sought to specifically allow the payment of such insurance benefits as a reimbursement.

Some local jurisdictions are allowed to make payments of salary to elected officials. They are not subject to the restrictive legislation that the Metro Council is subject to and have the flexibility to provide insurance benefits along with the salary package. The circumstances at Metro are different because of the provisions of ORS 268.160.

DBC/gl

cc: Donald Carlson

Meeting Date: January 14, 1993 Agenda Item No. 5.3

ORDINANCE NO. 93-481

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503/221-1646

DATE: January 8, 1993

TO: Metro Council Executive Officer Interested Parties

FROM: Paulette Allen, Clerk of the Council

RE: AGENDA ITEM NO. 5.3; ORDINANCE NO. 93-481

The Finance Committee report on Ordinance No. 93-481 will be distributed in advance to Councilors and available at the Council meeting January 14, 1993.

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503/221-1646

Date: December 16, 1992

To: Finance Committee

From: Donald E. Carlson Douncil Administrator

Re: Finance Committee Introduction of Councilor Salary Ordinances

Please find attached Draft Ordinance No. 93-480 and Draft Ordinance No. 93-481. The purpose of Ordinance No. 93-480 is to amend the FY 92-93 Budget and Appropriations Schedule to pay for Councilor salaries and benefits and the citizen involvement program required under the Charter. The ordinance is the same as reviewed and discussed by the Council at it's December 14 Work Session.

Memorandum

The purpose of Ordinance No. 93-481 is to amend the Metro Code to provide establish procedures for the payment of Councilor salaries including a waiver procedure. The ordinance also repeals the provisions in the Code for the payment of per diem. This ordinance is different from that discussed at the December 14 Work Session in that:

- 1. In response to the concern expressed by Councilor Buchanan about the waiver period, the six month period has been deleted and language has been added to state that the waiver will remain in effect until canceled in writing by the councilor. The cancellation would be effective at the beginning of the next pay period.
- 2. In response to the question about the base for the provision of benefits language has been added to clarify that benefits would be based on the full salary provided by law regardless of the waiver of any salary payments.

Both these changes have been developed with the assistance of General Counsel Dan Cooper.

Also attached is a copy of the December 9, 1992 memo to the Council which explains the purpose of the two ordinances.

Council Staff recommends that the Finance Committee adopt a motion to introduce both ordinances for filing with the Council Clerk and First Reading on the December 22, 1992 Council Meeting.

Council Salary Ordinances.memo

BEFORE THE METRO COUNCIL

AN ORDINANCE AMENDING METRO CODE SECTION 2.01.170 TO REPEAL COUNCILOR PER DIEM PROCEDURES; ESTABLISH COUNCILOR SALARY PROCEDURES; AND DECLARING AN EMERGENCY

ORDINANCE NO. 93-481

Introduced by the Finance Committee

WHEREAS, Voters of the Metropolitan Service District approved a Metro Charter on November 3, 1992; and

WHEREAS, The Metro Charter removes the authority to pay Metro Councilors a per diem payment and authorizes the payment of a salary to Councilors for services rendered; now therefore, THE METRO COUNCIL ORDAINS AS FOLLOWS:

<u>Section 1.</u> Metro Code Section 2.01.170 is amended to read: <u>2.01.170 [Per Diem] Salary and Expenditure Reimbursement</u> Guidelines:

(a) Councilors shall be paid an authorized salary at the same time as regular Metro employees. The amount of the salary shall be as prescribed by law. The annual salary shall be divided into twenty four equal payments. If a councilor vacates the office he or she shall be paid on a pro-rata basis for the number of working days from the last pay period. A councilor may waive all or any portion of an authorized salary by signing a waiver form which indicates the amount of the salary waived and the period of time for the waiver. The waiver shall remain in effect until written notice of cancellation is given prior to the commencement of the pay period for which the waiver will no longer be in effect. A councilor who waives a salary must sign a release form at the time of receipt of a salary which releases Metro from any further obligation for the period of time for ORDINANCE NO. 93-481 - Page 1 which the salary is paid. The Council Administrator shall provide the necessary forms for implementation of this section. Notwithstanding any waiver of salary all councilors shall receive the full benefit (health and welfare) package received by other Metro employees. Such benefits shall be based on the full salary of the councilor provided by law regardless of any waiver of salary payments.

(b) The Council by resolution shall adopt guidelines for the [payment of per diem to Councilors and the] reimbursement of Councilors and Council employees for expenses incurred in the conduct of business of [the District] Metro. The guidelines shall specify the amount [of the per diem payment,] each councilor shall receive for authorized expenditures, the type of authorized expenditure, and procedures for the request and approval of [per-diem and] expenditure requests.

Section 2. Effective Date. This Ordinance being necessary for the health, safety, or welfare of the Metro area, for the reason that the Metro Charter takes effect January 1, 1993, requiring that compensation to Councilors be in the form of a salary, an emergency is declared to exist and this Ordinance takes effect upon passage.

ADOPTED by the Metro Council this _____ day of _____, 1993.

Judy Wyers, Presiding Officer

ATTEST:

Clerk of the Council

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ORDINANCE NO. 93-481 - Page 2

Meeting Date: January 14, 1993 Agenda Item No. 6.1

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RESOLUTION NO. 93-1724
GOVERNMENTAL AFFAIRS COMMITTEE REPORT

RESOLUTION NO. 93-1724, ESTABLISHING APPOINTING AUTHORITIES FOR THE METRO APPORTIONMENT COMMISSION.

Date: December 29, 1992 Presented by: Councilor Wyers

<u>COMMITTEE RECOMMENDATION</u>: At its December 17, 1992 meeting the Governmental Affairs Committee voted 5-0 to recommend Council adoption of Resolution No. 93-1724. Voting were Councilors Collier, Devlin, Gronke, Moore, and Wyers.

COMMITTEE DISCUSSION/ISSUES: Council Analyst Casey Short presented the staff report. He said the committee had previously held two work sessions to consider this resolution. The resolution would establish five Councilor pairs and one group of three Councilors as appointing authorities for the Metro apportionment commission, as required in Section 16 of the Metro Charter. (As further stipulated in the Charter, the Presiding Officer will make one appointment and name the commission's chair.) It would group Councilors from Districts 1 and 13 in Washington County; Districts 5 and 6 in Clackamas County; Districts 3, 8, and 9, Districts 7 and 10, and Districts 11 and 12 in Multnomah County; and Districts 2 and 4, which include portions of all three counties. The appointee from Districts 2 and 4 would have to reside in either Washington or Clackamas County, and the Presiding Officer's appointee will be from the county not represented by the appointee from Districts 2 and 4. These restrictions are dictated by the Charter requirement that each county have at least two residents on the commission.

Mr. Short noted the one change from earlier drafts, which is to add a process for filing the appointments. All appointments are to be filed with the Clerk of the Council by February 1, on a form substantially similar to one included as Exhibit A to the resolution. This form includes space for the appointee to acknowledge that s/he has read the section of the Charter that prescribes the apportionment process - including the restriction that commission members may not run for Metro Councilor or Executive Officer in 1994 - and also agrees to serve on the commission.

Councilor Wyers raised the possibility of having a deadline earlier than February 1 for appointments. The committee discussed this and decided to leave the deadline of February 1.

Councilor Devlin pointed out that some 4,800 Multnomah County residents of District 4 would be ineligible for appointment under the terms of this resolution, due to the Councilor groupings and the Charter's County residence requirement. He acknowledged that this issue had been discussed earlier, and said he would support the resolution, but he is not comfortable with disenfranchising those people. Councilor Devlin also said it should be a matter of record that the district groupings established for purposes of making appointments to the apportionment commission should not be indicative of any statement by the Council that these districts should be combined in the new districts. The committee concurred with Councilor Devlin's statement, saying that the apportionment commission should disregard the groupings in establishing the apportionment plan: the groupings should neither be used to justify creation of new districts, nor to preclude the commission from creating new districts that essentially consist of the paired districts.

BEFORE THE COUNCIL OF THE METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF ESTABLISHING APPOINTING AUTHORITIES FOR THE METRO APPORTIONMENT COMMISSION RESOLUTION NO. 93-1724

INTRODUCED BY THE GOVERNMENTAL AFFAIRS COMMITTEE

WHEREAS, The voters of Metro approved the 1992 Metro Charter at the November 3, 1992 General Election; and,

WHEREAS, Section 16 of the Metro Charter prescribes that beginning January 2, 1995, the governing body of Metro is to be a seven-member Council with each Councilor elected from a single district within the Metro area; and,

WHEREAS, Section 16(3) of the Metro Charter creates a Metro apportionment commission, for the purpose of creating an apportionment plan which establishes the seven Council districts; and,

WHEREAS, The Charter provides for the 1993 Metro Council to appoint the members of the apportionment commission by establishing five pairs of councilors and one group of three councilors from contiguous districts, each of which appoints one apportionment commission member who shall reside in one of the districts from which the appointment is made; and,

WHEREAS, The Charter requires that at least two apportionment commissioners must be appointed from each of the three counties within the Metro area; and,

WHEREAS, The Metro Council Presiding Officer appoints one apportionment commission member and selects the commission chair from among the seven appointees; and, WHEREAS, Councilor appointments to the apportionment commission must be made by February 1, 1993, or the Executive Officer will appoint the commission members and designate the commission chair; NOW, THEREFORE,

BE IT RESOLVED that the Council of the Metropolitan Service District establishes the following groups of Councilors, by district, as the appointing authorities for the Metro apportionment commission:

1. Districts 1 and 13

2. Districts 2 and 4

3. Districts 3, 8, and 9

4. Districts 5 and 6

5. Districts 7 and 10

6. Districts 11 and 12.

BE IT FURTHER RESOLVED that all appointments to the apportionment commission shall be filed with the Clerk of the Council no later than February 1, 1993. Each notice of appointment shall be in substantially the same form as Exhibit A and shall include the name and residence address of the appointee, shall be signed and dated by each Councilor constituting the appointing authority, and shall include a statement signed by the appointee which states the appointee has read Chapter 16 of the Metro Charter and agrees to serve on the apportionment commission.

ADOPTED by the Council of the Metropolitan Service District this _____ day of January, 1993.

Judy Wyers, Presiding Officer

EXHIBIT A

NOTICE OF APPOINTMENT TO METRO APPORTIONMENT COMMISSION

We, the undersigned Councilors, do hereby appoint the following to the Metro Apportionment Commission:

		•				
Name						
Residence	Address		······	•	·	
City		State	Zip		County	of Residence
•						
Councilor	X	District		Date		· · · · · ·
	>					
Councilor	Y	District		Date		•
•	:	•			•	
Councilor	Z	District		Date		

STATEMENT OF APPORTIONMENT COMMISSION APPOINTEE

I, <u>(name)</u>, agree to serve on the Metro apportionment commission, affirm that I live within the territory of the appointing authority listed above, and affirm that I have read and understand Section 16 of the Metro Charter which includes a prohibition against members of the apportionment commission running for the office of Metro Councilor or Metro Executive Officer in the 1994 primary or general election.

Signature

Date

Meeting Date: January 14, 1993 Agenda Item No. 6.2

RESOLUTION NO. 93-1726

REGIONAL FACILITIES COMMITTEE REPORT

RESOLUTION NO. 93-1726, AUTHORIZING THE METRO WASHINGTON PARK ZOO TO SOLICIT BIDS AND THE EXECUTIVE TO EXECUTE A CONTRACT FOR THE MULTI-YEAR LEASE/PURCHASE OF STAFF PAGERS.

Date: December 28, 1992 Presented by: Councilor McFarland

<u>COMMITTEE RECOMMENDATION</u>: At its December 22, 1992 meeting the Regional Facilities Committee voted 4-0 to recommend Council adoption of Resolution No. 93-1726. Voting were Councilors McLain, Collier, McFarland, and Washington. Councilor Gronke was absent.

<u>COMMITTEE DISCUSSION/ISSUES</u>: Zoo Facilities Manager Judy Munro presented the staff report. She said the Zoo currently rents some 50 beepers for staff. In its research to determine how to provide beepers in the coming years, Zoo staff explored the option of purchase rather than continued rental. They determined that purchase might be their preferred option, but uncertainties surrounding future radio use and installation of a new phone system led them to not commit to purchase at this time. An alternative suggested by vendors is to lease the beepers at the amount of the current annual cost, and at the end of three years the Zoo would own them. This option would provide flexibility during the threeyear period for the Zoo to determine how many beepers they need.

This item is before the Council because it is for a multi-year contract that was not designated a "B" contract in the budget. Funds for the rental of beepers were included in the budget, and this resolution will have no adverse fiscal impact.

BEFORE THE COUNCIL OF THE METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF AUTHORIZING) THE METRO WASHINGTON PARK ZOO) TO SOLICIT BIDS AND THE) EXECUTIVE OFFICER TO EXECUTE) A CONTRACT FOR THE MULTI-YEAR) LEASE/PURCHASE OF STAFF PAGERS)

RESOLUTION NO. 93-1726

Introduced by Rena Cusma, Executive Officer

WHEREAS, the Metro Washington Park Zoo has historically rented staff pagers at an average cost of \$5,940 per year or \$17,820 over a three year period; and

WHEREAS, a three year lease/purchase of a similar quantity and type of pager, including buy out is estimated to be \$18,000; and

WHEREAS, after ownership, the only cost will be an estimated \$225 per month or \$2,700 annually for air time and cost for repair/replacement; and

WHEREAS, the projected savings from such an approach is estimated to be \$275 per month or \$3,300 annually; and

WHEREAS, the contract is not listed in the 1992-93 FY Budget, but sufficient funds for this approach exist in Other Purchased Services - Communications; now therefore.

BE IT RESOLVED,

That the Metro Council, pursuant to Metro Code Section 2.04.033 hereby authorizes the solicitation of bids for the multi-year lease/purchase of pagers, and subsequently directs the Executive Officer to execute a contract with the lowest responsible bidder.

ADOPTED by the Council of the Metropolitan Service District this _____ day of

, 199_.

Jim Gardner, Presiding Officer

INSTRUCTIONS TO BIDDERS & GENERAL CONDITIONS

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INSTRUCTIONS TO BIDDERS

PROPOSAL

The Metropolitan Service District (Metro) is soliciting Bids for

for ______ Division at the Metro Washington Park Zoo. Proposals must be enclosed in a sealed envelope and mailed or delivered to the Metro Washington Park Zoo, 4001 S.W. Canyon Road, Portland, Oregon 97221, Attention, ______, no later than 3:00 p.m., PDT or PST, __________, 1992, at which time they will be publicly opened in Conference Room _____ of the Administration Building.¹

The outside of the envelope shall plainly identify the subject of the Bid, the opening date, and the Bid number.

All proposals must be clearly and distinctly typed or written with ink or indelible pencil. All blank spaces must be completed. No erasures are permitted. Mistakes must be crossed out and corrections typewritten or written in ink adjacent thereto, and initialled in ink by the party signing the Bid, or his² authorized representative.

Written amounts shall be shown in both words and figures. Written amounts shall govern in cases of discrepancy between the amounts stated in words and the amounts stated in figures.

All proposals must be on the form furnished by the Metro Washington Park Zoo or they may be rejected by the Metro Washington Park Zoo. Where plans and specifications are attached to the proposal, they must be returned by the Bidder with the proposal.

COST OF PROPOSAL

This invitation to Bid does not commit the Metro Washington Park Zoo to pay any costs incurred by any Bidder in the submission of a proposal, or in making necessary studies or designs for the preparation thereof, or for procuring or contracting for the items to be furnished under the invitation to bid.

¹ A bid <u>may not</u> be submitted by facsimile (FAX) transmittal unless so specified in the special conditions hereto attached.

² All references to "he" in this document shall include the feminine reference of "she."

ERRORS/OMISSIONS

Any Bid may be deemed non-responsive by the Procurement Officer if it is: Not on the Bid forms provided; contains errors or omissions, erasures, alterations, or additions of any kind; proposes prices which are unsolicited or obviously unbalanced; not in complete conformance with any and all conditions of the bidding documents.

ADDENDA TO PLANS OR SPECIFICATIONS

Requests for additional information or interpretation of the contract documents shall be delivered to the Project Manager, in writing, at least four (4) days prior to the Bid opening date and time. If, in the opinion of the Project Manager, additional information or interpretation is needed by the Bidders, an addendum will be issued to all known specification holders. The provisions of any written addenda issued by the Procurement Officer at least forty-eight (48) hours prior to the Bid opening date and time shall be binding upon the Bidders, and failure of a Bidder to obtain such addenda shall not excuse him from complying therewith, if he is awarded the contract.

MODIFICATION OF PROPOSAL

An offer to modify the proposal which is received from the successful Bidder after award of contract which makes the terms of the Bid more favorable or advantageous to the Metro Washington Park Zoo will be considered, and may thereafter be accepted. To be effective, every modification must be made in writing over the signature of the Bidder.

WITHDRAWAL OF PROPOSAL

A Bidder may withdraw its proposal in person, or by written or telegraphic request which are received prior to the scheduled closing time for filing Bids.³ Negligence on the part of the Bidder in preparing his proposal confers no right to withdraw the proposal after the scheduled closing time for filing Bids.

LATE PROPOSAL

Proposals received after the scheduled closing time for filing Bids will be returned to the Bidder unopened, unless such closing time is extended by the Metro Washington Park Zoo.

³ A bid <u>may not</u> be withdrawn by FAX unless so specified in the special conditions hereto attached.

EXECUTION

Each Bid shall give the Bidder's full business address and bear its legal signature.

Bids by partnerships must list the full name of all partners and be signed by a partner or agent authorized to execute the contract on behalf of the partnership and identified by printed name and title.

Bids by corporations must bear the legal name of the corporation, the name of the state of incorporation, and the signature of the officer or agent authorized to legally bind the corporation.

Upon request by the Metro Washington Park Zoo, satisfactory evidence of the authority of the partner or officer shall be furnished.

If the Bid is signed by an agent who is not an officer of the corporation, or a member of the partnership, a notarized Power of Attorney must be on file with the Metro Washington Park Zoo prior to the opening of Bids or be submitted with the Bid. Without such notice of authority, the Bid shall be considered improperly executed, defective and therefore nonresponsive.

A Bid submitted by a joint venture must include a certified copy of the terms and conditions of the agreement creating the joint venture.

All signatures must be in longhand, with the name and title of the signer typed or printed below the signature.

To facilitate evaluation of Bids, the Metro Washington Park Zoo requires that all Bidders adhere to the format, rules and procedures outlined by this RFB. Bidders that wish to take exception to, or comment upon, any provision within this RFB must document their concerns within the Bid document.

Comments, conditions or exceptions should be thorough, succinct, well organized and therefore totally selfexplanatory. The Bid must leave no ambiguity, need no clarification, and allow no interpretation.

The Metro Washington Park Zoo encourages the Bidders to propose management alternatives that reuse, recycle, or recover energy from wastes.

The Metro Washington Park Zoo may deem nonresponsive and therefore reject any Bid which fails to conform with, abide by, or otherwise comply with any of the above requirements.

EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK

It is understood that the Bidder, before submitting his Bid has made a careful examination of the plans, specifications, and contract; that he has fully informed himself as to the quality and quantity of materials and the character of the work required; that he has made a careful examination of the location and condition of the work and the sources of supply for materials; that he represents himself as an expert in the subject matter of the Bid; and that the Metro Washington Park Zoo is entitled to rely on the Bidder's expertise in the subject area of the Bid.

COMPLIANCE

Each Bidder shall inform himself of, and the Bidder awarded a contract shall comply with, federal, state, and local laws, statutes, and ordinances relative to the execution of the work. This requirement includes, but is not limited to, nondiscrimination in the employment of labor, protection of public and employee safety and health, environmental protection, waste reduction and recycling, the protection of natural resources, fire protection, burning and nonburning requirements, permits, fees and similar subjects.

ELIGIBILITY

Prior to submitting a Bid, all Bidders on public work/ construction projects are required to be registered with the State of Oregon Construction Contractors Board, pursuant to ORS 701.035.

EQUAL EMPLOYMENT OPPORTUNITY

During the performance of the contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, creed, color, sex or national origin.

PERMITS AND LICENSES

Each Bidder shall obtain and include in his Bid the cost for all permits and licenses which may be required to perform the contract.

CONFLICT OF INTEREST

A Bidder filing a proposal thereby certifies that no officer, agent, or employee of the Metro Washington Park Zoo or Metro has a pecuniary interest in this Bid or has participated in contract negotiations on behalf of the Metro Washington Park Zoo; that the proposal is made in good faith without fraud,

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collusion, or connection of any kind with any other Bidder for the same call for Bids; the Bidder is competing solely in its own behalf without connection with, or obligation to, any undisclosed person or firm.

IMMATERIAL VARIANCES

The Metro Washington Park Zoo reserves the right to determine whether equipment or materials that comply substantially in quality and performance with the specifications are acceptable to the Metro Washington Park Zoo, and whether any variance listed by the Bidder in a proposal is material or immaterial.

LATEST MODEL

Parts and materials must be new, of latest model, of current date, and meet specifications. This provision excludes all surplus, remanufactured, and used products, unless such material is proposed in lieu of items specified.

"OR APPROVED EQUAL" CLAUSE

In order to establish a basis of quality, certain processes, types of machinery and equipment, or kinds of materials may be specified, either by description of process or by designating a manufacturer by name and referring to his brand or product designation, or by specifying a kind of material. It is not the intent of these specifications to exclude other processes, equipment, or materials of equal value, utility or merit.

Whenever a process is designated or a manufacturer's name, brand, or product is described, it shall be understood that the words, "or approved equal" follow such name, designation, or description, whether in fact they do so or not.

If a Bidder proposes to furnish an item, process or material which he claims to be of equal utility to the one designated, then:

1. Bidder shall submit to the Metro Washington Park Zoo, in care of the Project Manager, a written statement describing it together with supporting data and details sufficient to permit the Metro Washington Zoo to evaluate the same, five (5) work days prior to the Bid opening date and time.

If the product contains chemical properties, the relevant Material Safety Data Sheets (MSDS) shall be included to document all health and physical hazards, chemical ingredients, exposure limits, personal protective equipment for handling and use, and emergency procedures in response to unanticipated spills or environmental release.

- 2. The Metro Washington Park Zoo may require demonstration, additional tests, and additional data, all to be supplied at the expense of the Bidder.
- 3. If the Metro Washington Park Zoo determines that the proposed item, material or process is of equal value, utility or merit, the Project Manager shall notify all potential Bidders of record by issuance of an addendum at least forty-eight (48) hours prior to the Bid opening date and time.

RECYCLABLE_PRODUCTS

Vendors shall use recyclable products to the maximum extent economically feasible in the performance of the work set forth in this contract document.

RECYCLED PRODUCTS AS BID ITEMS

ORS 279.570 requires the Metro Washington Park Zoo and all public agencies to give preference to materials and supplies manufactured from recycled materials.

All Bidders are therefore required to specify the exact or minimum percentage of recycled paper and fiber type in all paper products or recycled content in all other products offered, plus both the post-consumer and secondary waste content of the products offered.

Only Bids submitted with such information shall receive preference consideration and post-bid declaration or discovery shall not be allowed.

Definitions of "recycled product," "post-consumer" and "secondary" waste material and other explanatory notes are included in Chapter 385 and available from Metro Procurement Division at 221-1646 x280.

OUANTITIES

The quantities listed in all supply requests over time represent the Metro Washington Park Zoo's best estimate of potential purchases to be made during the contract term. The Metro Washington Park Zoo makes no guarantees as to the exact quantities to be purchased. The figures provided are intended merely as guides and Bidders are warned not to construe them as a guarantee to purchase any amount. Payment will be made only for quantities actually ordered, delivered, and accepted whether greater than or less than the stated amounts.

TERMS

A Bid may be rejected if it requires payment in less than thirty (30) calendar days after delivery or if it requires payment, in whole or in part, prior to delivery.

PRICES

All prices submitted shall be firm during the contract period. If unit prices are requested, they should be provided for each unit on which there is a Bid. In case of mistake in extension of price, unit prices shall govern. All prices shall be FOB destination.

EQUIVALENT PRICES/TERMS

Bidder represents that all prices, terms and benefits offered in this agreement are equal to or better than the equivalent prices, terms and benefits being offered by Bidder to any other state or local government unit or commercial customer in the state of Oregon.

Should Bidder, during the term of this agreement, enter into any contact, agreement or arrangement that provides lower prices, more favorable terms or greater benefits to any other such government unit or commercial customer, Bidder's Bid and any subsequent agreements shall thereupon be deemed amended to provide the same price or prices, terms and benefits to the Metro Washington Park Zoo. This provision applies to comparable products, supplies and services, and to purchase volumes by the Metro Washington Park Zoo that are not less than the purchase volumes of the government unit or commercial customer that has received the lower prices, greater benefits or more favorable terms.

Donations of products, supplies or services to charitable, nonprofit or government entities, if the donations are recognized as such and are deductible under the Federal Internal Revenue Code, shall not be considered contracts, agreements, sales or arrangements with other government units or commercial customers that call for the application of this paragraph.

DISCOUNTS

All prices must be submitted on a net basis. Cash discounts for prompt payment will be considered in awarding the Bid. Where the net Bid is equal to a Bid with a cash discount for prompt payment, the award shall be made to the net Bid. Cash discounts for prompt payment will be figured from the date of delivery and acceptance of the article(s), or in the case of

incorrect invoice, from the date of receipt of corrected invoice.

WARRANTY/GUARANTY

Each Bid for the furnishing of materials and equipment shall provide an explanation of both the Bidder's and manufacturer's warranties on materials and workmanship.

Every Bid shall indicate any warranty costs to the Metro Washington Park Zoo, including but not limited to, all parts, labor, and shipping costs required for compliance with any specific requirement(s) contained in the special conditions.

Each Bidder on a public works/construction project shall provide at minimum a one year's guaranty on all materials and workmanship.

SERVICE

Each Bidder shall furnish detailed information on any service facilities, locations, and procedures as well as information on any maintenance agreements or contracts available to the Metro Washington Park Zoo.

DELIVERY

Each Bidder shall provide a delivery schedule for each item offered. The successful Bidder shall notify the Metro Washington Park Zoo, in writing, within five (5) business days of order if delivery cannot be completed as proposed and required.

Upon receipt of such notice from the successful Bidder, the Metro Washington Park Zoo reserves the right to cancel the order and make the purchase from the second lowest, responsible Bidder.

If the Metro Washington Park Zoo does not elect to cancel the contract initially, subsequent failure to meet the then current delivery requirement does not foreclose the Metro Washington Park Zoo's option for later cancellation.

BID_SECURITY

All Bids in excess of \$15,000 must be accompanied by a Bid deposit in the form of cashier's check or certified check drawn on a bank in good standing, or a Bid bond issued by a surety authorized to conduct such business in the state of Oregon.

The deposit will be not less than ten percent (10%) of the total Bid amount. The deposit shall serve as a guarantee that the Bidder will not withdraw the Bid for a period of sixty (60) days after Bid opening, and if awarded the Contract will execute the attached the Metro Washington Park Zoo contract and furnish all bond(s) as required and within the time frame specified herein.

The Attorney-in-Fact (Resident Agent) who executes any bond on behalf of the Surety must attach a notarized copy of his Power of Attorney as evidence of his authority to bind the Surety on the date of execution of the bond.

Bid security is not required for food products and may be waived by the Metro Council if expressly deleted by the special conditions attached.

RESIDENT/NON-RESIDENT BIDDER

Oregon law requires the Metro Washington Park Zoo, in determining the lowest responsive Bidder, to add a percent increase on the Bid of a non-resident Bidder equal to the percent, if any, of the preference given to that Bidder in the state in which that Bidder resides. Therefore, each Bidder must indicate whether it is a resident or non-resident Bidder. A resident Bidder is a Bidder that has paid unemployment taxes or income taxes in the state of Oregon during the twelve (12) months immediately preceding submission of this Bid, has a business address in Oregon, and has stated in its Bid that it is a "resident Bidder."

BASIS OF AWARD

The award shall be made to the responsible Bidder(s) submitting the most responsive Bid to the Metro Washington Park Zoo. Any determination of the responsible Bidder(s) submitting the most advantageous Bid and the award are subject to review and determination by the Metro General Counsel as to legal sufficiency of any Bid submitted. the Metro Washington Park Zoo reserves the right to reject any and/or all Bids in whole or in part, and to waive irregularities not affecting substantial rights.

GENERAL CONDITIONS

NOTICE OF AWARD

Within seven (7) calendar days after the opening of Bids, the Metro Washington Park Zoo will accept one of the Bids, or a combination of Bids, or reject all Bids in accordance with the Basis of Award. The acceptance of the Bid will be by written Notice of Conditional Award, mailed or delivered to the office designated in the Bid. The Notice of Conditional Award shall not entitle the party to whom it is delivered to any rights whatsoever.

CONTRACT_ACCEPTANCE

Through Bid submission, each Bidder specifically agrees to all terms and conditions of the attached contract. In order to ensure equitable consideration of all Bids, any requests for changes, additions or deletions to that contract must be requested in writing as part of and a condition to the Bid. the Metro Washington Park Zoo reserves the right to consider and act upon any request for change as a proposed bid withdrawal.

CONTRACT EXECUTION

The successful Bidder shall, within seven (7) calendar days of Conditional Notice of Award, sign and deliver the above cited contract complete with all bonds and certificates of insurance as herein required.

CONTRACT INTERPRETATION

This contract shall be construed as if written equally by both parties.

BID SECURITY

Bid securities will be held until the Contract has been finally executed, after which all Bid securities, other than those which have been forfeited, will be returned to the respective Bidders whose Bid they accompanied.

The Bidder who has a contract awarded to him and fails to promptly and properly execute the contract and furnish any required bond(s) shall forfeit the Bid security that accompanied his Bid, and the Bid security shall be retained as liquidated damages by the Metro Washington Park Zoo; and it is agreed that this sum is a fair estimate of 'the amount of damages the Metro Washington Park Zoo will sustain in case the Bidder fails to enter into a contract and furnish the bond as required herein. Bid security deposited in the form of a certified check or cashier's check shall be subject to the same requirements as a Bid bond.

BONDS

Within ten (10) days of notification of award, the Contractor shall provide the following:

A performance bond in an amount equal to 100 percent of the contract price for all public works/construction contracts over \$10,000;

A Labor and Materials bond in an amount equal to 100 percent of the contract price for all public works/ construction contracts over \$15,000.

•• Under \$50,000, both bonds may be combined as one bond;

•• Over \$50,000, separate bonds are required.

On all other contracts, a performance bond may be required if deemed in the public interest by the Metro Washington Park Zoo.

FOREIGN CONTRACTOR

A Contractor that is not domiciled in or registered to do business in the state of Oregon shall, upon execution of a contract in excess of \$10,000, promptly report the total contract price, terms of payment, length of contract and all other required information to the Oregon Department of Revenue. Compliance shall be documented and the Metro Washington Park Zoo shall be fully satisfied as to complete compliance prior to release of final payment.

INSURANCE

The Contractor shall purchase and maintain at his expense the following types of insurance covering the Contractor, and his employees and agents:

- 1. Broad form comprehensive general liability insurance covering personal injury, property damage, and personal injury with automatic coverage for premises and operations and product liability. The policy must be endorsed with contractual liability coverage.
- 2. Automobile bodily injury and property damage liability insurance.

Insurance coverage shall be a minimum of \$250,000 per person, \$500,000 per occurrence, and \$50,000 property damage. If coverage is written with an annual aggregate limit, the aggregate limit shall not be less than \$1,000,000.

<u>Metro, its Councilors, department, employees, and agents</u> <u>shall be named as an ADDITIONAL INSURED</u>. Notice of any material change or policy cancellation shall be provided to Metro thirty (30) days prior to the change.

The Contractor shall comply with ORS 656.017 for all employees who work in the state of Oregon for more than 10 days. He shall provide the Metro Washington Park Zoo with certification of Workers' Compensation insurance including employer's liability.

WORKERS' COMPENSATION

The Contractor, and all subsequent subcontractors and suppliers performing work pursuant to this contract shall provide Workers' Compensation benefits as required by and in accordance with all applicable state and federal laws.

PREVAILING WAGE

The Contractor, and all subsequent subcontractors and suppliers, shall be required to comply with ORS 279.350 through 279.354 and ensure that all on-site workers are paid not less than and in accordance with the Prevailing Wages published by the Oregon Department of Labor and Industries included herein and dated ______.

NOTICE OF ASSIGNMENT

the Metro Washington Park Zoo will not recognize any assignment or transfer of any interest in this contract without written notice to the Procurement Officer by the new vendor.

HAZARD COMMUNICATION

The Contractor shall be required to strictly adhere to, coordinate with the Metro Washington Park Zoo and document full compliance with the policies and procedures of the Oregon Occupational Health and Safety Code, OAR Chapter 437, Division 155, Hazard Communication.

Therefore, the Contractor and all subcontractors and suppliers within his control shall notify the Metro Washington Park Zoo and all parties to the agreement as to:

Hazardous materials to which they may be exposed on site;

• Employee measures to lessen the possibility of exposure;

• All contractor measures to reduce the risk;

• Procedures to follow if exposed.

The Contractor shall provide the Metro Washington Park Zoo with all Material Safety Data Sheets (MSDS) prior to delivery or introduction of the material on-site.

For further information or clarification, contact the Metro Risk Management Division at 221-1646, Ext. 357.

DELIVERY_TIMES

The Contractor shall deliver between the hours of 8:00 a.m. and 5:00 p.m. Unloading must be completed by 5:00 p.m. unless approved in advance by the Metro Washington Park Zoo. Requests for such approval must be received by the Metro Washington Park Zoo at least three (3) days prior to delivery. Contractor shall assume all risk of deliveries made during hours beyond those listed above.

FAILURE TO PERFORM

Should the Contractor fail to meet the agreed upon delivery schedule, thereby making it necessary for the Metro Washington Park Zoo to purchase urgently-needed items from another source, the low Bidder shall pay the difference between the accepted low Bid price and the purchase price or accept an offset against any monies then owed by the Metro Washington Park Zoo.

PATENTS

The Contractor agrees to protect, to defend (if the Metro Washington Park Zoo requests) and save the agency harmless against any demand for payment for wrongful or unauthorized use of any patented material, process, article, or device that may enter into manufacture, construction, or forms a part of the work covered by this contract.

INVOICES

Invoices shall be prepared and submitted in duplicate to the Metropolitan Service District, 2000 S.W. First Avenue, Portland, Oregon 97201-5398. One (1) copy shall be marked "Original - Attention: Accounts Payable," and one (1) shall be marked "Copy - Attention: ______, Project Manager, Dept. of ______.

Invoices shall contain the following information: Contract or Purchase Order number (if any), item numbers, description of supplies or services, sizes, quantities, unit prices and extended totals. Invoice should also state name of the unit or department and date the merchandise was shipped or delivered.

CANCELLATION

The Metro Washington Park Zoo reserves the right to cancel this contract in whole or in part if the Contractor fails to perform any of the pro- visions in the contract, or fails to make delivery within the time stated, unless the time is extended by a Change Order.

LAW OF STATE OF OREGON

This contract is entered into within the state of Oregon, and the law of said State, whether substantive or procedural, shall apply and be followed with respect to this contract.

SUPPLEMENTAL CONDITIONS

Where supplemental conditions are written in the specifications, these supplemental conditions shall take precedence over any conditions listed under the "Instructions to Bidders" and "General Conditions."

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SPECIAL CONDITIONS

These special conditions are unique and additive to the terms and conditions for this project. As such, they take precedence over and are intended to further refine or expand the requirements of the "Instructions to Bidders," "General Conditions," and "Supplemental Conditions."

PROPOSAL for furnishing:	Date: December 1992 Bid #			
Alpha Pagers pursuant to lease/purchase agreement				
	Address Offer To: Metro Washington Park Zoo 4001 S.W. Canyon Road Portland, Oregon 97221			

The undersigned having full knowledge of the specifications for the items(s) listed below offers and agrees that this bid shall be irrevocable for at least <u>60</u> calendar days after the bid opening date and time, and if accepted, to furnish any and/or all item(s) at the prices offered and deliver at the designated point(s) within the time specified in the schedule.

ITEM #	SUPPLIES/EQUIPMENT		JANTITY	UNIT	UNIT PRICE	EXTENDED AMQUNT	
	See Scope of Work & Terms of Payment-Exhibit A & B						
	Lease/Purchase Bid (from Exhibit C attached)	-					
	A. Cost of 36 Months Lease of Alpha Pagers (including Airtime and Maintenance)		50	Each	r		
	B. Cost of Alpha Mate Dispatch Unit 36 Month Lease (including Maintenance)		1	Each			
	Total of A & B above	-		· • •			
(DO NOT INCLUDE COST OF PERFORMANCE BOND) Net Total \$							
The undersigned will deliver FOB destination the above supplies and/or equipment within 10 calendar days after transmission date of contract. (For maximum time see Technical Specifications)							
Cash Discount for prompt Payment:% calendar days after acceptance of goods (See Instructions to Bidder)							
ADDRESS FOR DELIVERY Metro Washington Park Zoo 4001 S.W. Canyon Road Portland, Oregon 97221		MANUFACTURED BY:					
			MODEL #:				
			MANUFACTURER GUARANTY ENCLOSED: YES NO				

	· · · · · · · · · · · · · · · ·			
BIDDER REPRESENTS/CERTIFIES/ACKNOWLEDGES AS PART OF THIS OFFER THAT:				
(Check or complete all app	plicable boxes or blocks.)			
1. BID BOND: Bidder has complied with Metro's requirements for bid surety and guarantees that this bid is irrevocable for the period specified herein;				
NA 2. PERFORMANCE BOND: Cost of the Bond, if required, is not included but will be:				
3. CONFLICT OF INTEREST: Bidder hereby certifies that no officer, agent, or employee of Metro has participated on behalf of Metro in preparation of this bid, that the proposal is made in good faith without fraud, collusion, or connection of any kind with any other Bidder for the same work, and the Bidder is competing solely in its own behalf without connection or obligation to any undisclosed person or firm.				
4. RESIDENT/NON-RESIDENT: Undersigned Bidder states that it is a resident or non- resident of the state of Oregon. State in which Bidder resides:				
5. TYPE OF BUSINESS ORGANIZATION: Bidder operates as an individual, a corporation, incorporated under the laws of the State of, a non-profit organization, a partnership. (If partnership, list/attach names of the partners)				
6. OREGON LICENSE: If a corporation, it is, or is not, licensed with Oregon Corporation Commission.				
NA 7. REGISTRATION NO: with Construction Contractors Board.				
8. DOING BUSINESS AS: Provide any assume	d names utilized:			
FIRM OF COPPORATION NAME:				
NAME OF LOCAL REPRESENTATIVE:				
MAILING ADDRESS: (STREET, CITY, STATE, ZIP CODE) TELEPHONE NUMBER: AREA () FAX NUMBER: AREA ()				
NAME AND TITLE OF PERSON AUTHORIZED TO CONTRACT/SIGN OFFER (TYPE OR PRINT)	SIGNATURE OF AUTHORIZED PERSON:			
	OFFER DATE:			
<u>NOTE</u> : If Bidder desires to make offer, but cannot sign sign and time required for authorized signature.	n contract, attach letter of explanation re: who will			
Proposals must be enclosed in a sealed envelope, endor number/opening date, and delivered to Metro on or bef Instructions to Bidders)	sed on the outside, indicate the bid subject fore the date and time of the bid opening. (See			

"EXHIBIT A" SCOPE OF WORK PAGER LEASE/PURCHASE CONTRACT

Contractor shall provide all equipment and air time required for an alpha pager lease-to-own contract for Metro Washington Park Zoo. Contract shall be in compliance with all applicable codes and regulations.

GENERAL SPECIFICATIONS

- 1. Contractor will provide a 36 Month "LEASE/PURCHASE" Equipment Plan, per the following detail:
 - a. A minimum of fifty each (50) NEC Courier or equivalent alpha pagers.
 - b. One Alpha Mate Dispatch Unit or equivalent.
 - c. Zoo will take full ownership of all equipment following the 36th payment.
 - d. A monthly airtime service fee to be charged after the 36th payment.
 - e. A time and materials service agreement for any damages to equipment (both pagers and/or dispatch unit) will be provided.
 - f. The paging coverage must meet the following service boundaries:
 - 1. North to Longview, Washington.
 - 2. East to Bonneville Dam.
 - 3. West to McMinnville, Oregon
 - 4. South to Eugene, Oregon.
 - g. Contractor to provide a minimum of 18,000 accumulative calls per month based on a lease of a minimum of 50 alpha pagers. If the amount of pagers should be increased during the term of this contract, the accumulative minimum call limit will be increased by 300 calls per additional alpha pager added.
 - h. Loaner Unit: To allow for continuous service, one loaner unit will be provided as an exchange unit when submitting a damaged unit for servicing. No additional fee will be charged for this exchange unit.

lmm:PAGER/2

Exhibit A: Scope of Work - Page Two

EQUIPMENT SPECIFICATIONS:

1. Alpha Pagers or equivalent Pagers must have capability of 60+ canned messages. a. b. Radio Frequency: 420-430 MHz/443-473MHz c. Spurious Rejection: 50 dB (Image: 40dB) d. Channel Spacing: 25kHz Selectivity: e. More than 65dB at +/- 25kHz f. Frequency Stability: +/-10ppm Digital Modulation System: Carrier frequency shift keys (FSK) g. h. Deviation: Mark carrier frequency: Typical -4.5kHz Space carrier frequency: Typical -4.5kHz i. Signal Format: POCSAG code, binary digital, non return to zero (NRZ) i. Bit Rate: 10A: 412 bps, 10D: 1200 bps k. Identification Code (ID): Up to six unique identification codes per unit. Addresses 1 and 2 offer four function addresses each. Total of 12 receiving addresses. 1. ID-ROM: Electrically erasable programmable read only memory (EEPROM). Complementary metal oxide semiconductor (CMOS). m. Detection: Address code word: 2 bits of error allowed. Message code word: 1 bit error correction. Alert Tone Output: More than 75 dB SPL at 30 cm. n. ο. Dimensions: Approx. 56 (H) X 91 (W) x 18.5 (D) mm (without clip) Weight: Approx 85g (including battery) p. q. Power Supply: One AAA 1.5V Penlight Battery Nominal Battery Life: r. Manganese Battery (450 mAH) Approx 480 Hrs.

> Alkaline Battery (650 mAH) Approx 700 Hrs.

lmm:PAGER/3

Exhibit A: Scope of Work - Page Three

EQUIPMENT SPECIFICATIONS: (continued)

2. Dispatch Unit

- a. Model: Motorola AlphaMate N1383A or equivalent.
- b. Keyboard: Standard typewriter with upper case lock, separate function keys, and type-ahead buffer.
- c. Display: 40 Character LCD with cursor, decendors, and contrast control.
- d. Character Set: Full ASCII
- e. Memory: 7500 Bytes (characters) are available for directory and text functions.
- f. Message Length: Up to 2,000 characters per page message.
- g. Modem: Built in 300 Baud Bell 103 compatible internally changeable to CCITT V.21.
- h. Autodialer: Built in DTMF or variable speed pulse dialer with automatic redial in automatic page mode.

Connectors: Phone Line: USOC RJ11C Modular Connector

Telephone Set: USOC RJ11C Modular Connector

Acoustic Coupler - 5 pin DIN

Serial Printer - 5 pin DIN

Provision for RS232 Direct Connection to Central Terminal - DB255, 25 pin Female Connector

Input Power - Jack for 9V DC from provided 110V AC external power supply.

j. Call Monitoring: Internal Speaker with Volume Control

k. Power: 110 V AC, 60Hz. Provision for four "AA" Primary Cells to retain memory contents under extended power failures.

1. Dimensions: $4" \times 9" \times 12"$ (HxDxW)

m. Weight: 3 Lbs.

n. Operating Temperature: 0 - 50 degrees C

lmm:PAGER/4

i.

Exhibit A: Scope of Work - Page Four

INSURANCE

- 1. The contractor shall purchase and maintain at the contractor's expense, the following types of insurance covering the contractor, its employees and agents.
 - A. Broad form comprehensive general liability insurance covering personal injury, property damage, and personal injury with automatic coverage for premises and operations and product liability. The policy must be endorsed with contractual liability coverage.
 - B. Automobile bodily injury and property damage liability insurance.

Insurance coverage shall be a minimum of \$500,000 per person, \$1,000,000 per occurrence, and \$50,000 property damage. If coverage is written with an annual aggregate limit, the aggregate limit shall not be less than \$1,000,000.

<u>METRO, its councilors, departments, employees, and agents shall be</u> <u>named as an ADDITIONAL INSURED</u>. Notice of any material change or policy cancellation shall be provided to METRO thirty (30) days prior to the change.

2. The contractor shall comply with ORS 656.017 for all employees who work in the State of Oregon for more than 10 days. The contractor shall provide METRO with certification of workers' compensation insurance including employer's liability.

3. The contractor shall provide professional liability insurance covering personal injury and property damage arising from errors, omissions, or malpractice. Coverage shall be a minimum of \$1,000,000. METRO shall receive certification of insurance and 30 days notice of a material change or cancellation.

<u>WARRANTY REQUIREMENTS</u>: Contractor to provide a three year warranty on all equipment.

JM:lmm:PAGER/5

"EXHIBIT B" TERMS OF PAYMENT PAGER LEASE/PURCHASE CONTRACT

- 1. The maximum amount payable under this contract is \$_____
- 2. Upon completion of the Scope of Work, Contractor is to deliver a duplicate invoice to the Facilities Management Division, Washington Park Zoo, 4001 SW Canyon Road, Portland, OR 97221, with the original invoice being sent to the Metropolitan Service District, 2000 SW First Avenue, Portland, OR 97201.
- 3. The invoice for Washington Park Zoo, Facilities Management Division, shall be approved, in writing, by the Facilities Management Division Manager, prior to payment by Metro.
- 4. Contractor shall receive payment for the approved invoice within 30 days after receipt of same from Contractor.

LMM: PAGER/6

"EXHIBIT C" Metro's Washington Park Zoo WRITTEN BID FORM

PROJECT: PAGER LEASE/PURCHASE BID

- A. Cost of 36 Months Lease of 50 each Alpha Pagers (including Airtime and Maintenance)
 - Individual Alpha Pager Cost (including Airtime and Maintenance) is \$_____.
- B. Cost of One Alpha Mate Dispatch Unit 36 Month Lease: (Including Maintenance)

C. Replacement cost per pager

- D. Cost of Repair (including parts, labor, pick-up and delivery)
- C. Airtime Cost per Alpha Pager per Month After 37th Month Payment (Buy-Out):
- D. Cost Per Call for Each Over Call:

(NOTE: Your QUOTE must be based solely on the requirements stated in the Scope of Work and Specifications and must remain in effect for 60 days. In order for your QUOTE to be accepted, all of the following information must be provided. Quotes are to be based on a minimum of 50 alpha pagers. <u>Contract</u> <u>will be awarded per a total of A. and B. above</u>. Award shall be made to the most advantageous bid to be determined by Zoo.

<u>PLEASE PRINT OR TYPE THE FOLLOWING</u>: NAME OF YOUR FIRM:______

ADDRESS:_____

CITY:

STATE: ZIP:

TELEPHONE NUMBER: (_____)____

AUTHORIZED REPRESENTATIVE:_____ TITLE AUTHORIZED REPRESENTATIVE:______ SIGNATURE:______ DATE:______

LMM: PAGER/7

\$_____ \$_____

NOTICE TO ALL BIDDERS

The public contract included herein is a standard agreement approved for use by Metro's General Counsel. As such, it is included for your review prior to bid.

Any changes in the adopted language must be requested and resolved as part of the bid process or as a condition attached to the project bid.

Consider the language carefully. Conditioned bids may be considered nonresponsive. Subsequent requests for modification may not only be rejected, but interpreted as a request to modify and withdraw the original bid.

Contract No.

PUBLIC CONTRACT

THIS Contract is entered into between the METROPOLITAN SERVICE DISTRICT, a municipal corporation, whose address is 2000 S.W. First Avenue, Portland, Oregon 97201-5398, hereinafter referred to as "METRO," and _______, whose address is _______ 97____, hereinafter referred to as the "CONTRACTOR."

THE PARTIES AGREE AS FOLLOWS:

ARTICLE I

SCOPE OF WORK

CONTRACTOR shall perform the work and/or deliver to METRO the goods described in the Scope of Work attached hereto as Attachment A. All services and goods shall be of good quality and, otherwise, in accordance with the Scope of Work.

ARTICLE II

TERM OF CONTRACT

ARTICLE III

CONTRACT SUM AND TERMS OF PAYMENT

METRO shall compensate the CONTRACTOR for work performed and/or goods supplied as described in Attachment B. Metro shall not be responsible for payment of any materials, expenses or costs other than those which are specifically included in Attachment B.

Page 1 -- PUBLIC CONTRACT

ARTICLE IV

LIABILITY AND INDEMNITY

CONTRACTOR is an independent contractor and assumes full responsibility for the content of its work and performance of CONTRACTOR's labor, and assumes full responsibility for all liability for bodily injury or physical damage to person or property arising out of or related to this Contract, and shall indemnify, defend and hold harmless METRO, its agents and employees, from any and all claims, demands, damages, actions, losses, and expenses, including attorney's fees, arising out of or in any way connected with its performance of this Contract. CONTRACTOR is solely responsible for paying CONTRACTOR's subcontractors and nothing contained herein shall create or be construed to create any contractual relationship between any subcontractor(s) and METRO.

ARTICLE V

TERMINATION

METRO may terminate this Contract upon giving CONTRACTOR seven (7) days written notice. In the event of termination, CONTRACTOR shall be entitled to payment for work performed to the date of termination. METRO shall not be liable for indirect or consequential damages. Termination by METRO will not waive any claim or remedies it may have against CONTRACTOR.

ARTICLE VI

INSURANCE

CONTRACTOR shall purchase and maintain at CONTRACTOR'S

Page 2 -- PUBLIC CONTRACT
expense, the following types of insurance covering the CONTRACTOR, its employees and agents.

A. Broad form comprehensive general liability insurance covering personal injury, property damage, and bodily injury with automatic coverage for premises and operation and product liability. The policy must be endorsed with contractual liability coverage.

B. Automobile bodily injury and property damage liability insurance.

Insurance coverage shall be a minimum of \$500,000 per occurrence. If coverage is written with an aggregate limit, the aggregate limit shall not be less than \$1,000,000. <u>Metro, its</u> <u>elected officials, departments, employees, and agents shall be</u> <u>named as an ADDITIONAL INSURED.</u> Notice of any material change or policy cancellation shall be provided to Metro thirty (30) days prior to the change.

This insurance as well as all workers' compensation coverage for compliance with ORS 656.017 must cover CONTRACTOR'S operations under this Contract, whether such operations be by CONTRACTOR or by any subcontractor or anyone directly or indirectly employed by either of them.

CONTRACTOR shall provide METRO with a certificate of insurance complying with this article and naming METRO as an insured within fifteen (15) days of execution of this Contract or twenty-four (24) hours before services under this Contract commence, whichever date is earlier.

Page 3 -- PUBLIC CONTRACT

CONTRACTOR shall not be required to provide the liability insurance described in this Article only if an express exclusion relieving CONTRACTOR of this requirement is contained in the Scope of Work.

ARTICLE VII

PUBLIC CONTRACTS

All applicable provisions of ORS chapters 187 and 279, and all other terms and conditions necessary to be inserted into public contracts in the State of Oregon, are hereby incorporated as if such provision were a part of this Agreement, including, but not limited to, ORS 279.310 to 279.320. Specifically, it is a condition of this contract that Contractor and all employers working under this Agreement are subject employers that will comply with ORS 656.017 as required by 1989 Oregon Laws, Chapter 684.

ARTICLE VIII

ATTORNEY'S FEES

In the event of any litigation concerning this Contract, the prevailing party shall be entitled to reasonable attorney's fees and court costs, including fees and costs on appeal to any appellate courts.

ARTICLE IX

QUALITY OF GOODS AND SERVICES

Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of the highest quality. All workers and subcontractors shall be skilled in their trades.

Page 4 -- PUBLIC CONTRACT

CONTRACTOR guarantees all work against defects in material or workmanship for a period of one (1) year from the date of acceptance or final payment by METRO, whichever is later. All guarantees and warranties of goods furnished to CONTRACTOR or subcontractors by any manufacturer or supplier shall be deemed to run to the benefit of METRO.

ARTICLE X

OWNERSHIP OF DOCUMENTS

All documents of any nature including, but not limited to, reports, drawings, works of art and photographs, produced by CONTRACTOR pursuant to this agreement are the property of METRO and it is agreed by the parties hereto that such documents are works made for hire. CONTRACTOR does hereby convey, transfer and grant to METRO all rights of reproduction and the copyright to all such documents.

ARTICLE XI

SUBCONTRACTORS; DISADVANTAGED BUSINESS PROGRAM

CONTRACTOR shall contact METRO prior to negotiating any subcontracts and CONTRACTOR shall obtain approval from METRO before entering into any subcontracts for the performance of any of the services and/or supply of any of the goods covered by this Contract.

METRO reserves the right to reasonably reject any subcontractor or supplier and no increase in the CONTRACTOR's compensation shall result thereby. All subcontracts related to this Contract shall include the terms and conditions of this

Page 5 -- PUBLIC CONTRACT

agreement. CONTRACTOR shall be fully responsible for all of its subcontractors as provided in Article IV.

If required in the Scope of Work, CONTRACTOR agrees to make a good faith effort, as that term is defined in METRO's Disadvantaged Business Program (Section 2.04.160 of the Metro Code) to reach the goals of subcontracting _____ percent of the contract amount to Disadvantaged Business Enterprise and _____ percent of the contract amount to Women-Owned Business Enterprise. METRO reserves the right, at all times during the period of this agreement, to monitor compliance with the terms of this paragraph and METRO's Disadvantaged Business Program.

ARTICLE XII

RIGHT TO WITHHOLD PAYMENTS

METRO shall have the right to withhold from payments due CONTRACTOR such sums as necessary, in METRO's sole opinion, to protect METRO against any loss, damage or claim which may result from CONTRACTOR's performance or failure to perform under this agreement or the failure of CONTRACTOR to make proper payment to any suppliers or subcontractors.

If a liquidated damages provision is contained in the Scope of Work and if CONTRACTOR has, in METRO's opinion, violated that provision, METRO shall have the right to withhold from payments due CONTRACTOR such sums as shall satisfy that provision. All sums withheld by METRO under this Article shall become the

property of METRO and CONTRACTOR shall have no right to such sums

Page 6 -- PUBLIC CONTRACT

to the extent that CONTRACTOR has breached this Contract.

ARTICLE XIII

SAFETY

If services of any nature are to be performed pursuant to this agreement, CONTRACTOR shall take all necessary precautions for the safety of employees and others in the vicinity of the services being performed and shall comply with all applicable provisions of federal, state and local safety laws and building codes, including the acquisition of any required permits.

ARTICLE XIV

INTEGRATION OF CONTRACT DOCUMENTS

All of the provisions of any bidding documents including, but not limited to, the Advertisement for Bids, General and Special Instructions to Bidders, Proposal, Scope of Work, and Specifications which were utilized in conjunction with the bidding of this Contract are hereby expressly incorporated by reference. Otherwise, this Contract represents the entire and integrated agreement between METRO and CONTRACTOR and supersedes all prior negotiations, representations or agreements, either written or oral. This Contract may be amended only by written instrument signed by both METRO and CONTRACTOR. The law of the state of Oregon shall govern the construction and interpretation of this Contract.

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ARTICLE XV

ASSIGNMENT

CONTRACTOR shall not assign any rights or obligations under or arising from this Contract without prior written consent from METRO.

CONTRACTOR NAME

METROPOLITAN SERVICE DISTRICT

ву:			
Date:	 	•	

By:	· · · ·	

Date:

PUBLIC.FOR 9/22/92

Page 8 -- PUBLIC CONTRACT

Definition of Scope of Work, Attachment A:

This scope of work specifically includes by reference all bidding and contract documents as included herein or hereafter issued during the course of this competitive process. Such documentation shall include but not be limited to the Invitation to Bid, Instructions to Bidders, General Conditions, Supplemental and Special Conditions, Technical Plans and Specifications, Bidder's Proposal and Bonds, immediately preceeding and all addenda subsequently issued prior to Bid Opening.

STAFF REPORT

CONSIDERATION OF REQUESTING FORMAL BIDS FOR PAGER LEASE/PURCHASE CONTRACT FOR METRO WASHINGTON PARK ZOO.

DATE: December 22, 1992

Presented By: Judy Munro

PROPOSED ACTION: Contractor shall provide all equipment and air time required for an alpha pager lease/purchase contract for Metro Washington Park Zoo. Contract shall be in compliance with all applicable codes and regulations.

FACTUAL BACKGROUND AND ANALYSIS (INCLUDING ESTIMATED COSTS)

1. Historically, the Zoo has rented an average of 50 pagers (including air time) for staff use. Average cost of pager rental is \$495 per month; \$5,940 per year.

The estimated three year cost of this contract is \$18,000, which includes pager rental, air time, and final purchase. The only cost required after purchase is an estimated \$225 per month for air time usage and costs for repair/replacement. Purchasing the pagers instead of renting them will result in an estimated savings of \$275 per month or \$3,300 annually.

- 2. Contractor will provide a 36 Month "LEASE/PURCHASE" Equipment Plan, which includes the following specifications:
 - a. A minimum of fifty each (50) NEC Courier or equivalent alpha pagers.
 - b. One Alpha Mate Dispatch Unit or equivalent.
 - c. Zoo will take full ownership of all equipment following the 36th payment.
 - d. A monthly airtime service fee to be charged after the 36th payment.
 - e. A time and materials service agreement for any damages to equipment (both pagers and/or dispatch unit) will be provided.
 - f. The paging coverage must meet the following service boundaries:1. North to Longview, Washington.
 - 2. East to Bonneville Dam.
 - 3. West to McMinnville, Oregon
 - 4. South to Eugene, Oregon.
 - g. Contractor to provide a minimum of 18,000 accumulative calls per month based on a lease of a minimum of 50 alpha pagers. If the amount of pagers should be increased during the term of this contract, the accumulative minimum call limit will be increased by 300 calls per additional alpha pager added.
 - h. Loaner Unit: To allow for continuous service, one loaner unit will be provided as an exchange unit when submitting a damaged unit for servicing. No additional fee will be charged for this exchange unit.

<u>BUDGET IMPACT</u>: The FY 1992-93 budget provides \$57,092 for Other Purchased Services-Communications. Within this budgeted amount is line item: "Beepers" for \$8,500. Therefore, no adverse impact will be felt on this fiscal year's budget expenses.

EXECUTIVE OFFICER'S RECOMMENDATION:

The Executive Officer recommends approval of Resolution #93-1726, Authorization to Solicit Bids for Multi-Year Lease/Purchase Contract of Staff Pagers for METRO Washington Park Zoo. LMM:PAGER/12

Meeting Date: January 14, 1993 Agenda Item No. 6.3

RESOLUTION NO. 93-1729

REGIONAL FACILITIES COMMITTEE REPORT

RESOLUTION NO. 93-1729, AUTHORIZING THE EXECUTION OF THE ENERGY SERVICE CONTRACT WITH PACIFIC POWER AND LIGHT COMPANY.

Date: December 29, 1992 Presented by: Councilor Washington

<u>COMMITTEE RECOMMENDATION</u>: At its December 22, 1992 meeting the Regional Facilities Committee voted 5-0 to recommend Council adoption of Resolution No. 93-1729. Voting were Councilors McLain, Collier, Gronke, McFarland, and Washington.

<u>COMMITTEE DISCUSSION/ISSUES</u>: Metro Regional Center Project Manager Berit Stevenson presented the staff report. She explained the basic concept of the energy service contract with Pacific Power & Light (PP&L). PP&L will lend Metro money - \$293,000 - at a 6.23% interest rate, to pay for energy saving elements of the Metro Regional Center; Metro repays the loan through a surcharge on its electric bill for a period of 15 years. Reduced energy costs are projected to generate more than enough savings to pay back the loan. There will be a total of nine separate energy saving measures, which Metro staff and PP&L identified as appropriate and cost-effective.

Most of the energy saving measures will be added to the scope of the project through change orders. To date, some \$175,000 in energy-related change orders have been executed, with another \$31,000 anticipated. A smaller amount - some \$80,000 to \$90,000 covers energy saving measures that were included in the original scope of work.

Accounting for this contract involves adding the cost of the change orders to the total project cost, then adding the loan amount (the \$293,000) to the project contingency. In this way, both the relevant change order and original project costs are included as debits, and the loan is included as a credit. Repayment of the loan is an operating cost, not a project cost.

Committee staff Casey Short asked Ms. Stevenson to clarify which change orders had been executed, and which were anticipated, to total the \$200,000 - \$210,000 in reimbursable energy-related changes. She listed the executed change orders. (See attached Change Order Summary. Items to be covered in this program are #2 and 4 in change order #6, and item #6 in change order #7.)

Nr 12 26

1

CHANGE ORDER SUMMARY

CHANGE ORDER #1		
1. Core & Shell 5000 sf retail space		A
at corner of Grand Ave. and Lloyd	Blvd	\$118,000.00
2. Parking garage traffic flow & travel		• • • • • • • • • • • • • • • • • • •
demand management plan studies by	y in the second s	
Kittleson & Assoc.	•	4,300.00
3. Demolition of mechanical equipment	it in	
fourth floor annex space.		14,600.00
4. Contractor 5% fee on items 2 & 3.		<u>945.00</u>
TOTAL		\$137,845.00
CHANGE ORDER #2		
1 Upsize south HVAC unit to 125 ton	1.	\$ 24,293.00
2 DCD light fixture hallast removal		19,614.00
2. PCB light installe balast removal.	rtion	· · · ·
- S. Replace hydraulic cicvator with the		0.00
Cicvalui al lower.	t during	•
4. Electrical power cost reiniburschicht	a during	2.899.00
aspestos removal by PDI.		981.00
5. Contractor 5% fee on field #2.	•	\$ 47,787.00
TOTAL	· · · ·	••••
an was append //2		
CHANGE ORDER #3	A	
1. Reimburse one-half of costs to kill t	two	\$ 1 200.00
existing water meters.		111 904 00
2. Core & shell fourth floor annex spa	10e.	111,504.00
3. Extend project completion date to	3/11/93.	£113 104 00
TOTAL		\$113,104.00
•		•
CHANGE ORDER #4		¢ 977/00
1. Parking garage seismic analysis.		3 0,774.00
2. Security system additions.		5,800.00
3. Parking garage Conditional Use Re	view	042.00
fee.		943.00
4. Add recycling chutes.		23,305.00
5. Parking garage design services.		55,909.00
6. Change to recycled Santana toilet p	partitions.	0.00
7. Core & shell adds. HVAC screen v	walls &	
Plaza screen wall upgrade.	· · · ·	<u>123,613,00</u>
TOTAL		\$216,404.00
• • • • • • • • • • • • • • • • • • • •	·	•

CHANGE ORDER #5

1. 2.	Upgrade HVAC units to McQuay. Upgrade HVAC Energy Management Control System	\$ 24,494.00
	to Barber Coleman.	10,476.00
	TOTAL	\$ 34,970.00
CHAI	NGE ORDER #6	
1	Change comes lighting to high program addium	1 005 00
1.	Change garage lighting to high pressure sodium	1,005.00
2.	Remove parking garage lights with PCB's	19,324.00
3.	Construct Parking garage seismic snear walls	47,945.00
4. 5	Implementation of energy measures 1, 2, 3, 6, 7, 8, 10, & 11 Design extra's for Police TL US West room. Landscape redesign	77,041.00
5.	& Shear wall opening design	17 658 00
	TOTAL	\$163,853,00
CHAN	NGE ORDER #7	
1.	Employee parking garage entry/exit barrier gates	\$ 9,342.00
2.	Delete drip irrigation design fee from C.O. #6	(800.00)
3.	Remove old brick & add new at employee parking entrance	11,627.00
4.	Delete electrical transformer upgrade ECM 8 from C.O. #6	(1,677.00)
5.	Demo & replace sidewalks & utilities at existing parking garage	104.334.00
6.	Remove & replace existing parking garage light fixtures	75,720.00
7.	Reimburse contractor for sitework permit at existing parking garage	11.814.00
	TOTAL	\$210,360.00
CHAN	NGE ORDER #8	
1	Tenant improvements	\$626 766 00
· •		Ψυ20,700.00

2. Audio/visaul/paging package TOTAL

<u>98.204.00</u> \$724,970.0

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AUTHORIZING THE EXECUTION OF THE ENERGY SERVICE CONTRACT WITH PACIFIC POWER AND LIGHT COMPANY

RESOLUTION NO. 93-1729

Introduced by Rena Cusma Executive Officer

WHEREAS, the Metro Regional Center Project staff have worked with staff of Pacific Power and Light Company (PP & L) to design and incorporate a variety of energy saving features in the new Regional Center building under the auspices of PP & L's FinAnswer Program; and

WHEREAS, under the Program, nine energy conservation measures will be included in the building at a cost of \$293,672.00 which will be funded by PP & L; and

WHEREAS, Metro re-pays the amount funded by PP & L by way of monthly Energy Service Charges which appear on the monthly electric bill; and

WHEREAS, the inclusion of these energy conservation measures will result in 33% improved electric energy usage and net savings to Metro of approximately \$314,400 over the life of the "loan"; and

WHEREAS, an Energy Service Contract has been prepared to establish the FinAnswer Program between Metro and PP & L which is attached as Attachment A; now therefore,

BE IT RESOLVED, that the Metro Council hereby authorizes the execution of the Energy Service Contract with PP & L.

ADOPTED by the Metro Council this _____ day of January, 1993.

Judy Wyers Presiding Officer

Oregon--PP&L

ENERGY SERVICES CONTRACT

This Agreement, dated as of November 23, 1992, is between:

PacifiCorp dba Pacific Power & Light Company 920 SW 6th Avenue, 440 PFFC Portland, Oregon 97204 Attn: Director, New Energy Services

Pacific

and

Metropolitan Services District 2000 SW 1st Avenue Portland, Oregon 97201-5398

Owner

Attn:Berit Stevenson

1. <u>Facility Location</u>. This contract applies to the Commercial Building described as the Metro Regional Center located at 600 NE Grand Avenue Portland, Oregon 97232 along with the above described real property of Owner.

2. <u>Definitions</u>. The following terms used herein shall have the same meanings set forth in Pacific's Oregon Energy Services Tariff 120, which is attached as Exhibit A to and made a part of this Agreement:

Commercial Building Customer Energy Conservation Measures Energy Service Charge Monthly kW Savings Monthly kWh Savings

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3. <u>Energy Conservation Assistance</u>.

a. Pursuant to this Agreement, Owner will acquire and install those Energy Conservation Measures described in Exhibit B, which is attached and made part of this Agreement.

b. Pacific will provide energy conservation assistance related to such Energy Conservation Measures, as specified in Exhibit B.

4. <u>Energy Service Charge</u>. As consideration for its energy conservation assistance, Pacific shall be entitled to an Energy Service Charge. The initial Energy Service Charge potentially may be adjusted downward retroactively as provided in Section 4.c.

a. The Energy Service Charge shall be calculated as specified in Exhibit C to this Agreement.

Pacific and Owners will conduct a post-occupancy b. evaluation of the Energy Conservation Measures within one year of the due date of the first bill containing the Energy Service Charge. If such analysis indicates that the total of the Monthly kWh Savings are overstated by more than ten percent (10%), Pacific will adjust the Energy Service Charge downward by the incremental percentage above ten percent that such Monthly kWh Savings prove to be overstated. In the event of a downward adjustment, Pacific will credit Owner for all excess Energy Service Charge payments made by Owner before such downward adjustment was established. The total amount of such excess Energy Service Charge payments shall be applied against the adjusted Energy Service Charge payments as the latter become due and payable. No upward adjustment will be made, and no subsequent adjustment will be made to the Monthly kWh Savings used to compute the Energy Service Charge.

C. Owner and Pacific have agreed on the baseline assumptions used by Pacific's independent energy consultant to compute the baseline electric demand and energy usage of the Commercial Building. The baseline assumptions are as specified in Exhibit B to this Agreement. If at the time of the postoccupancy inspection, the actual conditions differ from the baseline assumptions, (1) the baseline energy usage of the Commercial Building shall be adjusted for the actual conditions, using the same engineering models and assumptions originally used to compute such baseline electric energy usage, and (2) the Monthly kWh Savings will be compared to the reductions in energy usage achieved, based on the revised baseline electric energy usage.

ESCK-NEW.PPL

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d. The Energy Service Charge shall be billed for 180 monthly payments, commencing after payment of all ECM's or May 1, 1993, whichever is first. The Energy Service Charge may be billed to Customers pursuant to the Exhibit A tariff schedule or its successor schedule. However, the Energy Service Charge will remain the obligation of Owner, unless timely paid by the Customers taking service at the real property identified by this Agreement. Owner's payment obligations may be assigned as provided in Section 8 of this Agreement.

e. If the Commercial Building is to be electrically wired so as to provide separately metered electric service by Pacific to individual tenants, the Energy Service Charge shall be allocated among the building owner and such tenants in the manner specified in Exhibit B. The Energy Service Charge allocation specified in Exhibit B, as well as any allocation not specified therein, shall be subject to review and determination or revision by the Oregon Public Utility Commission. Owner agrees that prior to leasing any portion of the Commercial Building to a tenant for which Pacific is to provide separately metered electric service, Owner will notify such tenant in writing of the allocation of Energy Service Charges applicable to such tenant.

5. <u>Payments to Owner</u>. Pacific shall make the conservation payments specified in Exhibit C as follows:

Within thirty (30) days after Pacific's inspection and approval of each package of Energy Conservation Measures installed in the Commercial Building, Pacific will pay the amount for such package of Energy Conservation Measures as detailed in Exhibit B.

6. <u>Cooperation by Pacific and Owner</u>.

a. Pacific will coordinate its assistance and inspections with Owner and Owner's contractor, so as not to unreasonably interfere with or to delay the construction of the Commercial Building.

b. Owner shall assure that it and its design team (architect, engineer and contractor) cooperate with Pacific and its consultants, as reasonably required for Pacific to carry out this Agreement.

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c. Owner will provide Pacific and its consultants timely notice so that they can properly conduct the inspections specified in this Agreement.

d. Owner will provide Pacific and its consultants with reasonable access to the Commercial Building and will provide such construction data and other information as are reasonably required for Pacific to carry out this Agreement.

7. <u>Compliance with Applicable Laws</u>. In the installation of Energy Conservation Measures, Owner will comply with all applicable statutes, rules, regulations and orders, including without limitation, laws and regulations relating to labor, wages, hours and other conditions of employment, laws and regulations pertaining to taxes and contributions imposed upon employees and their remuneration and laws and regulations pertaining to workers' compensation and employer's liability.

Assignment. The Energy Service Charge payment obligations 8. hereunder are an obligation at all times of the then current Customers taking service at the real property referenced in this Agreement, pursuant to the Exhibit A tariff, as modified or superseded. Owner (or any subsequent assignees of this Agreement) shall remain jointly and severally liable for any Energy Service Charge payments for any reason not timely received from Customers, unless the rights and obligations under this Agreement have been validly assigned by Owner or such subsequent assignees, respectively. Such assignment of rights and obligations hereunder shall be valid and binding hereunder only if made to all transferees under an arms length, bona fide transfer for value of the real property referenced in this contract and then only after Pacific has been furnished a copy of an executed, valid and binding assignment, in the form specified in Exhibit D to this Agreement.

9. <u>Independent Contractor</u>. The parties to this Agreement are acting as independent contractors with respect to each other; neither is an employee, partner or joint venturer of the other with respect to this Agreement.

10. <u>Real Property Filings</u>. Owner will cooperate in the recording of a memorandum of this Agreement, in the form attached hereto as Exhibit E, by Pacific as a real property filing, to provide notice of the obligations hereunder to future owners of the real property referenced herein. Neither this Agreement nor the real property filing shall create an interest in or a lien or encumbrance of any kind or type against such real property.

ESCK-NEW.PPL

11. <u>Termination of Energy Service Charge</u>. All obligations to pay the Energy Service Charge hereunder shall cease upon payment to Pacific of the termination payment as specified in the Exhibit A tariff.

12. <u>Limitation on Damages</u>. The provision of this Agreement providing for retroactive adjustment to the Energy Service Charge shall be the exclusive remedy with respect to any advice or direction given by or on behalf of Pacific Power and related to the selection or installation of Energy Conservation Measures to be covered by this Agreement. In no event will Pacific Power be liable for lost profits or other consequential damages in connection with any such advice or direction. This paragraph does not limit the obligation of Pacific to make payments to owner pursuant to section 5, and it does not limit owner's rights to compel Pacific to make such payments.

13. <u>General</u>.

a. This contract and performance hereunder are governed by the laws of the State of Oregon.

b. In the event of a dispute under this Agreement, the prevailing party shall be entitled to its attorney's fees and costs, including but not limited by those fees and costs permitted or defined by statutory laws, on trial, on appeal, or in connection with a petition for review.

c. Owner represents that it is the sole owner of the real property referenced in this Agreement.

d. No modification, change or amendment to this Agreement, or any waiver of any rights in respect hereto, shall be binding unless in writing signed by the party to be charged. No waiver of any breach or default hereunder shall operate as a waiver of any subsequent breach or default.

e. Any notice under this Agreement shall be in writing and shall be deemed delivered when hand delivered or when deposited in the United States mail, first class postage prepaid, and addressed to the other party at the address for such party shown in this Agreement, or to such subsequent address as the party shall provide by notice. f. The use of the singular in this Agreement shall include the plural and use of the plural shall include the singular.

Owner	PacifiCorp
Ву:	By:
tle:	Title:
STATE OF OREGON)) ss. County of) This instrument was acknowledged before me this day of, 1992, by	STATE OF OREGON) County of) ss. County of) This instrument was acknowledged before me this day of, 1992, by of PacifiCorp, an Oregon corporation.
(Notary Signature)	- (Notary Signature)

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NOTARY PUBLIC FOR OREGON My Commission Expires:

NOTARY PUBLIC FOR OREGON My Commission Expires;

ESCK-NEW.PPL

STAFF REPORT

Meeting Date: December 22, 1992

CONSIDERATION OF RESOLUTION 92-1729 FOR THE PURPOSE OF AUTHORIZING THE EXECUTION OF THE ENERGY SERVICES CONTRACT WITH PACIFIC POWER AND LIGHT COMPANY

Date: December 7, 1992

Presented by: Berit Stevenson

FACTUAL BACKGROUND

The Metro Regional Center project staff have worked with staff at Pacific Power and Light (PP & L) for several months to incorporate a variety of energy saving features into the Metro Regional Center under the auspices of PP & L's FinAnswer Program. The project team, along with PP & L, began by performing a detailed energy analysis. Based on this analysis, nine energy conservation measures (ecms') have been identified and will be incorporated into the building project. The FinAnswer program will fund their incorporation.

<u>ANALYSIS</u>

The cost to include the nine measures into the building is \$293,672.00. This capital cost will be funded by PP & L at an interest rate of 6.23%. This interest rate represents a blended rate of prime, which is 6%, and prime plus 3. Metro will re-pay this amount by way of an Energy Service Charge which will appear on Metro's monthly electric bill for a period of 15 years. The Energy Service Charge will be a percentage of the amount of calculated energy cost savings from the energy conservation measures which exceed code required energy efficiency measures. The Energy Service Charge is calculated to equal the differential between the monthly electric bill without the added energy conservation measures and the monthly electric bill with the added energy conservation measures.

PP & L has calculated that the inclusion of the nine energy conservation measures will result in 33% improved electrical energy usage, which in turn equals an estimated annual savings of 1,129,640 Kwh. This results in net savings (after payment of the Energy Service Charge) to Metro of \$10,763 in the first year. Net savings increase over the life of the "loan" to \$32,599 in the 15th year. In the 16th year, when the "loan" has been paid off, savings are estimated to be \$64,728:

Both the Legal Department and Finance and Information Department have reviewed and approved the Energy Service Contract.

BUDGET IMPACT

Of the \$293,672 to be funded by PP & L, approximately \$210,000 will be paid to Hoffman Construction Company, the General Contractor on the Regional Center Project, to add the energy conservation measures to the original scope of work. The remaining, \$80,000, which pays for measures included in the original scope of work, has been factored into the Project's contingency amount. The FinAnswer program will not adversely affect the operations budget of the new Regional Center because the monthly electric bill from PP & L will not be more expensive than what the monthly bill would have been without the inclusion of the energy conservation measures. In fact, net savings are expected to start at \$10,763 in the first year and increase over the life of the"loan".

RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 92-1729 by the Metro Council.

Meeting Date: January 14, 1993 Agenda Item No. 6.4

RESOLUTION NO. 93-1732

METRO



N

2000 S.W. First Avenue Portland, OR 97201-5398 503 221-1646

DATE: January 8, 1993

TO: Metro Council Executive Officer Interested Parties

FROM: Paulette Allen, Clerk of the Council

RE: AGENDA ITEM NO. 6.4; RESOLUTION NO. 93-1732

Exhibit A, Request for Bids, has been printed separately from this packet due to the volume of that document. Copies will be distributed to Councilors in advance and available at the Council meeting January 14, 1993.

SOLID WASTE COMMITTEE REPORT

CONSIDERATION OF RESOLUTION NO. 93-1732, FOR THE PURPOSE OF AUTHORIZING ISSUANCE OF A REQUEST FOR BIDS FOR THE CONSTRUCTION OF AN IMPROVED COVER SYSTEM, GAS COLLECTION SYSTEM, MOTOR BLOWER FLARE FACILITY, AND STORMWATER COLLECTION SYSTEM ON A PORTION OF THE ST. JOHNS LANDFILL

Date: January 7, 1993 Presented by: Councilor Washington

<u>Committee Recommendation:</u> At the January 5 meeting, the Committee voted 3-0 to recommend Council adoption of Resolution No. 93-1732. Voting in favor: Councilors Buchanan, McLain, and Washington. Councilors McFarland and Wyers were excused.

<u>Committee Issues/Discussion:</u> The purpose of this resolution is to release an RFB for additional closure work in subareas 2 and 3 of the St. Johns Landfill. The estimated cost of this work is \$11.5 million. These funds will come from the St. Johns Closure Fund.

Jim Watkins and Dennis O'Neil, Solid Waste Staff, presented the resolution. O'Neil reviews the nature of the cover system that is being installed at the landfill. He reviewed the status of current work in subarea 1, noting that this work had served as a laboratory that allowed both Metro and its contractors to "work out the bugs" in installing the cover, gas collection and stormwater systems at the landfill.

O'Neil noted that the work proposed in the resolution will include most of subarea 2 and all of subarea 3, about 105 acres. The work will be conducted over a two-year period, beginning in May 1993 and ending in October 1994. O'Neil explained that about 65 acres will be completed in 1993 and the remaining 40 acres in 1994. The motor blower gas flaring facility will be built in 1993.

Councilor McLain asked whether Metro will be receiving a royalty for the sale of gas from the landfill. O'Neil indicated that a small royalty would be received. McLain asked why we were not selling the gas directly to customers. Watkins replied that Metro currently does not have the staff expertise to manage such a sales program.

Councilors Van Bergen and McLain asked whether the gas was contaminated and whether Metro was required to certify that the gas was clean. Staff was asked to return at a future meeting with this information.

O'Neil responded to Council staff questions. He noted that the estimated cost was about the same as originally projected, although Metro has already purchased additional embankment material to meet DEQ requirements. Watkins noted that Metro is currently negotiating with DEQ to change certain requirements related to the placement of the geonet and the degree of slope that will be permitted after settlement. Metro has recommended changes in these requirements which would reduce overall closure costs.

Councilor Van Bergen asked if DEQ approved these changes, would the proposed RFB need to be rebid. Watkins responded that such changes would only affect the amount of certain bid items that will need to be provided under the RFB.

O'Neil explained that the department does not believe that the requirement that bidders have completed 50 acres of similar work will restrict the number of potential bidders. He had contacted each of the four bidders on subarea 1 and found that all four would meet this qualification.

O'Neil indicated that the department chose to procure this work through a single contract for several reasons. These include: 1) economies of scale, 2) having a single contractor that can coordinate the highly interdependent work of the other contractors, and 3) reducing Metro's contract management costs. He noted that Parametrix will provide management services under its existing contract and that Metro will have two employees on-site.

Councilor Washington expressed concern about the potential contaminaton of nearby sloughs and lakes.

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503/221-1646

Memorandum

To: Solid Waste Committee Members

From: John Houser, Council Analyst

Date: December 29, 1992

Re: Resolution No. 93-1732, For the Purpose of Authorizing the Issuance of a Request for Bids for the Construction of an Improved Cover System, Gas Collection System, Motor Blower Flare Facility, and Stormwater Collection System on a Portion of the St. Johns Landfill

Resolution No. 93-1732 is scheduled for consideration by the Committee at the January 5 meeting.

Background

This resolution authorizes the issuance of a RFB for closure work on 105 acres at the St. Johns Landfill over a two-year period. The work would include the cover system, and gas and stormwater collection systems. About 65 acres would be completed in 1993 and 40 acres in 1994. The total estimated cost is \$11.5 million, of which \$2 million would be spent during the current fiscal year.

The RFB contains certain minimum experience requirements for the principal contractor. Metro would also require that the prime contractor directly perform at least 30% of the work with their own employees.

Issues and Questions

The committee may wish to consider the following issues and questions during its consideration of this resolution:

1) How does the current estimated cost of the proposed work compare with any original cost estimates when the closure fund was established?

2) The committee may wish to ask staff what effect the 50-acre experience requirement will have on the number of contractors qualified to respond to the RFB?

3) A great deal of diverse types of closure work have been combined into a single RFB. Different subcontractors with differing areas of expertise will be needed. Did staff explore any potential monetary or administrative cost savings that might accrue if the major components of the work (cover system, gas collection system, stormwater collection system) were bid separately?

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AUTHORIZING ISSUANCE OF A REQUEST FOR BIDS FOR THE CONSTRUCTION OF AN IMPROVED COVER SYSTEM, GAS COLLECTION SYSTEM, MOTOR BLOWER FLARE FACILITY, AND STORMWATER COL-LECTION SYSTEM ON A PORTION OF ST. JOHNS LANDFILL

RESOLUTION NO. 93-1732

Introduced by Rena Cusma, Executive Officer

WHEREAS, It is in the public interest that the St. Johns Landfill closure process move forward in an expeditious manner; and

WHEREAS, Work associated with and including the construction of an improved multilayered cover system, gas collection system, motor blower flare facility, and stormwater collection system on a portion of St. Johns Landfill will carry forward the closure process; and

WHEREAS, This resolution along with the Request for Bids and contract form for the work described above were submitted to the Executive Officer for consideration and all were forwarded to the Council for approval; now, therefore,

BE IT RESOLVED,

That the Metro Council authorize issuance of a Request for Bids for work associated with and including the construction of an improved multi-layered cover system, gas collection system, motor blower flare facility, and storm water collection system on a portion of St. Johns Landfill.

ADOPTED by the Metro Council this _____ day of _____, 1993.

, Presiding Officer

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STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 93-1732 FOR THE PURPOSE OF AUTHORIZING THE ISSUANCE OF A REQUEST FOR BIDS FOR THE CONSTRUCTION OF AN IMPROVED COVER SYSTEM, GAS COLLECTION SYSTEM, MOTOR BLOWER FLARE FACILITY, AND STORMWATER COLLECTION SYSTEM ON A PORTION OF ST. JOHNS LANDFILL

Date: December 18, 1992

Presented by: Jim Watkins Dennis O'Neil

PROPOSED ACTION

Adoption of Resolution No. 93-1732, authorizing the issuance of a Request for Bids (RFB) for the construction of an improved cover system, gas collection system, motor blower flare facility, and stormwater collection system in order to close a second portion of St. Johns Landfill.

FACTUAL BACKGROUND AND ANALYSIS

According to the 1989 St. Johns Landfill Closure and Financial Assurance Plan, the primary method to control groundwater and surface water contamination from St. Johns Landfill is to construct a waterproof roof over the solid waste. During 1992, Metro constructed a greatly improved multi-layered cover system and associated gas and stormwater systems on a 35-acre area of St. Johns Landfill. Metro also drilled gas wells in other areas of the landfill to prepare for future cover construction and to test the quality and quantity of landfill gas.

Because Metro gained construction experience and has not encountered major problems so far, it seems feasible to take on a more ambitious construction effort spanning 2-years. RFB 92B-42-SW is for closure improvements covering approximately 105 acres of St. Johns Landfill over a 2-year period. In 1993, a 65 acre portion would receive an improved cover system and associated gas and stormwater collection system. Also in 1993, Metro would construct a permanent motor blower flare station which burns the gas to destroy air pollutants until the gas can be used for energy recovery. In 1994, a 40-acre portion of the St. Johns Landfill would receive the cover system, gas collection system and stormwater collection system.

Metro's minority and woman owned business program requires that Metro and bidders make good-faith efforts to maximize business opportunities for MBEs and WBEs for this project. Metro will identify and contact appropriate MBEs and WBEs about potential subcontracting opportunities for this project. For bidders, good faith efforts include the requirements that bidders identify specific subcontracting opportunities for these groups in their general subcontracting plans for this project, and that all MBEs and WBEs attending the pre-bid meeting be contacted by bidders. Negotiations must be conducted with MBEs and WBEs for which appropriate subcontracting opportunities exist.

For this contract, Metro is requiring that at least 30% of the labor be performed by (nonmanagement) employees of the prime contractor. This requirement insures tighter control and coordination by the prime contractor. Tighter control and coordination allows the prime contractor to take advantage of unpredictable periods of good weather and reduces the risk that the work will fall behind schedule with erosion prevention and other critical activities incomplete when they are needed. The contract also includes penalties such as liquidated damages and withholding payments if the contractor does not meet certain milestones and complete work on time. These precautions are based on the fact that the landfill is located in a sensitive wetland area.

Finally, the RFB requires that bidders have experience in the installation of a minimum of 50 acres of low permeable soil or a membrane for a landfill cover or liner in areas with weather conditions similar to those at St. Johns Landfill. This works out to one or two years of experience. The intent of this requirement is to avoid problems caused by an inexperience, overly low bidder while not significantly restricting competition. This RFB continues an earlier contract requirement that geomembrane manufacturers and installers have experience with the critical component of the cover structure.

BUDGET IMPACT

The estimated total cost for all work listed in this RFB is \$11.5 million dollars. It is expected that the work will begin in May, 1993 and end in late 1994. In the FY 1992-1993 budget, \$2 million dollars is allocated to be performed up to June 30, 1993. The remaining funds would come from the FY 1993-1994 and FY 1994-1995 budgets after they are approved by the Metro Council. The Landfill Closure Account contains \$19.4 million dollars as of October 31, 1992.

EXECUTIVE OFFICER RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 93-1732.

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Meeting Date: January 14, 1993 Agenda Item No. 6.5

RESOLUTION NO. 93-1733

SOLID WASTE COMMITTEE REPORT

CONSIDERATION OF RESOLUTION NO. 93-1733, FOR THE PURPOSE OF AUTHORIZING AN EXEMPTION TO THE COMPETITIVE PROCUREMENT PROCEDURES OF METRO CODE CHAPTER 2.04.053, AND AUTHORIZING A CHANGE ORDER TO THE DESIGN SERVICES AGREEMENT WITH PARAMETRIX, INC.

Date: January 7, 1993 Presented by: Councilor Buchanan

<u>Committee Recommendation:</u> At the January 5 meeting, the Committee voted 3-0 to recommend Council adoption of Resolution No. 93-1733. Voting in favor: Councilors Buchanan, McLain and Washington. Councilors McFarland and Wyers were excused.

<u>Committee Issues/Discussion:</u> Jim Watkins, Solid Waste Engineering Manager, explained that the purpose of the resolution is to adopt a change order to the existing design services agreement with Parametrix for services related to the closure of the St. Johns Landfill. Since the gas collection and flaring system in subarea 1 recently became operational, the department has explored options for managing the system. Parametrix offered to fully manage the system for \$109,000. Staff believed that, with proper training, Metro staff could provide much of the gas system management work.

The change order would enable Metro to call on Parametrix to handle problems or questions about the system that our staff could not resolve. The change order would cover calendar year 1993. The maximum expenditure under the change order would be \$46,700. A total of \$30,000 is budgetted for this fiscal year and \$16,700 for the first half of FY 93-94. Watkins noted that expenditure of any of these funds will be dependent upon the number of problems that Metro staff encounters in managing the system.

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503 221-1646

To: Solid Waste Committee Members

From: John Houser, Council Analyst

Date: December 29, 1992

Re: Resolution No. 93-1733, For the Purpose of Authorizing an Exemption to the Competitive Procurement Procedures of Metro Code Chapter 2.04.53, and Authorizing a Change Order to the Design Services Agreement with Parametrix, Inc.

Memorandum

Resolution No. 93-1733 is scheduled to be considered by the Committee at the January 5 meeting.

Background

Since 1990, Parametrix has provided a variety of design and engineering services related to the closure of the St. Johns Landfill under a contract that expires in April 1996. The contract has been amended as new unanticipated service needs have emerged.

The gas collection and flaring system has been completed on a 35acre portion of the landfill. Metro staff can monitor and gather data from the system, but may require periodic assistance in interpreting the data, adjusting the system, or addresssing emergency situations. The purpose of this resolution is to adopt a change order that would permit Parametrix to provide these specialized levels of support during 1993. The resolution also exempts this work from competitive procurement procedures because of Parametrix already has extensive experience in such work at the landfill under its existing contract.

The maximum value of the services to be provided under the change order would be \$46,700.

Issues and Questions

The committee may wish to consider the following issues and questions relating to its consideration of this resolution:

1) The scope of work outlined in the resolution spans two fiscal years. How much money will be allocated this year and how much would be allocated next year?

2) Was the expenditure of these funds from the operating account identified in the current budget?

3) Will Parametrix likely be asked to continue to provide similar services in future years?

BEFORE THE METRO CONTRACT REVIEW BOARD

FOR THE PURPOSE OF AUTHORIZING AN EXEMPTION TO THE COMPETITIVE PRO-CUREMENT PROCEDURES OF METRO CODE CHAPTER 2.04.053, AND AUTHORIZING A CHANGE ORDER TO THE DESIGN SERVICES AGREEMENT WITH PARAMETRIX, INC.

RESOLUTION NO. 93-1733

Introduced by Rena Cusma, Executive Officer

WHEREAS, It is in the public interest that the St. Johns Landfill closure process move forward in an expeditious manner; and

WHEREAS, The closure process can be expedited through the use of the existing engineering contractor to perform tasks described in Change Order No. 13; and

WHEREAS, The project requires additional engineering services that could not have been anticipated at the time of Contract award; and

WHEREAS, It is impractical to solicit proposals for the work described in Change Order No. 13; and

WHEREAS, Change Order No. 13 cannot be approved unless an exemption to the Competitive Procurement Process pursuant to Metro Code 2.04.054 is granted by the Metro Contract Review Board; and

WHEREAS, The resolution was submitted to the Executive Officer for consideration and was forwarded to the Council for approval; now, therefore,

BE IT RESOLVED,

That the Metro Contract Review Board exempts Change Order No. 13 to the Design Services Agreement with Parametrix, Inc. from the Competitive Procurement Procedures of Metro Code 2.04.053.

ADOPTED by the Metro Contract Review Board this _____ day of ______, 1993.

, Presiding Officer

DO:clk s:\watk\SW931733.res

RESOLUTION NO. 93-1733 Exhibit A

CHANGE ORDER NO. 13 METRO CONTRACT NO. 901270

To the Contract Between Parametrix Inc. and The Metropolitan Service District Entitled, "Design Services Agreement"

PROJECT:	Design Services Agreement
METRO POC:	Dennis O'Neil
CONTRACTOR POC:	George Drake
COMPLETION DATE:	April 30, 1996

For On-going St. Johns Landfill Gas System Operations/Maintenance Assistance

SCOPE OF WORK:

<u>OBJECTIVE</u>

The objective of this task is to provide Metro with operations and maintenance assistance relating to the St. Johns Landfill Gas Collection System DURING 1993. This task will also provide for on-going analysis of the data collected by Metro at the SA-1 gas collection system.

<u>WORKPLAN</u>

Parametrix shall provide on-call services to Metro to assist Metro in analyzing gas data collected by Metro from the SA-1 closure area. These on-call services are anticipated to include the following specific sub-tasks:

- (a) Parametrix shall review hand-written monitoring results, provided by Metro, on a weekly basis for the first six months of this contract period, and twice per month for the second six months of this contract period. This review shall include inputting the data into a computerized database structured specifically for this project.
- (b) Parametrix shall provide copies of computer-generated data and make recommendations to Metro as to any adjustments to be made to the operations of the SA-1 well field based on the data provided by Metro. These recommendations shall be based on an understanding of the need to protect the SA-1 closure improvements, minimize air infiltration to the refuse, and maximize methane withdrawal rates. These recommendations shall be made within 48-hours of receipt of data from Metro based on the schedule noted in item (a) above.

RESOLUTION NO. 93-1733 Exhibit A

- (c) At the request of Metro, Parametrix shall perform 8-hour site visits by trained environmental technicians familiar with the St. Johns SA-1 gas collection system up to 13 times during the term of this task. The purpose of these site visits will be to discuss with Metro staff existing conditions, assist in adjustment or maintenance needs, review with Metro staff operations and maintenance procedures and to assist Metro staff in understanding gas system operations or adjustment criteria.
- (d) Parametrix shall make every reasonable effort to respond to emergency requests for on-site assistance by Metro within 4-hours. These requests from Metro are anticipated to be limited to emergency response (system backfire, pipeline or well-head damage, refuse fire, etc.). Parametrix shall provide this service from personnel in their Portland office trained and familiar with the St. Johns SA-1 gas collection system. Should Metro determine that their needs require on-site assistance from staff located in Parametrix' Kirkland office, Parametrix shall make every reasonable effort to respond to Metro's request within 24-hours. For budgetary purposes, it is anticipated that the effort for this item shall consist of four hours per month for technical staff, and one hour per month for engineering/management staff.
- (e) At the request of Metro, Mr. William Sullivan of Parametrix shall attend one meeting with local fire department officials to discuss the system design, system operations, potential emergency conditions, and proper response methods. Mr. Sullivan or a mutually acceptable substitute shall attend up to two additional meetings to discuss gas system operation and maintenance if requested by Metro.

<u>COST:</u>

The contractor shall receive compensation on a time and materials basis for performance of the above tasks. The net additional amount authorized by Change Order No. 13 shall not exceed a total maximum sum of FORTY SIX THOUSAND SEVEN HUNDRED AND NO/100 DOLLARS (\$46,700).

All other terms and conditions of the original agreement and previous agreement shall remain in full force and effect.

PARAMETRIX, INC.

METROPOLITAN SERVICE DISTRICT

Signature

Signature

Print name, title

Print name, title

Date DO:elk s:\oneil\pardesig.e13 Date

Change Order No. 13 to Metro Contract No. 901270 (December 17, 1992)

CHANGE ORDER SUMMARY

CITATOL ONDER DOMINIANT	
CONTRACTOR: Parametrix, Inc.	
PROJECT: St. Johns Landfill Closure	
PURPOSE: On-going SJLF Gas System Operation	· · · · · · · · · · · · · · · · · · ·
CONTRACT NO.: 901270 BUDGET NO. 531-3102	31-524190-75000
DEPARTMENT: Solid Waste FUND NAME Operating	g
THIS REQUEST IS FOR APPROVAL OF CHANGE NUME	BER: 13
1. The original contract sum was	\$2,301,692.00
2. Net change by previously authorized change order	\$477,473.00
3. The contract sum prior to this request was	\$2,779,165.00
4. Total amount of this change order request	\$46,700.00
5. The new contract sum, including this change order	\$2,825,865.00
6. The total contract sum paid	\$1,930,262.59
7. Fiscal Year appropriation for FY 92-93	\$606 , 467.00
Line item name: Misc. Prof. Services	•
Estimated appropriation remaining as of 12/18/92	\$464,288.77
8. Start Date: 1/1/93 Expire Date: 4/30/96	
REVIEW AND APPROVAL:	• •
Allen	
Division Manzger, Solid Waste Department Date Fiscal Review	Date
Partmating abole under	Ann 12-29-92
Director, Sölid Waste Department Date Budget Review	Date
NICT 292.92 ARPA	oly 12/27/97
Director, Regional Facilities Date Legal Review	Date //
VENDOR # 4106	1
STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 93-1733 FOR THE PURPOSE OF AUTHORIZING AN EXEMPTION TO THE COMPETITIVE PROCUREMENT PROCEDURES OF METRO CODE CHAPTER 2.04.053 AND AUTHORIZING A CHANGE ORDER TO THE DESIGN SERVICES AGREEMENT WITH PARAMETRIX, INC.

Date: December 18, 1992

Presented by: Sam Chandler

PROPOSED ACTION

Adoption of Resolution No. 93-1733, which grants exemption from the competitive procurement process for Change Order No. 13 to the Design Services Agreement with Parametrix, Inc., for engineering services related to St. Johns Landfill Closure.

FACTUAL BACKGROUND AND ANALYSIS

In June 1990, Metro entered into a Design Services Agreement with Parametrix, Inc., for engineering services related to the St. Johns Landfill Closure. This agreement extends to 1996. Under this agreement, Parametrix, Inc., has on-going responsibility for designing closure improvements, helping Metro to issue requests for RFBs and performing construction management services for the closure of St. Johns Landfill.

A contractor for Metro has recently completed the construction of the final cover profile, stormwater system, and gas collection system on a 35-acre portion of St. Johns Landfill. Metro Operations staff has recently assumed responsibility for operation and maintenance of the gas collection system which consists of gas wells equipped with monitoring ports and control valves, gas condensate collection pipes, valves and pumps, a gas collection pipe network, and a temporary motor blower flare. It is important to frequently monitor the gas at various locations and then to adjust various valves to regulate gas flow through the collection network. These adjustments are necessary to maximize gas quality and quantity for future energy recovery purposes and to minimize the risk of subsurface or gas collection system fires, off-site migrating gas or damage to the cover system.

According to Change Order No. 13, Parametrix, Inc. will assist Metro Operations staff by analyzing the monitoring data collected by Metro and then quickly recommending how the various valves should be adjusted to properly operate the gas collection system. This would be done on a weekly basis for 6-months and then twice per month thereafter. Parametrix, Inc., staff would visit the site up to 13 times to discuss existing conditions and advise Metro about routine operation and maintenance procedures. These visits would only occur after a request by Metro. Parametrix, Inc. would attend one meeting with local fire department officials to explain the gas system design, operations and proper emergency response methods. This budget also contains funds for Parametrix, Inc., staff to respond to requests from Metro for immediate assistance in the event of emergencies.

An exemption to the competitive procurement process is clearly justified. Parametrix, Inc., designed the gas system and managed its construction. Construction management includes actual monitoring, operation, maintenance of the gas collection system until it was turned over to Metro staff. Parametrix, Inc., will continue to perform engineering services related to the St. Johns Landfill closure. It would be inefficient and cause risky delays to hire another engineering consultant to perform this work.

BUDGET IMPACT

The budget for this work is not to exceed \$46,700. The actual expenditure may be considerably lower if there are few requests by Metro for routine or emergency on-site assistance. This work will be paid for from the St. Johns Landfill Operation budget and not from the Closure Account. As of October 31, 1992, the St. Johns Landfill Operation Miscellaneous Professional Services (524190) has \$488,764 budget remaining.

EXECUTIVE OFFICER RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 93-1733.

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Meeting Date: January 14, 1993 Agenda Item No. 6.6

RESOLUTION NO. 93-1743

METRO



R

2000 S.W. First Avenue Portland, OR 97201-5398 503 221-1646

DATE: January 8, 1993

TO: Metro Council Executive Officer Interested Parties

FROM: Paulette Allen, Clerk of the Council

RE:

AGENDA ITEM NO. 6.6; RESOLUTION NO. 93-1743

The Planning Committee will meet to consider Resolution No. 93-1743, Tuesday, January 12. A committee report will be provided after that date in advance to Councilors and will be available at the Council meeting January 14, 1993.

METRO

Memorandum



2000 S W. First Avenue Portland, OR 97201-5398 503 221-1646

DATE: January 6, 1993 TO: Planning Committee Interested Parties FROM: Gail Ryder, Council Analyst RE: Timing of Resolution 92-1743 and subsequent JPACT meetings

<u>Application Deadline for Congestion Pricing Demonstration:</u> According to Attachment C of Resolution 92-1743 which endorses Metro's participation in the Federal Highway Administration Congestion Pricing Pilot Program, the application deadline is 1/25/93. JPACT is scheduled to take action on 1/14/93 and the Council is scheduled to take final action on 1/28/93, three days later.

Planning Department staff indicates they are aware of the timing discrepancy and that the application could be withdrawn if the Council fails to adopt the resolution.

You may wish to consider requesting the Presiding Officer move the resolution to the 1/14/93 Council meeting so that final action is completed before the application is filed.

<u>Timing of Planning Committee and JPACT meetings:</u> You may have noticed that all three action items for this agenda are before the committee prior to the meeting of the Joint Policy Advisory Committee on Transportation (JPACT) on 1/14/93. In the past it has sometimes been the practice to wait until JPACT has taken action on an item before scheduling it before the Planning Committee. That way the committee has the benefit of JPACT comment before making a decision. Conversely, the committee may wish to suggest changes to legislation prior to JPACT's meeting, to communicate committee concerns. Generally, if there are substantive changes by a Council committee, the resolution or ordinance is returned to JPACT before adoption by the Council. The same would be the case if JPACT made substantive changes following Planning Committee action.

Councilor Van Bergen asked me to bring this procedural question to your attention so that you might be prepared to voice your scheduling preference at the 1/12/93 meeting.

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ENDORSING THE) REGION'S PROPOSAL TO PARTICIPATE) IN THE FHWA CONGESTION PRICING) PILOT PROGRAM) RESOLUTION NO. 93-1743 Introduced by Councilor Van Bergen

WHEREAS, Section 1012 (b) of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 authorizes the Secretary of Transportation to create a Congestion Pricing Pilot Program by entering into an agreement with up to five State or local governments or other public authorities to establish, maintain, and monitor congestion pricing pilot projects; and

WHEREAS, The November 24, 1992 Federal Register includes notice and request for participation in the Pilot Program and applications are due by January 23, 1993 (and subsequently revised to January 25, 1993); and

WHEREAS, Congestion pricing as a concept is referenced in the Oregon Transportation Plan as an option to achieve statewide transportation objectives; that congestion pricing has been endorsed by the Governor's Task Force on Vehicle Emissions in the Portland Area as a contingency air quality strategy; and that the Joint Policy Advisory Committee on Transportation has endorsed investigation of congestion pricing as a transportation congestion strategy; now, therefore,

BE IT RESOLVED,

1. That the Metro Council endorses the region's three-step process, identified as items No. 1b, 1c, and 1d, on Exhibit A, for pursuing a congestion pricing pilot project for the Portland metro area.

2. That the Metro Council endorses a scope of work for a regional congestion pricing pilot project as included in Exhibit A.

3. That the Metro Council directs staff to pursue ISTEA congestion pricing pilot program funds for the scope of work as contained in Exhibit A, particularly for items No. 1c and 1d.

4. That the Metro Council and JPACT continue to participate in the process, particularly at key decision points, to pursue and potentially implement a congestion pricing pilot project.

ADOPTED by the Metro Council this ____ day of _____

Judy Wyers, Presiding Officer

MH:1mk 93-1743.RES 1-4-93

Application Outline and Scope of Work

Proposal for Participation in the Congestion Pricing Pilot Program Portland, Oregon Metropolitan Area Lead Agency: Metro Contact: Name, Phone Number

FHWA Docket No. 92-24 Date

b.

C.

1. Summary of Portland Proposal

a. Application cover letter.

Application process. This step involves completing an official application consistent with guidelines contained within the Federal Register. The completed application will focus on congestion problems throughout the region and how they may be addressed through a pilot project. The application will detail a public process and will identify resources necessary to identify and implement a pilot project. Broad goals and objectives will be further refined.

Process for getting to decision point and implementation. This step is proposed for Federal funding and will identify and follow a process for identifying and implementing a pilot congestion pricing project within the region. A methodology incorporating goals and objectives, evaluation criteria, alternative congestion pricing proposals, and public involvement and decision-making will be developed. The result of this step will either be to decide on a specific congestion pricing action for implementation or to decide not to pursue the pilot program.

d.

Implementation of pilot program. If a decision is made to pursue a pilot project, implementation would include start-up and operation and ongoing project evaluation and monitoring.

2. Portland Metro Area Congestion Problem(s)

A summary of existing and forecast Portland area congestion problems. Description and overview of the region and applicability of Portland area problems to other medium-sized metropolitan areas.

- a. Regional congestion problems
- b. Corridor and area congestion problems (including CBD)
- c. Key facility constraining points (bridges, etc.)

Portland Congestion Pricing Goals and Objectives

Congestion pricing goals and objectives will be developed consistent with guidelines contained within the Federal Register and which are consistent with State and regional transportation planning objectives. These will include, but will not be limited to, the following:

- a. Congestion effects
- b. Technology review
- c. Public process and decision-making
- d. Land use effects
- e. others
- 4. Participants

A listing of agencies, jurisdictions, interest groups, civic and business organizations, and other interested parties participating within the process. These may include, but not be limited to, the following:

- a. Lead Agency: Metro
- b. Governmental Participants: JPACT
- c. Private Sector Participants
- d. Interest Groups: Oregon Environmental Council, Oregon Trucking Association, AAA, others
- 5. Legal Authority

A summary of the current and proposed legal/legislative status of congestion pricing in Oregon. Included will be discussion regarding the use of toll facilities or technology and the use of toll related revenue.

6. Detailed Description of Problems

Detailed congestion factors will be developed and applied consistent with RTP performance and evaluation criteria.

- a. Region (speeds, vehicle hours of delay, miles of LOS D/E or worse, travel times, etc. for base and forecast years)
- b. Corridor/Area (congestion factors)
- c. Key facility constraint point (congestion factors)
- 7. Project Design Methodology

A detailed methodology of alternative congestion pricing schemes leading to the selection of a preferred alternative. Elements will include, but not be limited to the following:

a. Timeframe (schedule, milestones, major products, etc.)

3.

- b. Identification of congestion pricing pilot program alternatives (Regional, Area/Corridor, Key facilities).
- c. Maps and other display information of congested facilities, regional congestion, and alternatives.
- d. Summary of congestion pricing technology review.
- e. Establishment of appropriate congestion fees.
- f. Identification of enforcement issues and strategies.
- g. Identification of alternative transportation modes within proposed congestion pricing demonstration areas.
- h. Cost/benefit analysis (including environmental/social)
- i. Environmental Assessment
 - 1) System level criteria for region, corridor, key facilities.
 - 2) Environmental Assessment for Preferred Alternative.
 - 3) EIS, if necessary.

Financial Plan Methodology (Capital, Operating, Match, etc.)

A detailed description of financial components including capital and operating costs; match requirements; use of fee revenues; impacts on other revenues.

9. Monitoring/Evaluation Methodology

A detailed methodology for evaluation and monitoring of a pilot project. Included would be necessary data collection, analysis methods, and evaluation methods. Evaluation would be directly tied to study objectives.

10. Staff/Budget Impacts

A detailed description of required resources to reach the public process oriented decision-point and for implementation, if a decision to proceed with a pilot project is reached. The resources identified here will provide the basis for the specific amount of grant proposals.

Metro:MH 1/4/92 Cong.Pilot.App

8.

STAFF REPORT

CONSIDERATION OF RESOLUTION NO. 93-1743 FOR THE PURPOSE OF ENDORSING THE REGION'S PROPOSAL TO PARTICIPATE IN THE FHWA CONGESTION PRICING PILOT PROGRAM

Date: January 4, 1993 Presented by: Andrew Cotugno

PROPOSED ACTION

This resolution endorses the region's participation in the Federal Highway Administration's (FHWA) congestion pricing pilot program. The resolution identifies a scope of work and establishes a process to determine appropriate congestion pricing alternatives within the Portland metropolitan area. The resolution also establishes a public decision-making process to determine: 1) whether to proceed with a demonstration project; and 2) if a decision is made to proceed, identify a Preferred Alternative for a congestion pricing demonstration project.

FACTUAL BACKGROUND AND ANALYSIS

Congestion pricing is the application of user surcharges on congested highway facilities during peak periods. Its goal is to relieve congestion by discouraging some trips and shifting others to alternate destinations, times or modes of travel. Revenue generated from congestion pricing can be used a number of ways, including construction of the transportation infrastructure or to offset an existing transportation user fee or tax.

Section 1012 (b) of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 authorized the Secretary of Transportation to create a Congestion Pricing Pilot Program by entering into an agreement with up to five state or local governments or other public authorities to establish, maintain, and monitor congestion pricing pilot projects. A maximum of \$25 million is authorized for each of the fiscal years 1992 through 1997 to carry out program requirements. Attachment A is a copy of the November 24, 1992 Federal Register notice and request for participation in the pilot program. Attachment B is a staff summary of the contents of the Federal Register.

In addition to its inclusion in ISTEA, congestion pricing as a concept is being discussed on a number of other fronts. The Oregon Transportation Plan includes references to pricing programs that charge road users commensurably with the total costs of operations and improvements. The Governor's Task Force on Motor Vehicle Emissions in the Portland Area endorsed the region pursuing a pilot program grant and included congestion pricing as part of its recommended contingency plan for maintaining air quality. JPACT has previously been briefed on the pilot program and has endorsed further investigation of a potential pilot project. Subsequently, JPACT has recommended that a regional congestion pricing study be conducted to learn more about its potential and effects. That study and any development of a pilot project will share information and methodologies to the degree possible. Metro and ODOT are continuing discussions on the scope of the regional congestion pricing study and its relationship to the Western Bypass project.

The timeline for submitting applications is extremely short (Attachment C). TPAC's Ad Hoc Congestion Pricing Committee began meeting in mid-December to develop a proposal. With an understanding that selection of a specific proposal will require significant public discussion, the scope of work as contained in Exhibit A to the resolution is process-oriented. JPACT and the Metro Council are being asked to endorse this process for the region's pursuit of a congestion pricing pilot project. Essentially, the process has three steps:

- 1. Submit a process-oriented application by January 25 to meet the FHWA deadline.
- 2. Develop and implement a public planning process intended to reach a decision on whether or not to proceed with a pilot project for the region.
- 3. If a decision is reached to proceed with a pilot project, then the final step includes implementation, monitoring, and evaluation.

It is for steps two and three that ISTEA pilot program funds will be requested.

EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 93-1743.

MH:1mk 93-1743.RES 1-5-93

ATTACHMENT A

TRANSFORTATION DEPT.

HILLO STATES OF ANTIC

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

THE OREGON DIVISION The Equitable Center, Suite 100 530 Center Street N.E. Salern, Oregon 97301

DEC 2 1992

December 1, 1992 HARLY MEPER TO HPR-OR/722.7

Mr. Donald E. Forbes, Director Oregon Department of Transportation 135 Transportation Building Salem, Oregon 97310

Dear Mr. Forbes:

Congestion Pricing Pilot Program

Enclosed is a copy of the November 24 <u>Federal Register</u> Notice on the Congestion Pricing Pilot Program. An earlier notice issued on May 29, 1992 provided general information about the program and asked for public comment on several implementation issues. This Notice is the formal request for applications. It also includes a discussion of comments received in response to the first Notice, a general statement of priorities which will be used in selecting participants, a list of items to be included in the applications and descriptions of eligible costs and eligible uses of project revenues.

Proposals must be submitted to our office through the appropriate MPO and ODOT. (Please note that ten copies plus an unbound reproducible copy are required.) FHWA will review the applications and make preliminary selections 60 days after publication, therefore proposals should reach our office by Friday January 23, 1993.

Because response time is limited, copies of this letter and the Notice are being sent directly to each of the Oregon MPO's. Please call Fred Patron if you need further information.

Sincerely yours,

Fred P. Patron Division Transportation Planner

Enclosure 11/24/92 Federal Register cc: METRO, SKATS, LCOG, RVCOG w/encl Federal Highway Administration

[FHWA Docket No. 92-24]

Participation in the Congestion Pricing Pilot Program

AGENCY: Federal Highway Administration (FHWA), DOT. ACTION: Notice: request for participation.

SUMMARY: This notice invites State or local governments or other public authorities to make applications for participation in the Congestion Pricing Pilot Program established by Section 1012(b) of the Intermodal Surface -Transportation Efficiency Act (ISTEA) of 1991 (Pub. L. No. 102-240, 105 Stat. 1914) and presents initial guidelines for . program applications. The initial solicitation period is 60 days. If fewer than 5 participants are selected for program participation during this initial solicitation period, the solicitation will : .remain open for other applications. This * document also contains a summary and discussion of comments received in response to a May 29, 1992, notice which describes the legislative mandate for the Pilot Program and procedures which will be used to implement the program. FOR FURTHER INFORMATION CONTACT: Mr. James R. Link or Mr. John T. Berg. Highway Revenue Analysis Branch, HPP-13, (202) 366-0570; or Mr. Wilbert Baccus, Office of the Chief Counsel, HCC-32, (202) 386-0780; Federal Highway Administration, 400 Seventh .. Street SW., Washington, DC 20590. SUPPLEMENTARY INFORMATION Section 1012(b) of the ISTEA of 1991 authorizes the Secretary of Transportation (the --Secretary) to create a Congestion Pricing Pilot Program by entering into cooperative agreements with up to five State or local governments or other public authorities, to establish, maintain, and monitor congestion pricing pilot projects. Three of these agreements may involve the use of tolls on the Interstate ·System notwithstanding 23 U.S.C. 129, as amended, and 301. A maximum of \$25 million is authorized for each of the Fiscal Years 1992 through 1997 to be made available to carry out program requirements. Not more than \$15 million can be made available each fiscal year to fund any single cooperative agreement. In advance of completing its plan for implementing this program. FHWA published a Federal Register notice on May 29, 1992 (57 FR 22857) which presented general information about the Pilot Program and solicited public comment (Docket No. 92-24) on a number of implementation issues. The comment period dosed on June 29, 1992.

Discussion of Comments

General

A total of 108 comments were received from 17 commenters, including 4 State or city Departments of -Transportation, 1 State highway patrol agency, 1 multi-State transportation agency, 3 Metropolitan Planning Organizations (MPOs). 1 private technology company, 2 transportation interest groups, 2 academic institutions, 2 public environmental agencies, and 1 transportation consultant. The following is a discussion of major issues raised in the comments submitted to Docket 92-24 arranged by topics of main concern to the commenters. Also included are FHWA responses to the comments. In addition, remarks made at a June 10-12 **Congestion Pricing Symposium** sponsored by FHWA and the Federal ... Transit Administration (FTA) were considered during the development of this notice. The proceedings of the symposium are available from the Federal Highway Administration by request to John T. Berg at the address provided under the heading FOR FURTHER INFORMATION CONTACT, above.

What Types of Projects Should Be Included in the Pilot Program? The May 29 Federal Register notice states that a pilot project may encompass parking pricing in coordination with highway pricing. Some commenters recommended broadening the definition of congestion pricing pilot project to include the pricing of parking only. The FHWA recognizes that parking pricing innovations may be effective in reducing congestion and such innovations may be the first step toward a more comprehensive pricing proposal which includes road pricing. For this reason, there is interest in parking pricing proposal However, because the unique feature of aection 1012(b) is to allow pricing on Federal-aid highways and because the application of section 1012(b) is not necessary for a local jurisdiction to impose congestion fees for parking, proposals for stand-alone parking pricing projects which do not include road pricing will be given low priority. To receive high priority consideration, interested applicants are encouraged to consider parking fees designed to reduce congestion, along with a road pricing proposal as part of a comprehensive pricing package.

One comment suggested that projects that control vehicle entries into a central business district by means other than a direct fee, such as entry based on the digits of a license plate, should be eligible for inclusion in the Pilot Program. Another commenter suggested that a project which eliminated or reduced existing tolls during off-peak periods, or reduced tolls for highoccupancy vehicles during peak periods, should be eligible for inclusion in the Pilot Program. Another commenter suggested that the program should include projects which provide credits for low-emission vehicles.

The FHWA believes that for purposes of the Pilot Program the term congestion pricing must involve increasing the price for the use of congested facilities. Proposals designed solely to reduce the price of road use for high occupancy vehicles or at certain times of the day, or to promote the use of low-emission vehicles, may have merit on their own grounds, but they are not eligible to have revenue losses made up with Pilot Program funds. Such programs do not raise highway fees to compensate for the costs of congestion and are, therefore, not considered to be applications of congestion pricing Further, the Congress, in asking for a review of the effects of pilot projects on funds available for transportation programs and in specifying the purposes for which project revenues are to be used, clearly anticipated that pilot projects would produce revenues that could be used for other title 23 purposes. For these reasons, proposals which would establish price differentials for the use of congested roads, but do not involve increasing the price of such use,. will be given low priority consideration. However, they could be given higher priority if combined with a comprehensive congestion pricing proposal that includes increasing the peak-period price for the use of other congested roads.

What criteria should be used to rank and select program participants?

Most commenters addressed criteria they felt should be used to select program participants. These comments were carefully considered by FHWA and many are incorporated in the selection criteria contained later in this notice. Several comments suggested that preference be given to projects located in areas designated as nonattainment areas under provisions of the Clean Air Act, that the severity of an area's air quality problems be used as a ranking criteria in project selection, or that only such nonattainment areas be included in the Pilot Program. While FHWA recognizes that congestion pricing may be used to help attain compliance with air quality standards, and evaluation of the effects of congestion pricing on air quality is one of the important goals of the Pilot Program, we do not believe that

the existence of a severe air quality problem should be a strict requirement for program participation. We do not wish to exclude proposals from attainment areas which are otherwise valid and useful tests of congestion pricing. Factors related to the pricing proposal itself will be given primary consideration in the selection of program participants. It is expected. however, that congestion pricing will promote air quality goals, and FHVA would like to include congestion pricing projects in the pilot program which will allow an examination of the relationship between congestion pricing and air quality. Proposals should include a description of any air quality problems (including measurements of criteria pollutants) to be addressed by congestion pricing, an explanation of how proposed congestion pricing projects are expected to improve air quality conditions, and a plan for evaluating the effects of congestion pricing on air quality.

The severity of an area's congestion problem was also proposed as a selection criterion in several comments. This view was also expressed by many at the June 10-12, 1992, Congestion Pricing Symposium. One comment suggested, however, that an objective of. the program should be to demonstrate whether fast growing areas can prevent, through pricing, the congestion problems that some cities have. The FHWA believes that, since the effect of pricing on traffic congestion is a primary focus. of the Pilot Program, the existence of a serious congestion problem should be a necessary requirement for program participation. However, this does not mean that every participant must have the severe congestion conditions found in some large cities. We hope to have some diversity in the 5 program participants finally selected for the program, and believe that a rapidly growing area that is experiencing serious congestion that promises to grow worse should also be considered for program participation if its proposal otherwise describes a valid and useful test of congestion pricing.

What types of pilot project expenses should be eligible for reimbursement under the Pilot Program?

Commenters also suggested expenses that they felt should be reimbursable under the Pilot Program. Several comments suggested that the costs of public relations campaigns undertaken to promote congestion pricing pilot projects should be eligible for funding. Other suggested expense items included capital and operating costs for transit services tied to the pilot program, and

costs for planning studies undertaken prior to selection for program participation. The FHWA carefully considered these comments and has concluded that section 1012(b)(2) made specific provision to allow funding of the development and start up costs of pilot pricing projects. including salaries and expenses. Because the success of a congestion pricing pilot project may depend on the provision of reasonable travel alternatives for highway users subject to the congestion charges, and in some cases the alternatives may be provided by transit, FHWA has determined that the costs of transit services specifically tied to the Pilot Program will be eligible for reimbursement with Section 1012(b) funds if those costs are for new or expanded services that are provided as part of the development and start up of a congestion pricing pilot project, and the costs related to the new or expanded transit service are included as part of the operating cost of the Pilot Program. Pilot Program funds cannot be used to replace existing funding sources for transit operations and cannot be used to further subsidize existing operations. Transit capital costs may also be funded with section 1012(b) funds if they are for new or expanded services provided as part of the development and start up of . a congestion pricing pilot project. Because there is limited funding available for the Pilot Program, however, program candidates are urged to look to other sources to fund any transit-related development and start-up costs of the Pilot Program. Federal Transit Administration programs provide transit capital grant assistance (Discretionary Grant or Loan Program and Block Grants Program) and transit operating assistance (Block Grants Program). In addition, FTA's Planning and Research Programs provide planning and research funds. Section 1007 of the ISTEA of 1991 provides that transit projects eligible for assistance under the Federal Transit Act are eligible projects under the Surface Transportation Program (STP).

Costs of public relations programs designed to support the implementation and continued operation of approved pilot projects are eligible for funding under this section if those costs are incurred after a program candidate is selected as a participant in the Pilot Program. Even though a potential participant in the program may have to incur costs to examine the feasibility of congestion pricing prior to submitting a program application, reimbursement of these up-front planning costs are not eligible cost items under this program.

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The fact that such costs have been incurred may be used by applicants to show an indication of local commitment to the test of congestion pricing.

What should be eligible uses of congestion pricing revenues?

Several comments addressed the question of eligible uses of revenue generated by congestion pricing pilot projects. Some suggested that program participants should be allowed to use congestion pricing revenues to pay transit capital and operating costs or other costs of non-single occupant vehicle alternatives if those costs are incurred to provide transportation alternatives for those who are subject to the higher congestion charge Since section 1012(b)(3) states that revenues from pilot projects must be used for title. 23 projects. transit operating costs are not an allowable use of pilot project revenues. except when they have been included as part of the operating cost of congestion pricing projects included in the Pilot Program Since section 1012(b)(2) anticipates that congestion pricing revenues will be used to replace Federal assistance being used for project operating costs, such revenues can be used to fund those transit costs included as part of the operating cost of a pilot project. Revenues in excess of the amount necessary to fund project operating costs must be used for Title 23 projects in accord with section 1012(b)(3). Transit capital costs are an. eligible title 23 purpose, and, therefore are an allowable use of pilot project revenues.

Priorities for Selecting Program Participants

The FHWA is seeking proposals which reflect a clear intent to use congestion charges (direct point/time-oftravel charges varying by location and/ or time) to encourage driver behavior in a manner that will promote the use of alternative times, routes, modes or trip patterns to reduce congestion. In practice pilot projects may only approximate or move toward ar optimal congestion toll. However, charges that are anticipated for pilot projects should have the key characteristic that they are targeted at vehicles causing congestion. and they are set at levels high enough to encourage drivers to use alternative times. routes, modes or trip patterns during congested periods. Additional discussion of congestion tolls is contained in appendix A.

Proposals are sought which anticipate the application of congestion pricing over a time period long enough to ensure that a test of congestion pricing will be successfully completed, and which

indicate a commitment to monitor. evaluate and report on the effects of congestion pricing. Pricing proposals which are not large enough to influence demand, such as minor increases in fees during peak periods, or moderate toll increases instituted primarily for financing purposes, will be given low priority. Since significant peak-period pricing increases and comprehensive applications of congestion pricing (e.g., areawide pricing, multi-facility or multicorridor applications, and combination of road pricing and parking pricing) are expected to provide the most valuable information about the effects of congestion pricing, proposal which include such applications of congestion pricing will be given high priority. The FHWA recognizes, however, that comprehensive applications of pricing may evolve incrementally over a period of years and may not be developed during the period of the Pilot Program. and narrower implementations, such as pricing of key traffic bottlenecks, traffic corridors. or single facilities, may be a starting point for future expansions to more comprehensive pricing programs. Thus. such narrower implementations will be considered for inclusion in the Pilot Program. but on a lower priority basis than proposals for more comprehensive pricing programs

In order to promote successful demonstrations of congestion pricing, FHWA in reviewing applications for participation in the Congestion Pricing Pilot Program, will give priority to proposals which

1 Indicate a clear intent to use congestion charges to modify driver behavior in a manner that will promote the use of alternative times, routes, modes, or trip patterns:

2. Include comprehensive applications of congestion pricing, including the use of road pricing:

3. Include congestion pricing ar part of the clearly articulated program for addressing congestion, mobility, and related air quality and energy conservation goals. Because of current Clean Air Act and ISTEA provisions requiring joint transportation planning and air quality planning comprehensive pricing proposals that mutually address congestion and air quality are encouraged;

 Demonstrate extensive public and private involvement in the development of the proposed pricing program;

5. Demonstrate the likelihood of early implementation of pricing projects:

6. Indicate that the pricing project will not have major adverse effects on alternative routes or modes, which indicate that there has been analysis of the expected social and economic impacts of proposed projects, and which propose measures to ameliorate any major adverse impacts;

7. Include well designed plans for monitoring and evaluating proposed projects. including plans of data collection and analysis (see appendix A for additional guidelines on monitoring and evaluation);

8. Incorporate the use of advanced electronic toll and traffic management (ETTM) technologies:

9. Include sound financial and management plans for pilot projects. Priority will be given to proposals which indicate that revenues will be used to support the goals of the congestion pricing project and mitigate any adverse impacts of the project;

10. Are likely to add to the base of knowledge about the various design. implementation, effectiveness, operational, and acceptability dimensions of congestion pricing applications. The FHWA is seeking information related to the impacts of congestion pricing on travel behavior (mode use, time of travel, trip destinations. trip generation, etc., by private and commercial trips); on traffic conditions (trip lengths, speeds, level of service): on implementation issues (technology, public acceptance, administration, operation, enforcement, legality, institutional issues, etc.); on revenues, their uses and financial plans: on different types of users and businesses; and on measures designed to mitigate possible adverse impacts and their effectiveness. These diverse information needs mean that FHWA may fund different types of congestion pricing applications in different local contexts to maximize the learning potential of the pilot program.

Pilot Project Applications

Applications should contain, as a minimum, the following types of information:

(1) A description of the goals of the proposed project(s). including a characterization of the congestion problem to be addressed through the application of pricing and description of the expected effects of the proposed pricing plan. Project goals should include comprehensive evaluation of the effects of congestion pricing. The proposal should also explain the pole of section 1012(b) in accomplishing the objectives of the proposed pricing program.

(2) A listing of the State, local, and private sector participants in the proposed pricing program, including a listing of those participants who will

sign the proposed cooperative agreement with the Federal government. a description of their commitment to the project. and a description of efforts taken to promote local involvement in the project (such as public hearings. board actions. inclusion in long-range plans, etc.). Endorsement by proposed signatories should be provided at the proposal stage if possible, but as a minimum. the proposal must include the endorsement of the local MPO and the owner of any highway facility covered by the pilot project. Proposals indicating additional support, such as might be reflected through attitudinal surveys. public hearings. or other public relations activities will be given priority. Endorsement of the proposal by local transportation. environmental, business. or other interested groups will be viewed as strong indications of local support. Proposals should also provide an indication of plans for future public involvement activities. If such activities have not been initiated, proposals should describe proposed plans to promote public involvement.

(3) A statement that the legal authority for implementing the proposed congestion pricing project(s) exists, or a report on the status of efforts to obtain such authority. Note that the attainment of such authority will generally be required prior to the signing of a cooperative agreement However, if a proposal provides a strong indication that the prospects are good for obtaining such authority in a relatively short time, and the proposal presents what would otherwise be a strong congestion pricing application, FHWA may temporarily hold open one or more of the potential five cooperative agreements until such . time that a determination of legal authority is made.

(4) A detailed description of the congestion problem being addressed. Proposals should show that there is a serious congestion problem to be addressed by congestion pricing. whether that congestion problem is the extreme congestion found in some large cities. or an existing serious congestion problem which is likely to grow worse as a result of anticipated rapid growth in travel demand.

(5) A description of the planned design of the congestion pricing project(s) to be included under the cooperative agreement, including the nature and level and location of road pricing anticipated and any other pricing projects to be incorporated in coordination with the road pricing proposal (including supporting maps or drawings), the expected time schedule of proposed projects, the technology to be employed and plans for implementation of the technology, plans for traffic enforcement, security, and safety, availability of transportation alternatives, plans for accommodating spillover traffic and any associated environmental impacts, and any other factors necessary to adequately describe the pricing proposal.

. (6) A description of the proposed financial plan for projects to be covered under the cooperative agreement. including a detailed list of expected project capital and operating costs. anticipated level of section 1012(b) funding required. an identification of other funding sources, both Federal and non-Federal, to be committed to the projects, including the source of matching funds to be contributed to the project, and a plan for use of revenues derived from pilot projects. The plan for use of revenues should include a description of how revenues will be used to mitigate any adverse effects of the pricing project. The plan should estimate high/low revenue ranges and indicate a financing plan under best and worst case assumptions.

(7) A description of the program plans for monitoring, evaluating, and reporting on the effects of proposed pilot projects on driver behavior, traffic volume, ridesharing, transit ridership, air quality, availability of funds for transportation programs, and other factors necessary to measure the effectiveness of pilot projects. Such other factors should include assessment of the distributional impacts of pricing projects (analysis of affected parties bearing costs and benefits), assessment of the relationship between the pilot project and the use of revenues generated by the project, and measurement of the effects of pilot projects on traffic flow characteristics. More specific guidance on monitoring and evaluating congestion pricing pilot projects is being developed under an FHWA research contract. The FHWA will make the results of this research available at a later date to program participants or to those who might be interested in participating in any future solicitations for the Pilot Program. Interim guidance is provided in appendix B to this notice.

Eligible Costs

Costs eligible for reimbursement under section 1012(b) include costs of setting up. managing. operating. monitoring. evaluating. and reporting on a congestion pricing pilot project. Specific costs eligible for reimbursement under this section include the following:

(1) Capital costs for installing pricing instruments (e.g., toll booths, electronic monitoring and billing systems and equipment. transponders. enforcement systems. etc.) or providing transportation alternatives in the area being priced. Funds may not be used to construct new highway through lanes. bridges. etc.. even if those facilities were to be priced. but toll ramps or added pavement to facilities toll collection are eligible:

(2) Operating costs. including salaries and expenses. related to the operation of the congestion pricing experiment (operation of tolling, monitoring, traffic management equipment, enforcement costs, incident management costs, operation of new or expanded transit service provided as an integral part of the congestion pricing project, etc.);

(3) Costs related to the implementation and operation of a parking pricing project (e.g., costs of setting up employer-based parking/ demand management programs), so long as the project is a part of an overall congestion pricing plan, costs of card readers, debit cards, etc.; and

(4) Study costs for planning, designing. monitoring and evaluating congestion pricing pilot projects, including costs for data collection and synthesis. Only those study costs incurred after a participant has been selected by FHWA to be a Pilot Program participant are eligible for Federal-aid reimbursement under this section. Planning studies undertaken prior to selection as a Pilot Program participant, such as those undertaken to examine congestion pricing as an alternative solution to areawide transportation problems, are not eligible for funding under this section, and should be funded with normal Federal-aid highway planning funds, or with planning funds available through Federal Transit Administration programs.

(5) Costs related to public relations activities designed to promote and provide continuing support to congestion pricing pilot projects if such costs are incurred after a participant has been selected by FHWA to be a Pilot Program participant.

Complementary actions, such as construction of HOV lanes, implementation of traffic control systems, or transit projects can be funded through other programs eligible under the ISTEA of 1991, including the National Highway System program, the Surface Transportation Program, the Congestion Mitigation and Air Quality Improvement Program, the Bridge Replacement and Rehabilitation Program and FTA's Formula Grantsprograms. Discretionary Grants programs and Transit Planning and Research program. The Intelligent

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Vehicle Highway Act of 1991. Title VI. sections 6051 through 6059 of the ISTEA of 1991, provides \$660 million over six years to support feasibility and operational testing of Intelligent Vehicle Highway System (IVHS) technologies and related activities. Those interested in participating in the Congestion Pricing Pilot Program are encouraged to explore opportunities for combining funds from these other ISTEA programs with Pilot **Program funds.**

Eligible Uses of Revenue

Revenues generated by a pilot project must be applied first to pilot project expenses on the facility being priced. Once sufficient revenues are being earned to cover pilot project expenses, such as those described under "Eligible Costs," above, revenues above the amount required for pricing project expenses are available for any projects eligible under title 23, U.S.C. Uses of revenue are encouraged which will support the goals of the congestion pricing project, particularly uses designed to mitigate any adverse effects in the corridor where the pricing project is being implemented.

Submission of Applications

Proposals for participation in the Congestion Pricing Pilot Program shall be submitted through the MPO and State **Department of Transportation to the** appropriate Federal Highway Administration Division Administrator, who will forward the application to FHWA's Associate Administrator for Policy. To facilitate review, applicants should submit ten copies, plus an unbound reproducible copy, of the proposal. At the end of 60 days after the date of this notice, FHWA will review applications received and make an **initial selection of program participants.** If fewer than 5 participants are selected during this initial solicitation. the solicitation will remain open for other . applications.

Review Process

A review process has been established to evaluate proposals submitted in response to this notice soliciting participation in the Congestion Pricing Pilot Program. An interagency review group composed of members from several concerned offices in FHWA, FTA, the Office of the Secretary of Transportation, the Environmental Protection Agency, and the U.S. Department of Energy has been formed to evaluate proposals submitted in response to this notice. Since section **1012(b)** provides for only 5 participants in the Pilot Program. the interagency review group will play an important role

in assessing the likelihood that proposed developed pursuant to 23 U.S.C. congestion pricing pilot projects will provide valid and useful tests of congestion pricing and will contribute to the understanding of the effects of congestion pricing on driver behavior. traffic volume, ridesharing, transit ridership, air quality, and availability of funds for transportation programs, and other measures of the effects of congestion pricing. Evaluation criteria described in this notice will be used to judge the degree to which an offer addresses the areas of priority interest of the Pilot Program.

Cooperative Agreement

Based on the recommendations of the interagency review group, FHWA will identify those Pilot Program applications which have the greatest potential for successful participation in the **Congestion Pricing Pilot Program. Those** program candidates will then be invited to enter into negotiations with FHWA to develop a cooperative agreement under which the pilot demonstration of congestion pricing will be carried out. The agreement will be governed by the Federal statutes and regulations cited in the agreement and 49 CFR part 18. Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments, as they relate to the acceptance and use of Federal funds for this project.

Prior to the signing of a cooperative agreement, projects outside of metropolitan planning areas must be included in the approved statewide transportation improvement program and be selected in accordance with the . requirements in 23 U.S.C. 135(f)(3).

Prior to the signing of a cooperative agreement, projects in metropolitan areas must be:

(a) Included in/consistent with the approved metropolitan transportation plan (if the metropolitan area is in nonattainment for a transportationrelated pollutant, the metropolitan plan must be in conformance with the state air quality implementation plan);

(b) Included in the approved metropolitan and statewide transportation improvement programs (if the metropolitan area is in nonattainment for a transportationrelated pollutant, the metropolitan transportation improvement program must be in conformance with the state air quality implementation plan):

(c) Selected in accordance with the requirements in 23 U.S.C. 134 (h)(3) or (i)(4); and

(d) Consistent with any existing congestion management system in transportation management areas. 134(i)(3).

Appendix A-What Is Congestion **Pricing?**

The full cost of a trip on a congested road includes not just a traveler's own time and vehicle operating costs but also the costs that traveler imposes on all other travelers by adding to the level of congestion. A congestion price can thus be viewed as a user charge that is based on the difference between the cost perceived by the user when entering the traffic stream and the cost actually imposed on all users as a result of the additional delay caused by that user'a entry and movement through the traffic stream. In practice, pilot projects may only approximate or move toward an optimal congestion toll. However, charges that are anticipated for pilot projects should have the key characteristic that they are targeted at vehicles causing congestion, and are set at levels high enough to encourage drivers to use alternative times, routes, modes, or trip patterns during congested periods. Congestion pricing can rationalize the use of limited road capacity by encouraging some peak period road users to shift to off-peak periods, to high occupancy vehicle modes, including transit, to less congested routes, and/or to make more efficient trip decisions. Congestion tolls may be applied in a number of ways, including charging for the use of certain congested points on a network of roads, charging for the use of certain congested links on the network, charging for crossing certain cordon points on the network, either in one or both directions, charging to travel within a congested area, charging based on the distance traveled within a congested area, charging based on the time spent traveling, or charging based on congestion experienced.

While exact determination of the optimal congestion price is not easy, estimates can be derived based on traffic flow literature from volume/delay relationships. Analysts have derived estimates of "optimal" congestion prices which are on the order of \$0.15 to \$0.25 per vehicle mile of travel on congested expressways and about twice that amount on congested arterials. It should be recognized that these are only average approximations and actual prices in any given situation must be estimated for each local context. Applicants are encouraged to derive estimates of the "optimal" price based on marginal delay costs as a starting point, or benchmark, for setting the road prices to actually be charged.

Appendix B-Initial Guidance on Monitoring and Evaluation of Pilot Projects

A central objective of the Congestion Pricing Pilot Program is to monitor, evaluate and report on the effects of pilot projects on travel and traffic, congestion and pollution, land use and economic activities, revenues and financing, and so on. The effects of congestion pricing on different income groups, and the economic/distributional effects of the use of revenues generated by

congestion pricing are also of concern. The FriWA expects that program participants will give considerable attention to evaluation design and data collection. Applicants are expected to spell out immediate and longterm monitoring and evaluation plans. Applicants are also expected to discuss appropriate data collection procedures (including, but not limited to traffic counts: speed measurements: traveler and business surveys, trip diaries; and air quality measurements) and synthesis methods. Monitoring and evaluation plans, schedules and expected budget should be included in the application. The following is a preliminary list of principal impacts of interest. It is intended to be suggestive, rather than definitive, since FHWA anticipates that each applicant may wish to address additional impact issues that are relevant to particular local situations and projects types. Additional guidance on monitoring and evaluation will be developed by FHIVA and

provided to program participants at a later date. (1) Travel Behavior and Traffic-

(a) Trip making (trip lengths, trip generation rates, trip destinations);

(b) Travel behavior (mode, time, route,

destination. frequency): (c) Traffic on priced facility (vehicle miles of travel, volume/capacity ratios, speed, level of service. effects on bottlenecks): and

(d) Traffic spillover impacts and speed changes on unpriced facilities in the vicinity, on neighborhoods.

(2) Emissions and Air Quality-Reductions in criteria pollutants, change in

concentrations, effects on "hot spots." (3) Economic Activities-

(a) Commercial traffic speeds and

reliability, changes in delay for commercial vehicles;

(b) Transit system productivity, reliability and operating costs: and

(c) Measures of commercial activities, business sales, changes in business productivity.

(4) Administration and Enforcement-Costs of implementing and operating enforcement programs, nature and amount of equipment problems, nature and frequency of violations, elc.

(5) Revenues and Financing-Revenues from congestion charges, change in transit revenues, parking revenues, etc. (6) Distributional Impacts-

(a) Cost burdens/time savings by income group, by jurisdiction; ~

(b) Differential impacts on business in the vicinity and outside the vicinity of the pricing project

In the planning phase, travel and traffic, models may provide some of the impact estimates, although it should be recognized that existing travel demand models are not well designed to predict impacts of relatively large user cost changes implied by many congestion pricing applications. Moreover, existing models do not adequately address the impacts of price changes on shift in time of travel. Thus, during the preliminary assessments it would be desirable to develop low- and high-end estimates of impacts to provide a range of possibilities.

While standard surveys and counts can provide objective measures of the impacts of

pricing programs, subjective assessments are also likely to be essential to judging their success. For example, it may be desirable to supplement the impact measures derived from field data with "pre-test/post-test" focus group surveys to compare outcomes with a priori expectations (e.g., with respect to door-to-door times, average travel speeds and driving conditions, effects on business activities and overall perceptions of mobility).

(23 U.S.C. 315; 49 CFR 1.48) Issued on: November 19, 1992.

T.D. Larson. Administrator. [FR Doc. 92-28486 Filed 11-23-92; 8:45 am]

BILLING CODE 4910-22-M

Summary of FHWA Requirements for Congestion Pricing Pilot Program Grant Application

Due Date: January 25, 1993

Contents of Application:

- 1. Description of goals and congestion problem to be addressed.
- 2. Listing of State, local and private sector participants.
- 3. Statement of legal authority for implementing or a report of current status of getting authority.
- 4. Detailed description of problem supported by technical evidence of existence of congestion problem.
- 5. Description of project design including maps, time frames, planned technology, enforcement procedures, availability of alternatives, and environmental impacts to adjacent facilities.
- 6. Description of financial plan for implementation, capital and operating costs.
- 7. Description of monitoring and evaluation methodology including data collection.

High Priority Projects

- proposals for road pricing in conjunction with parking pricing
- existence of serious congestion problem
- areawide pricing, multi-facility or multi-corridor
- clear purpose to modify driver behavior to use alternative modes
- extensive public and private involvement
- likelihood of early implementation of pricing projects
- incorporate the use of advanced electronic toll and traffic management technologies
- indicate revenues will be used to mitigate adverse impacts of pricing

Low Priority Projects

- stand along parking pricing
- pricing of key traffic bottlenecks, traffic corridors, or single facilities
- proposals which are not large enough to influence demand, such as minor increases in fees during peak periods, or moderate toll increases instituted primarily for financing purposes

Eligible Costs

- capital costs for installing advanced technology
- operating costs (salaries and expenses) related to operation of congestion pricing experiment, operation of new or expanded transit service provided as part of demonstration project
- costs related to implementation and operation of parking pricing
- study costs for planning, designing, monitoring and evaluating congestion pricing projects after project selection by FHWA
- costs related to public relations and public involvement after project selection by FHWA

CONGESTION PRICING DEMONSTRATION PROJECT

CRITICAL DATES/MILESTONES

DATE	MILESTONE
12/11/92	TPAC mailing - Notice of Federal Regulations (Federal Register) for Congestion Pricing Demonstration; Copy of Agenda for Congestion Pricing Subcommittee; Copy of Critical Dates/Milestones calendar.
12/16/92	Congestion Pricing Subcommittee meets to discuss Federal Regulations concerning Demonstration Pilot Project (Metro, Room 145, 1:30 pm - 3:30 pm).
12/18/92	TPAC Meeting/discussion of Congestion Pricing Demonstration and results of Congestion Pricing Subcommittee meeting.
1/5/93	Preliminary draft of Congestion Pricing Pilot proposal due for staff review.
1/7/93	JPACT mailing/draft copy of Congestion Pricing Pilot proposal.
1/14/93	JPACT meeting
1/25/93*	Application for Congestion Pricing Pilot Project due at FHWA
1/28/93	Metro Council meeting

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METRO COUNCIL January 14, 1993 Agenda Item No. 5.2

FINANCE COMMITTEE REPORT

ORDINANCE NO. 93-480A AMENDING THE FY 1992-93 BUDGET AND APPROPRIATIONS SCHEDULE TO FUND COUNCILOR SALARIES AND BENEFITS AND THE CITIZEN INVOLVEMENT PROGRAM

Date: January 8, 1993

Presented By: Councilor Devlin

<u>COMMITTEE RECOMMENDATION:</u> At it's January 7, 1993 meeting the Committee voted unanimously to recommend adoption of Ordinance No. 93-480 as amended. Present and voting were Councilors Buchanan, Devlin, Kvistad, Monroe and Van Bergen.

<u>COMMITTEE DISCUSSION/ISSUES:</u> Don Carlson, Council Administrator presented the Staff Report. He indicated the ordinance provides sufficient funds to cover councilor salaries and fringe benefits as approved by District voters with adoption of the Charter. The ordinance also provides funds to increase the Associate Management Analyst position (Ms. Shioshi) from half time to full time. The full time status is necessary to meet the needs of staffing the Metro Committee on Citizen Involvement and the Councilor Outreach program.

Mr. Carlson presented a proposed amendment to the ordinance to transfer \$25,000 from the Election Expense line item in the Materials and Services category to the Personal Services category and reduce the amount needed from the General Fund Contingency from \$184,416 to \$159,416. This amendment is proposed based on the most current estimates of the cost of the November election. He indicated the final costs from Multnomah County have not been forwarded but has been sufficiently assured that there will be at least \$25,000 in under expenditure in this line item.

In response to a question from Councilor Buchanan, Mr. Carlson said the budget change would not require the Associate Management Analyst position to be opened up for recruitment. The position was originally filled through an extensive competitive recruitment and selection process to provide staff assistance to the Metro CCI and Council on a part time basis. The request to increase the position to full time is based on the increased demand to provide the same service to the Metro CCI and Council.

METRO COUNCIL January 14, 1993 Agenda Item No. 5.3

FINANCE COMMITTEE REPORT

ORDINANCE NO. 93-481 AMENDING METRO CODE 2.01.170 TO REPEAL COUNCILOR PER DIEM PROCEDURES AND ESTABLISH COUNCILOR SALARY <u>PROCEDURES</u> Date: January 11, 1993 Presented By: Councilor Devlin

<u>COMMITTEE RECOMMENDATION</u>: At it's January 7, 1993 meeting the Committee voted unanimously to recommend Council adoption of Ordinance No.93-481. Present and voting were Councilors Buchanan, Devlin, Kvistad, Monroe and Van Bergen.

<u>COMMITTEE DISCUSSION/ISSUES</u>: Don Carlson, Council Administrator, presented the Staff Report. He stated this ordinance is a companion to Ordinance No. 93-480A which amends the budget to provide for salaries for Councilors. Ordinance No. 93-481 does several things: 1) it repeals the procedures of the Metro Code regarding per diem; 2) it provides for councilors to receive salary payments in 24 equal payments matching up with the District's payroll system; 3) it provides a procedure for waiver of all or a portion of a salary including the requirement for the signing of a release form; and 4) it provides for the receipt of full benefits for councilors regardless of any salary waiver and provides that the computation of the benefits will be based on a full salary.

In response to a question from Councilor Moore, Mr. Carlson pointed out that the reimbursement to councilors for authorized expenses are unchanged by this ordinance and that the type of authorized expenditures are set forth in a separate resolution previously approved by the Council.

METRO



2000 S.W. First Avenue Portland, OR 97201-5398 503 221-1646

Memorandum

DATE: January 13, 1993

TO: Metro Council Executive Officer Interested Parties

FROM: Paulette Allen, Clerk of the Council

RE: AGENDA ITEM NO. 6.3 SUPPLEMENTAL PACKET

Supplemental data to Resolution No. 93-1729 was published separately from the Council agenda packet due to its volume.
REGIONAL FACILITIES COMMITTEE REPORT

RESOLUTION NO. 93-1729, AUTHORIZING THE EXECUTION OF THE ENERGY SERVICE CONTRACT WITH PACIFIC POWER AND LIGHT COMPANY.

Date: December 29, 1992 Presented by: Councilor Washington

<u>COMMITTEE RECOMMENDATION</u>: At its December 22, 1992 meeting the Regional Facilities Committee voted 5-0 to recommend Council adoption of Resolution No. 93-1729. Voting were Councilors McLain, Collier, Gronke, McFarland, and Washington.

<u>COMMITTEE DISCUSSION/ISSUES</u>: Metro Regional Center Project Manager Berit Stevenson presented the staff report. She explained the basic concept of the energy service contract with Pacific Power & Light (PP&L). PP&L will lend Metro money - \$293,000 - at a 6.23% interest rate, to pay for energy saving elements of the Metro Regional Center; Metro repays the loan through a surcharge on its electric bill for a period of 15 years. Reduced energy costs are projected to generate more than enough savings to pay back the loan. There will be a total of nine separate energy saving measures, which Metro staff and PP&L identified as appropriate and cost-effective.

Most of the energy saving measures will be added to the scope of the project through change orders. To date, some \$175,000 in energy-related change orders have been executed, with another \$31,000 anticipated. A smaller amount - some \$80,000 to \$90,000 covers energy saving measures that were included in the original scope of work.

Accounting for this contract involves adding the cost of the change orders to the total project cost, then adding the loan amount (the \$293,000) to the project contingency. In this way, both the relevant change order and original project costs are included as debits, and the loan is included as a credit. Repayment of the loan is an operating cost, not a project cost.

Committee staff Casey Short asked Ms. Stevenson to clarify which change orders had been executed, and which were anticipated, to total the \$200,000 - \$210,000 in reimbursable energy-related changes. She listed the executed change orders. (See attached Change Order Summary. Items to be covered in this program are #2 and 4 in change order #6, and item #6 in change order #7.)

METRO HEADQUARTERS PROJECT

·CHANGE ORDER SUMMARY

CHANGE ORDER #1	
1. Core & Shell 5000 sf retail space	A110 000 00
at corner of Grand Ave. and Lloyd Blvd	\$118,000.00
2. Parking garage traffic flow & travel	
demand management plan studies by	
Kittleson & Assoc.	4,300.00
3. Demolition of mechanical equipment in	
fourth floor annex space.	14,600.00
4. Contractor 5% fee on items 2 & 3.	<u>945.00</u>
TOTAL	\$137,845.00
CHANGE ORDER #2	
1. Upsize south HVAC unit to 125 ton.	\$ 24,293.00
2. PCB light fixture ballast removal.	19,614.00
3. Replace hydraulic elevator with traction	
elevator at tower.	0.00
4. Electrical power cost reimbursement during	•
asbestos removal by PDI.	2,899.00
5. Contractor 5% fee on item #2.	<u>981.00</u>
TOTAL	\$ 47,787.00
CHANGE ORDER #3	
1. Reimburse one-half of costs to kill two	
existing water meters.	\$ 1,200.00
2. Core & shell fourth floor annex space.	111,904.00
3. Extend project completion date to 3/11/93.	0.00
TOTAL	\$113,104.00
•	
CHANGE ORDER #4	
1. Parking garage seismic analysis.	\$ 8,774.00
2 Security system additions.	3,800.00
3 Parking garage Conditional Use Review	
fee	943.00
A Add recycling chutes.	23,365.00
5 Parking garage design services.	55,909.00
6 Change to recycled Santana toilet partitions.	0.00
7 Core & shell adds HVAC screen walls &	
Diara screen wall ungrade	<u>123,613.00</u>
TOTAI	\$216,404.00
IVIAD	

CHANGE ORDER #5

 Upgrade HVAC units to McQuay. Upgrade HVAC Energy Management Control System 	\$ 24,494.00
to Barber Coleman.	10,476.00
TOTAL	\$ 34,970.00
CHANGE ORDER #6	
1. Change garage lighting to high pressure sodium	1,885.00
2. Remove parking garage lights with PCB's	19,324.00
3. Construct Parking garage seismic shear walls	47,945.00
4. Implementation of energy measures 1, 2, 3, 6, 7, 8, 10, & 11	77,041.00
5. Design extra's for Police TI. US West room, Landscape redesign,	•
& Shear wall opening design	17.658.00
TOTAL	\$163,853.00
	•
CHANGE ORDER #7	
1 Employee parking garage entry/exit harrier gates	\$ 9.342.00
2 Delete drin irrigation design fee from C O #6	(800.00)
2. Denote any inigation design fee from C.O. #0	11 627 00
A Delete electrical transformer unamde ECM 8 from C O #6	(1 677 00)
4. Dence electrical transformer upgrade bein 6 month C.O. #0	104 334 00
5. Demove & replace succeasing parking garage light fixtures	75 720 00
7 Deimburge contractor for sitework permit at existing parking garage	11 814 00
	\$210 360 00
IVIAL	<i>w210,500.00</i>
CHANGE ORDER #8	
1. Tenant improvements	\$626.766.00
2. Audio/visaul/naging nackage	98.204.00
TOTAL	\$724,970.0

TOTAL

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AUTHORIZING THE EXECUTION OF THE ENERGY SERVICE CONTRACT WITH PACIFIC POWER AND LIGHT COMPANY

RESOLUTION NO. 93-1729

Introduced by Rena Cusma Executive Officer

WHEREAS, the Metro Regional Center Project staff have worked with staff of Pacific Power and Light Company (PP & L) to design and incorporate a variety of energy saving features in the new Regional Center building under the auspices of PP & L's FinAnswer Program; and

WHEREAS, under the Program, nine energy conservation measures will be included in the building at a cost of \$293,672.00 which will be funded by PP & L; and

WHEREAS, Metro re-pays the amount funded by PP & L by way of monthly Energy Service Charges which appear on the monthly electric bill; and

WHEREAS, the inclusion of these energy conservation measures will result in 33% improved electric energy usage and net savings to Metro of approximately \$314,400 over the life of the "loan"; and

WHEREAS, an Energy Service Contract has been prepared to establish the FinAnswer Program between Metro and PP & L which is attached as Attachment A; now therefore,

BE IT RESOLVED, that the Metro Council hereby authorizes the execution of the Energy Service Contract with PP & L.

ADOPTED by the Metro Council this _____ day of January, 1993.

Judy Wyers Presiding Officer

STAFF REPORT

Meeting Date: December 22, 1992

CONSIDERATION OF RESOLUTION 92-1729 FOR THE PURPOSE OF AUTHORIZING THE EXECUTION OF THE ENERGY SERVICES CONTRACT WITH PACIFIC POWER AND LIGHT COMPANY

Date: December 7, 1992

Presented by: Berit Stevenson

FACTUAL BACKGROUND

The Metro Regional Center project staff have worked with staff at Pacific Power and Light (PP & L) for several months to incorporate a variety of energy saving features into the Metro Regional Center under the auspices of PP & L's FinAnswer Program. The project team , along with PP & L, began by performing a detailed energy analysis. Based on this analysis, nine energy conservation measures (ecms') have been identified and will be incorporated into the building project. The FinAnswer program will fund their incorporation.

ANALYSIS

The cost to include the nine measures into the building is \$293,672.00. This capital cost will be funded by PP & L at an interest rate of 6.23%. This interest rate represents a blended rate of prime, which is 6%, and prime plus 3. Metro will re-pay this amount by way of an Energy Service Charge which will appear on Metro's monthly electric bill for a period of 15 years. The Energy Service Charge will be a percentage of the amount of calculated energy cost savings from the energy conservation measures which exceed code required energy efficiency measures. The Energy Service Charge is calculated to equal the differential between the monthly electric bill without the added energy conservation measures and the monthly electric bill with the added energy conservation measures.

PP & L has calculated that the inclusion of the nine energy conservation measures will result in 33% improved electrical energy usage, which in turn equals an estimated annual savings of 1,129,640 Kwh. This results in net savings (after payment of the Energy Service Charge) to Metro of \$10,763 in the first year. Net savings increase over the life of the "loan" to \$32,599 in the 15th year. In the 16th year, when the "loan" has been paid off, savings are estimated to be \$64,728:

Both the Legal Department and Finance and Information Department have reviewed and approved the Energy Service Contract.

BUDGET IMPACT

Of the \$293,672 to be funded by PP & L, approximately \$210,000 will be paid to Hoffman Construction Company, the General Contractor on the Regional Center Project, to add the energy conservation measures to the original scope of work. The remaining, \$80,000, which pays for measures included in the original scope of work, has been factored into the Project's contingency amount. The FinAnswer program will not adversely affect the operations budget of the new Regional Center because the monthly electric bill from PP & L will not be more expensive than what the monthly bill would have been without the inclusion of the energy conservation measures. In fact, net savings are expected to start at \$10,763 in the first year and increase over the life of the "loan".

RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 92-1729 by the Metro Council.

Oregon--PP&L

ENERGY SERVICES CONTRACT

This Agreement, dated as of November 23, 1992, is between:

PacifiCorp dba Pacific Power & Light Company 920 SW 6th Avenue, 440 PFFC Portland, Oregon 97204 Attn: Director, New Energy Services

Pacific

and

Metropolitan Services District 2000 SW 1st Avenue Portland, Oregon 97201-5398

Owner

Attn:Berit Stevenson

1. <u>Facility Location</u>. This contract applies to the Commercial Building described as the Metro Regional Center located at 600 NE Grand Avenue Portland, Oregon 97232 along with the above described real property of Owner.

2. <u>Definitions</u>. The following terms used herein shall have the same meanings set forth in Pacific's Oregon Energy Services Tariff 120, which is attached as Exhibit A to and made a part of this Agreement:

Commercial Building Customer Energy Conservation Measures Energy Service Charge Monthly kW Savings Monthly kWh Savings

3. <u>Energy Conservation Assistance</u>.

a. Pursuant to this Agreement, Owner will acquire and install those Energy Conservation Measures described in Exhibit B, which is attached and made part of this Agreement.

b. Pacific will provide energy conservation assistance related to such Energy Conservation Measures, as specified in Exhibit B.

4. <u>Energy Service Charge</u>. As consideration for its energy conservation assistance, Pacific shall be entitled to an Energy Service Charge. The initial Energy Service Charge potentially may be adjusted downward retroactively as provided in Section 4.c.

a. The Energy Service Charge shall be calculated as specified in Exhibit C to this Agreement.

Pacific and Owners will conduct a post-occupancy b. evaluation of the Energy Conservation Measures within one year of the due date of the first bill containing the Energy Service Charge. If such analysis indicates that the total of the Monthly kWh Savings are overstated by more than ten percent (10%), Pacific will adjust the Energy Service Charge downward by the incremental percentage above ten percent that such Monthly kWh Savings prove to be overstated. In the event of a downward adjustment, Pacific will credit Owner for all excess Energy Service Charge payments made by Owner before such downward adjustment was established. The total amount of such excess Energy Service Charge payments shall be applied against the adjusted Energy Service Charge payments as the latter become due and payable. No upward adjustment will be made, and no subsequent adjustment will be made to the Monthly kWh Savings used to compute the Energy Service Charge.

C. Owner and Pacific have agreed on the baseline assumptions used by Pacific's independent energy consultant to compute the baseline electric demand and energy usage of the Commercial Building. The baseline assumptions are as specified in Exhibit B to this Agreement. If at the time of the postoccupancy inspection, the actual conditions differ from the baseline assumptions, (1) the baseline energy usage of the Commercial Building shall be adjusted for the actual conditions, using the same engineering models and assumptions originally used to compute such baseline electric energy usage, and (2) the Monthly kWh Savings will be compared to the reductions in energy usage achieved, based on the revised baseline electric energy usage.

d. The Energy Service Charge shall be billed for 180 monthly payments, commencing after payment of all ECM's or May 1, 1993, whichever is first. The Energy Service Charge may be billed to Customers pursuant to the Exhibit A tariff schedule or its successor schedule. However, the Energy Service Charge will remain the obligation of Owner, unless timely paid by the Customers taking service at the real property identified by this Agreement. Owner's payment obligations may be assigned as provided in Section 8 of this Agreement.

e. If the Commercial Building is to be electrically wired so as to provide separately metered electric service by Pacific to individual tenants, the Energy Service Charge shall be allocated among the building owner and such tenants in the manner specified in Exhibit B. The Energy Service Charge allocation specified in Exhibit B, as well as any allocation not specified therein, shall be subject to review and determination or revision by the Oregon Public Utility Commission. Owner agrees that prior to leasing any portion of the Commercial Building to a tenant for which Pacific is to provide separately metered electric service, Owner will notify such tenant in writing of the allocation of Energy Service Charges applicable to such tenant.

5. <u>Payments to Owner</u>. Pacific shall make the conservation payments specified in Exhibit C as follows:

Within thirty (30) days after Pacific's inspection and approval of each package of Energy Conservation Measures installed in the Commercial Building, Pacific will pay the amount for such package of Energy Conservation Measures as detailed in Exhibit B.

6. <u>Cooperation by Pacific and Owner</u>.

a. Pacific will coordinate its assistance and inspections with Owner and Owner's contractor, so as not to unreasonably interfere with or to delay the construction of the Commercial Building.

b. Owner shall assure that it and its design team (architect, engineer and contractor) cooperate with Pacific and its consultants, as reasonably required for Pacific to carry out this Agreement.

ESCK-NEW.PPL

c. Owner will provide Pacific and its consultants timely notice so that they can properly conduct the inspections specified in this Agreement.

d. Owner will provide Pacific and its consultants with reasonable access to the Commercial Building and will provide such construction data and other information as are reasonably required for Pacific to carry out this Agreement.

7. <u>Compliance with Applicable Laws</u>. In the installation of Energy Conservation Measures, Owner will comply with all applicable statutes, rules, regulations and orders, including without limitation, laws and regulations relating to labor, wages, hours and other conditions of employment, laws and regulations pertaining to taxes and contributions imposed upon employees and their remuneration and laws and regulations pertaining to workers' compensation and employer's liability.

8. Assignment. The Energy Service Charge payment obligations hereunder are an obligation at all times of the then current Customers taking service at the real property referenced in this Agreement, pursuant to the Exhibit A tariff, as modified or superseded. Owner (or any subsequent assignees of this Agreement) shall remain jointly and severally liable for any Energy Service Charge payments for any reason not timely received from Customers, unless the rights and obligations under this Agreement have been validly assigned by Owner or such subsequent assignees, respectively. Such assignment of rights and obligations hereunder shall be valid and binding hereunder only if made to all transferees under an arms length, bona fide transfer for value of the real property referenced in this contract and then only after Pacific has been furnished a copy of an executed, valid and binding assignment, in the form specified in Exhibit D to this Agreement.

9. <u>Independent Contractor</u>. The parties to this Agreement are acting as independent contractors with respect to each other; neither is an employee, partner or joint venturer of the other with respect to this Agreement.

10. <u>Real Property Filings</u>. Owner will cooperate in the recording of a memorandum of this Agreement, in the form attached hereto as Exhibit E, by Pacific as a real property filing, to provide notice of the obligations hereunder to future owners of the real property referenced herein. Neither this Agreement nor the real property filing shall create an interest in or a lien or encumbrance of any kind or type against such real property.

ESCK-NEW.PPL

11. <u>Termination of Energy Service Charge</u>. All obligations to pay the Energy Service Charge hereunder shall cease upon payment to Pacific of the termination payment as specified in the Exhibit A tariff.

12. Limitation on Damages. The provision of this Agreement providing for retroactive adjustment to the Energy Service Charge shall be the exclusive remedy with respect to any advice or direction given by or on behalf of Pacific Power and related to the selection or installation of Energy Conservation Measures to be covered by this Agreement. In no event will Pacific Power be liable for lost profits or other consequential damages in connection with any such advice or direction. This paragraph does not limit the obligation of Pacific to make payments to owner pursuant to section 5, and it does not limit owner's rights to compel Pacific to make such payments.

13. <u>General</u>.

a. This contract and performance hereunder are governed by the laws of the State of Oregon.

b. In the event of a dispute under this Agreement, the prevailing party shall be entitled to its attorney's fees and costs, including but not limited by those fees and costs permitted or defined by statutory laws, on trial, on appeal, or in connection with a petition for review.

c. Owner represents that it is the sole owner of the real property referenced in this Agreement.

d. No modification, change or amendment to this Agreement, or any waiver of any rights in respect hereto, shall be binding unless in writing signed by the party to be charged. No waiver of any breach or default hereunder shall operate as a waiver of any subsequent breach or default.

e. Any notice under this Agreement shall be in writing and shall be deemed delivered when hand delivered or when deposited in the United States mail, first class postage prepaid, and addressed to the other party at the address for such party shown in this Agreement, or to such subsequent address as the party shall provide by notice.

singular.	•	•	
Owner			PacifiCorp
By:			By:
litle:	· · · ·		Title:
		· · ·	
STATE OF OR	EGON)))	SS.	STATE OF OREGON)) ss.
This instrum acknowledged day of by	nent was 1 before me 	this , 1992,	This instrument was acknowledged before me this day of, 1992,
		······································	of PacifiCorp, an Oregon corporation.
	· · · · · · · · · · · · · · · · · · ·		
<u> </u>			
(Notary Signature)	•	•	(Notary Signature)

NOTARY PUBLIC FOR OREGON My Commission Expires:

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NOTARY PUBLIC FOR OREGON My Commission Expires;

EXHIBIT A

ENERGY SERVICES TARIFF SCHEDULE 120

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OREGON SCHEDULE 120 Page 1

Purpose:

Service under this schedule is intended to reduce the energy requirements of new Commercial Buildings and existing Commercial Buildings undergoing Major Renovation by promoting the installation of Energy Conservation Measures.

Applicable:

This program is applicable to service to new Commercial Buildings larger than 12,000 square feet and all sizes of existing Commercial Buildings undergoing major renovations under General Service Schedules 24, 25, 36, 42T, 43T, 47T and 48T in the State of Oregon. Warehouses are excluded from this program and are included under Schedule 122.

Charges under this schedule will be in addition to the electric service charge under the Customer's applicable electric service schedule. THE OBLIGATIONS UNDER THIS SCHEDULE WILL APPLY TO ALL CUSTOMERS USING ELECTRICITY AT THE REAL PROPERTY SPECIFIED BY AN ENERGY SERVICES CONTRACT.

Description:

Service under this program is available to improve the energy efficiency of new Commercial Buildings larger than 12,000 square feet and existing Commercial Buildings undergoing Major Renovation to be connected to Company's system on or after the effective date of this tariff. The Company will provide the Conservation Payments for incremental construction which result in the installation of Energy Conservation Measures. Upon connection of electric service to new Commercial Buildings having such measures installed under this program, Company will bill the Customer (and if the Customer does not timely pay, the Successive Owner) an Energy Service Charge as specified by this schedule.

Definitions:

Commercial Building: A structure or addition to a structure that is completed after the date of this tariff.

Conservation Payments: Any payments of money made by Company to Owner for installation of Energy Conservation Measures pursuant to an Energy Services Contract. If the Company has assisted in implementing the Energy Conservation Measures, Conservation Payments also shall include Company's direct costs of such implementation, including the cost of materials, installation, and ongoing support as specified in the Energy Services Contract. Conservation Payments shall be either:

- (a) Level 1 Conservation Payments -- Conservation Payments which do not exceed the Measure Funding Limit.
- (b) Level 2 Conservation Payments -- Conservation Payments which exceed the Measure Funding Limit. The Level 2 Conservation Payments may not exceed, for any Energy Services Contract, the amount of the Level 1 Conservation Payments.

Customer: Any party who has applied for, been accepted and receives service at the real property identified in the Energy Services Contract.

Energy Conservation Measures: Permanently installed measures specified in an Energy Services Contract, which can reduce the Customer's electric energy use. Measures include structurally related building improvements, and do not include industrial process improvements indicated in Schedule 141.

Energy Services Contract: A contract between Owner and Company providing for Company to furnish or provide Conservation Payments with respect to Energy Conservation Measures pursuant to this tariff Schedule.

Graduated Payment Factor: A factor used to calculate the Graduated Energy Service Charge option, which shall be--

(continued)

Issued: Effective: June 19, 1992 With service rendered on and after July 22, 1992 P.U.C. Or. No. 34 Fourth Revision of Sheet No. 120-1 Cancelling Third Revision of Sheet No. 120-1

OREGON SCHEDULE 120 Page 2

Definitions:

(continued)

- (a) For the first twelve monthly Energy Service Charge payments = (MIR-CPI)/(1-((1+CPI)/(1+MIR))term), where MIR = Melded Interest Rate, and CPI = The rate of increase in the Consumer Price Index for All Urban Consumers, U.S. City Average, as published by the United States Department of Labor, Bureau of Labor Statistics, for the most recent twelve month period for which the applicable statistics are publicly available at the time a letter of intent is signed with the Owner, and
- (b) In each successive twelve month period = (Graduated Payment Factor for the previous twelve month period)x(1 + CPI).

Major Renovation: Replacement of the major components of the building's envelope which must include replacement measures for over 50 percent of all external window or insulatable wall area.

Melded Interest Rate: An interest rate which is the sum of the interest rates specified in (a) and (b) below--

(a) For Level 1 Conservation Payments, (1) the lesser of (A) the prime rate as published by the Morgan Guaranty Trust Company of New York, New York, on the first day of the current calendar quarter in which the Energy Services Contract is executed or (B) an interest rate which, when applying the Graduated Payment Factor over a term equal to the average life of the Energy Conservation Measures, would produce in its first year a monthly Energy Service Charge equal to ninety-five percent (95%) of the Customer's Monthly kW Savings and Monthly kWh Savings at Company's then applicable retail electric rates for service, (2) multiplied by the percentage of all Conservation Payments for which the interest rate is computed pursuant to this part (a).

(b) For Level 2 Conservation Payments, (1) three percentage points above the prime rate as published by the Morgan Guaranty Trust Company of New York, New York, on the first day of the current calendar quarter in which the Energy Services Contract is executed, (2) multiplied by the percentage of all Conservation payments for which the interest rate is computed pursuant to this part (b).

--provided that such Melded Interest Rate shall not exceed the highest interest rate permitted under applicable law.

Monthly kW Savings: The average monthly kW savings as a result of installation of the Energy Conservation Measures, as estimated by Company using engineering analysis.

Monthly kWh Savings: One-twelfth of the annual kWh savings resulting from installation of the Energy Conservation Measures, as estimated by Company using engineering analysis.

Owner: The person who has both legal and beneficial title to the real property specified in an Energy Services Contract, at the time such contract is executed, or who at such time is the mortgagor under a duly recorded mortgage or the grantor under a duly recorded deed of trust or a purchaser under a duly recorded contract with respect to such real property.

Successive Owner: The person who at the time Energy Service Charge billings become due is the current successor to the rights of the Owner in the real property specified in the Energy Services Contract. Owner shall be considered also to be Successive Owner, if no such transfer of rights has occurred.

The terms Customer, Owner and Successive Owner include the singular and the plural as the context requires.

(continued)

Issued: June 19, 1992 Effective: With service rendered on and after July 22, 1992

TF4 430 34

P.U.C. Or. No. 34 Fourth Revision of Sheet No. 120-2 Cancelling Third Revision of Sheet No. 120-2

OREGON SCHEDULE 120

Page 3

Energy Service Charge:

Customer (and if Customer does not timely pay, the Successive Owner) shall pay an Energy Service Charge for Energy Conservation Measures for which Company has made Conservation Payments pursuant to this tariff. The Energy Service Charge shall commence on the date specified by the applicable Energy Services Contract and shall continue for the term as specified in the Energy Service Contract, but not to exceed the shorter of the average life of the Energy Conservation Measures, weighted by kWh Savings, or twenty (20) years. The Energy Service Charge shall apply to all service provided to the real property identified in such contract, without regard to changes in ownership or changes of use of such real property, unless the Energy Service Charge is terminated as provided herein.

As specified in the Energy Services Contract, the monthly Energy Service Charge, at the option of Owner shall be either:

- (1) that monthly payment required to repay the Conservation Payments, with interest at the Melded Interest Rate, in equal monthly payments over the term specified in the . **Energy Services Contract, or**
- (2) a monthly payment amount equal to the **Conservation Payments multiplied by one**twelfth of the Graduated Payment Factor applicable during such month (the Graduated Energy Service Charge option).

Separately Metered Tenants:

The allocation of the Energy Service Charge among any Customers who are separately metered tenants benefiting from the installation of the Energy Conservation Measures shall be as specified in the Energy Services Contract.

Termination of Service:

Customer or the Successive Owner may terminate service under this Schedule at any time by paying the present value of the remaining Energy Service Charge payments discounted at the Melded Interest Rate for the remaining term of the Energy Services Contract.

Measure Funding Limit:

Company will provide Conservation Payments equal to its estimate of the incremental initial cost of each qualified Energy Conservation Measure above the cost to comply with current building code requirements.

The Measure Funding Limit for each Energy Conservation Measure provided by Company shall be determined by multiplying the measure's estimated annual kilowatt-hour savings (Monthly kWh Savings x 12), beyond the electric energy use resulting from compliance with state commercial building code requirements, by the following amounts:

\$.3018 per kWh for measures with an expected life of 10 years.

\$.4455 per kWh for measures with an expected life of 15 years.

\$.5733 per kWh for measures with an expected life of 20 years.

\$.7680 per kWh for measures with an expected life of 30 years.

Provisions of Service:

Company shall meet with the Owner and design team to determine what Energy Conservation Measures may be appropriate for further design and electric energy savings analysis.

(continued)

Issued: June 19, 1992 Effective: ••• With service rendered on and after July 22, 1992

P.U.C. Or. No. 34 Fourth Revision of Sheet No. 120-3 Cancelling Third Revision of Sheet No. 120-3

Provisions of Service:

(continued)

(2) Before funding any design or electric energy saving analysis, Company may require the Owner to sign a letter of intent. The letter shall include, but not be limited to, the requirement that if (i) Pacific, within the period specified by such letter, presents a proposal to provide Conservation Payments in connection with the installation of Energy Conservation Measures, and (ii) Owner elects not to enter an Energy Services Contract within sixty (60) days after the date of the proposal for Company to provide such Conservation Payments, then Company may charge Owner all costs incurred by Company (including Company's standard labor and overhead costs) in connection with preparation of the proposal, not to exceed the amount specified in the letter.

(3) Company shall provide engineering calculations or computer modeling of the proposed Commercial Building, subject to the terms of the letter of intent.

(4) Company and Owner shall agree in the Energy Services Contract to the specific Energy Conservation Measures which Company will furnish or for which Company otherwise will provide Conservation Payments and a schedule of monthly payments, with specified annual adjustments, if applicable.

(5) Company may inspect any Energy Conservation Measure which is funded by this program to ensure that workmanship, materials and insulation levels are consistent with industry standards and the requirements specified in the Energy Services Contract.

(6) Company will adjust the original Monthly kW Savings and Monthly kWh Savings used to limit the Energy Service Charge only if a postinstallation energy analysis indicates a reduced estimated savings. If the Energy Services Contract estimated the cost of a measure as equal to or less than the Measure Funding Limit,

Issued: June 19, 1992 Effective: With service rendered on and after July 22, 1992 the Company will not, as a result of such postinstallation inspection, reclassify a measure estimated to cost less than the Measure Funding Limit, as costing more than such limit.

OREGON

Page 4

SCHEDULE 120

- (7) The payments prescribed by this tariff are the obligation of the Successive Owner and of the Customer receiving service from time to time during the term of the Energy Services Contract.
- (8) Company will record contracts or related memoranda with respect to this tariff in the applicable real property records as encumbrances against the affected real property.
- (9) Company will provide Level 1 conservation payments for energy efficiency improvements to heat pump space heating systems only for Commercial Buildings whose base case plans call for heat pump space heating systems.
- (10) Conservation payments will not be made available to induce fuel switching by Owner.

Rules and Regulations

Service under this schedule is subject to the General Rules and Regulations contained in the tariff of which this schedule is a part, and to those prescribed by regulatory authorities.

P.U.C. Or. No. 34 Fourth Revision of Sheet No. 120-4 Cancelling Third Revision of Sheet No. 120-4

EXHIBIT B

ENERGY CONSERVATION ASSISTANCE

1. Pacific shall provide assistance in the installation of the following Energy Conservation Measures:

Conservation <u>Measure</u>	Payment Amount	Annual Average <u>kWh Savings</u>
1.R-12.5 Wall Insulation	\$ 0	2,140
2.HEFF Glass	36,218	129,481
3.HEFF Skylight	4,458	7,235.
4.Occupancy Sensors	13,856	13,566
5.HEFF Exit Signs	6,926	11,774
6.EMS	39,138	376,281
7.Var Speed Fans	28,750	166,203
8.Combined Lighting Measures	69,545	127,590
9.Garage Lighting	94,781	342,468

Payment Total

\$293,672

Interactive Total 1,129,964 Estimated Annual Kwh Saved

The specific packages, baseline descriptions and Owner's obligations are as detailed in the Final Report for Metro Service District Headquarters pages 1-82 by Glumac & Associates, which is attached and made a part of this Exhibit.

2. Pacific's Energy Conservation Assistance has or will consist of:

(a) The following design and engineering assistance An Energy Study,

(b) Payment to Owner of the conservation payment amounts specified in this Exhibit, on the schedule specified in the Energy Service Charge Agreement. The conservation payment amounts are based on estimated incremental costs of the listed Energy Conservation Measures, over and above the cost of complying with applicable commercial building codes, but not to

exceed the Measure Funding Limit specified in tariff Schedule 120, attached as Exhibit A. The conservation payment amounts shall remain fixed at the amounts specified in this Exhibit, notwithstanding the actual incremental costs of the Energy Conservation Measures, unless Pacific, in its discretion, agrees to an adjustment to the conservation payment and Energy Service Charge amounts.

3. <u>Separately Metered Tenants</u>.

[Applicable only if the Commercial Building is to be electrically wired so as to provide separately metered electric service directly by Pacific to individual tenants.]

Based on the Energy Conservaton Measures to be installed, the allocation of the Energy Service Charge among separately metered tenants of the Commercial Building shall be as follows:

None

PACIFIC POWER FINANSWER

DESIGN ASSISTANCE STUDY

METRO SERVICE DISTRICT HEADQUARTERS

FINAL MODELING REPORT

MAY 1992

REVISED: NOVEMBER 1992

BY:



GLUMAC & ASSOCIATES, INC. Consulting Engineers 920 S.W. Third Avenue, Suite 100 Portland, Oregon 97204 503/227-5280

EXECUTIVE SUMMARY

The METRO Service District Headquarters building (the METRO building) was modeled using the DOE-2.1D computer program to study energy use. Several energy conservation measures (ECMs) were each compared to a code minimum baseline building. This report presents results for those ECMs which were selected to be installed. The results are presented in Tables One through Six.

The ECMs investigated for incremental cost and energy savings benefits fall into three distinct categories: Architectural, Mechanical, and Electrical. Architectural ECMs investigated were: increasing the base building wall and roof insulation, substituting more efficient glazing in place of the energy code-required baseline glazing, and installing a motorized sunscreen to reduce solar heat gain and glare. Mechanical ECMs investigated were: installing an energy management control system (EMS), highefficiency package rooftop cooling, variable speed fan control, a well water cooling system, and solar domestic hot water heating. Electrical ECMs investigated were: high efficiency lighting fixtures, energy efficient exit signs, daylighting controls to dim the electric lighting in response to natural daylight, and automated lighting controls to reduce the amount of lights left on during unoccupied hours.

The baseline building's estimated electrical consumption was 2,307,860 kWh/year with an average peak demand of 784 kW. The building's estimated annual natural gas consumption was calculated as 2,777 Therms. The Proposed building's estimated electrical consumption is 1,545,704 kWh/year with an average peak demand of 556 kW and an annual natural gas consumption of 3,277 Therm. This is an improvement in annual electric energy use of 33%.

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TABLE ONE - SUMMARY OF FINAL MODELING RESULTS

Project: Building:	Metro Ser Office Build	vice Dis ling	trict HQ		Area: Date:	84,060 Nov-92	· .	
Measure Descriptions	Electric Usage (KWH/yr)	Average Demand (KW))	Electric Savings (KWH/yr)	Demand Reduction (KW)#	Fossil Usage (Therm/y	Fossil Savings (Therm/yr) (Electric Usage KWH/sf-yr	EUI Total Usage (BTU/sf-yr)
Code Baseline and the second second	2,307,860	784	N/A	N/A	2,777	N/A	27.5	97,007
1. R.12.5 Wall Insulation Contractor	2,305,720	783	2,140	1	2,760	17	27.4	96,900
2 High-EGlazing	2,178,379	743	129,481	41	2,591	186	25.9	91,529
3 High-E Skylights and a start start and	2,300,625	775	7,235	9	2,777	.0	27.4	96,713
4 Occupancy Sensors and space 1940	2,294,294	784	13,566	. 0	2,777	· · O	27.3	96,456
5 High EffektidSigns	2,254,292	784	11,774	0	2,777	0	26.8	94,832
6 EMS System	1,931,579	708	376,281	76	3,221	(444)	23.0	82,258
7 Variable Speed frams) and a state of the	2,141,657	753	166,203	31	2,777	0	25.5	90,259
8 Efficient Lighting Measures - Shall	2,180,270	753	127,590	31	2,940	(163)	25.9	92,020
Composite:ECM Rom	1,545,704	556	787,496	228	3,277	(500)	18.4	66,657
12 Attached Parking Garage Eighting	483,552	55	342,468	23	N/A	N/A	5.8	19,633
Combined ECM S	2, 029,256	611	1,129,964	251	N/A	N/A	N/A	N/A

Note: ECM 4 and ECM 5 were calculated manually. Their respective energy savings are not included in either the Code Baseline or Composité ECM Electric Usage. Their respective energy savings are included in the Electric Savings column.

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TABLE TWO: GENERAL PROJECT INFORMATION

Customer Name:	Metro Service District	•
Project Name:	Metro Service District	Headquarters
Project Location:	Portland, Oregon	
Project Size (SF):	84,060	•
Project Description:	Gas/Electric	. •
Account Manager:	Lee Kuhl	
Pacific/Utah Region:	Portland	•
Project Type:	Office Building	
Electric Schedule:	Schedule 25	
Avg. Baseline KWH/Month:	193,322	
Fossil Fuel Schedule:	Northwest Natural Gas	
Fossil Fuel Cost:	Each Therm	\$0.56

TABLE THREE -FINAL REPORT ECM COST AND SAVINGSFor The Metro Service District HQ Building

MeasureiDescription	LLICE	Construction Cost (\$)	Maintenance: Cost (\$)	Electric Savings (KWH/yr)	Average Demand Savings (KW)	Fossil Savings Energy (Therms/yr)
 R-12-SWall Histilation High Efficiency Glazing High Efficiency Skylight Occupancy Sensors High Efficiency Exit Signs High Efficiency Exit Signs EMS System 16 Variable Speed Fans Efficient Efficient Measures 	30 20 20 10 30 10 15	\$0 \$36,218 \$4,458 \$13,856 \$6,926 \$39,138 \$28,750 \$69,545	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	2,140 129,481 7,235 13,566 11,774 376,281 166,203 127,590	1 41 9 0 0 76 31 21	17 186 0 0 0 (444) 0 (163)
Composite PCMIRan		\$198,891	\$ 0	787,496	228	(103)
12 Attached Barking Garage Lighting	15	\$ 94 ,7 81	\$0	342,468	23	0
CombinedECMU		\$293,672	\$0	1,129,964	251	(500)

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TABLE FOUR - CODE BASELINE END-USE ENERGY

693,375

37,934

615,453

2,307,811

	Project: Building: Area:	Metro Service Office Building 84,060	District Hea	dquarters		Date:	Nov-92
	Electricity (MBTU/yr	Electricity (KWH/yr)	Fossil (MBTU/yr)	Total (MBTU/yr)	EUI (BTU/sf-yr)	7% of Total	Electricity (KWH/sf-yr)
Space Heat	1,424	417,096	118	1,542	18,341	18.9%	4.96
SpaceCool	562	164,679	0	562	6,686	6.9%	1.96
HVACAUX	1,294	379,273	0	1,294	15,399	15.9%	4.51
Dom Hot Water	0		159	159	1,897	2.0%	0.00

0

0

0

278

129

2,366

2,101

8,154

8.25

0.45

7.32

27.45

29.0%

1.6%

25.8%

100%

28,152

1,540

24,989

97,005

Note: Lights includes exterior/garage lighting plus garage exhaust fans: total energy use = 69,000 kWh/yr.

met-beps.wq1 11/16/92 2,366

2,101

7,877

129

Lights Verti/Trans

Total

Misc. Equipments

TABLE FIVE - PROPOSED END-USE ENERGY

Project:	Metro Service I	District Headquarters	Date:	Nov-92
Building:	Office Building			
Area:	84,060	•		

	Electricity	Electricity	- Fossil -	Total	EUI	2019 of	Electricity
	(MBTU/yr)	(KWH/yr)	(MBTU/yr)	(MBTU/yr)	(BTU/st-yr)	Total	(KWH/sf-yr)
Space Heat	619	181,342	168	787	9,365	14.0%	2.16
Space Cool	401	117,463	• 0	401	4,769	7.2%	1.40
HVACAUX	536	157,126	0	536	6,380	9.6%	1.87
Dom Hot Water	0	0	159	159	1,897	2.8%	0.00
Lights	1,489	436,349	0	1,489	17,717	26.6%	· 5.19
Verificans	129	37,934	0	129	1,540	2.3%	0.45
Mise Equipment	2,101	615,453	0	2,101	24,989	37.5%	7.32
					: :		•
Total	5,275	1,545,667	328	5,603	66,655	100%	18.39
			•				· · · ·

Note: Lights includes exterior/garage lighting plus garage exhaust fans: total energy use = 69,000 kWh/yr.

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Main Building	*** ELECTRIC kWh/YR	*** akW	FOSSIL Therms/YR
Base	2,307,860	784	2,777
Proposed	1,545,704	556	3,277
Parking Garage	*** ELECTRIC kWh/YR	*** akW	FOSSIL Therms/YR
Base	483,552	55	N/A
Proposed	141,084	32	N/A

TABLE SIX - TOTAL ENERGY USAGE BASELINE VS PROPOSED

FIXED PAYMENT SCENARIO

	Estimated	Energy		Net
	· Annual	Service	Net	Savings
Yea rs	Savings*	Charge	Savings	8
1	\$40,946	\$30,183	\$10,763	26.29%
2	\$42,215	\$30,183	\$12,032	28.50%
3	\$43,524	\$30,183	\$13,341	30.65%
4	\$44,873	\$30,183	\$14,690	32.74%
5	\$46,264	\$30,183	\$16,081	34.76%
6	\$47,698	\$30,183	\$17.516	36.72%
.7	\$49,177	\$30,183	\$18,994	38.62%
. 8	\$50,702	\$30,183	\$20,519	40.47%
9	\$52,273	\$30,183	\$22,090	42.26%
10	\$53,894	\$30,183	\$23.711	44.00%
11	\$55,564	\$30,183	\$25,382	45.68%
12	\$57,287	\$30,183	\$27,104	47.318
13	\$59,063	\$30,183	\$28,880	48.90%
14	\$60,894	\$30,183	\$30,711	50.43%
15	\$62,782	\$30,183	\$32,599	51.92%
16	\$64,728	\$0	\$64.728	100.00%
	• • • = =	•.=	· · · · ·	

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* A:	ssumed	Escalation	Rate	ès
E	lectri	city	=	3.10%
Fe	ossil i	Fuel	-	3.10%
Melde	1 Inte	rest Rate	. =	6 238

PROPOSAL REPORT MEASURE SAVINGS AND FUNDING SUMMARY

Measure	Funding	Limits
10 Years		0.3018
15 Years		0.4455
20 Years		0.573
30 Years		0.7680

· · ·	-		Electric	Demand	***** Elect	tric Cost Savir	ngs *****	*** Fossil	Savings *** T	otal Energy	Resource	Supplemental
Heasure		ECM	Savings	Savings	KWH Cost a	KW Cost a	Total	Energy	Cost a C	ost Savings	Funding	Funding
Description	Life *	Cost	(KWH/YR)	(KW)	\$0.03325	\$2.05	Savings	(MBTU/YR)	\$5.6000	(\$)	(\$)	(\$) **
R-12.5 Wall 1	30	\$0	2,140	1	\$71	• • \$25	\$96	17	\$95	\$191	\$0	\$0
High Eff Glas	20	\$36,218	129,481	. 41	\$4,305	\$1,009	\$5,314	186	\$1,042	\$6,355	\$36,218	\$0
High Eff Skyl	20	\$4,458	7,235	9	\$241	\$221	\$462	0	\$0	\$462	\$4,148	\$310
Occupancy Sen	10	\$13,856	13,566	0	\$451	\$0	\$451	. 0	\$0	\$451	\$4,094	\$9,762
High Eff Exit	30	\$6,926	11,774 ·	0	\$391	\$0	\$391	0	\$0	\$391	\$6,926	\$0
•			•				•				•	
ENS System	10	\$39,138	376,281	76	\$12,511	\$1,870	\$14,381	(444)	(\$2,486)	\$11,895	\$39,138	\$0
Var Speed Fan	15	\$28,750	166,203	31	\$5,526	\$763	\$6,289	0	\$0	\$6,289	\$28,750	\$ 0
Combined Ligh	15	\$69,545	127,590	31	\$4,242	\$763	\$5,005	(163)	(\$913)	\$4,092	\$56,841	\$12,704
Garage Lighti	15	\$94,781	342,468	23	\$11,387	\$566	\$11,953	0	\$0	\$11,953	\$94,781	\$0
		•				•				·		
Total Bldg	14	\$293,672		•							\$270,896	\$22,776
•••••	••••••••			•••••		••••••••••				••••••		

* Weighted Life based on first year KWH savings.

** Total supplemental funding may not exceed total resource funding for full package of ECHs.

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DATA INPUT SHEET

Energy Saving Opportunity Maintenance

Description:	Electric/Gas				•					
Measure Description			· •	Resource Fund \$	Suppl Fund \$	Electrici KWH/YR	ty Savings KW	Total Elec \$ Savings	Fossil MBTU	Total \$ Foss Sav
R-12.5 Wall Insulation				0	· 0 ·	2140	1.1	96	17	. 95
High Eff Glass High Eff Skylight			•	36218 4148	0 310	129481 7235	41 9	5314 462	186 0	1042 0
Occupancy Sensors				4094	9762	13566	0 -	451	0	. 0
High Eff Exit Signs			•	6926	0	11774	0	391	0	0
EMS System Var Speed Fans Combined Lighting Measu Garage Lighting	res	•		39138 28750 56841 94781	0 0 12704 0	376281 166203 127590 342468	76 31 31 23	14381 6289 5005 11953	-444 0 -163 0	-2486 0 -913 0
BASE TOT	KWH/YR : 2791412 : 1661448	LECTR1C KW AV 839 588	\$/YR 113453.85 69707.95	FOSS UNITS 2777 3277	SIL FUEL \$/YR 15551.20 18351.20	TOTAL OP \$/YR 129005 88059	GROSS SAV \$ 40945.90	ANN ESC \$ 30182.85	NET SAV \$ 10763.05	X SAV 26.29%

	-		•	· · E	Sc Contract Pays	nent Schedu	le Screen	
ESc Contract Screen	• • •		Year	Annual Payments	Monthly Payments	Year	Annual Payments	Monthly Payments
Resource Amount: Suppl. Amount:	\$270,896 \$22,776		1 2 3	30182.85 30182.85 30182.85	2515.24 2515.24 2515.24	11 12 13	30182.85 30182.85 30182.85	2515.24 2515.24 2515.24
Resource Interest Rate: Suppl. Interest Rate: Helded Interest Rate:	6.00% 9.00% 6.23%		4 5 6 7	30182.85 30182.85 30182.85 30182.85	2515.24 2515.24 2515.24 2515.24	14	30182.85	2515.24 2515.24
Payment Schedule: Inflation Rate:	FIXED PAYMENT SCENA 3.10%	RIO	8 9 10	30182.85 30182.85 30182.85	2515.24 2515.24 2515.24	•		•

15:16 30-Nov-92

Customer Name: Hetro Service District Project Name: Headquarters

BASELINE BUILDING DESCRIPTION

The METRO building is a remodelled retail store consisting of approximately 84,600 square feet of office space located in Portland, Oregon. The building has three floors along with an additional three story tower attached to the southwest corner. The upper two floors of the building are primarily general office space but also include a 7,200 square foot daycare area and a 3,500 square foot City Council meeting area. The first floor is split between a parking garage and 5,500 square feet of office space.

Baseline Modeling Assumptions

Interior Lighting

The total interior lighting power density allowed by the Oregon Energy Code is 1.7 watts per square foot (w/sf) for the common areas and offices. The project design uses significant numbers of fluorescent lighting in all areas. The baseline fixture is 3-lamp T8 fixture with (1) 2-lamp energy efficient electro-magnetic ballast and (1) 1-lamp energy efficient electro-magnetic ballast.

Miscellaneous Equipment

Total interior miscellaneous equipment load was estimated at 2.1 W/sq ft. In addition, this building has elevator, parking garage exhaust fans, and garage and exterior lighting electrical loads. These additional loads were estimated at a total of 41 kW.

HVAC Loads and System

The main areas of the building are cooled by two packaged VAV systems with parallel fan-powered boxes for the perimeter areas. Separate packaged heating and cooling units are provided for the daycare area and the City Council meeting area. All systems contain economizer controls. The VAV systems have both a central gas furnace for heating and electric reheat coils in the fanpowered boxes. The packaged constant volume systems use gas for heating.

Design Conditions

Winter outside air Winter inside Heating degree days Summer outside DB Summer outside WB Summer inside Elevation

24 (ASHRAE 97.5%) 71 F 4792 Portland, Oregon 86 F (ASHRAE 2.5%) 67 F 75 F 75 feet

Operating Schedule Assumptions

Normal tenant area occupancy is anticipated to be from 7:00 a.m. to 6:00 p.m. weekdays, 9:00 a.m. to 12:00 noon Saturday, and closed on Sunday and holidays. The general office occupancy patterns were estimated by typical office occupancies and schedules. Council meetings will be held on Tuesday and Thursday evenings until 9:00 p.m. Daycare will operate weekdays from 7 a.m. to 6 p.m. and will be closed on weekends and holidays.

The office building was assumed to have the following distinct operating schedules:

Lighting: Scheduled as off from 10 P.M. to 6 A.M. and on from 6 A.M. to 10 P.M. each weekday. The lights are left on each weekday from 6 P.M. to 10 P.M. to simulate lighting left on during janitorial cleaning. Saturday, Sunday and holiday lighting is scheduled off for all hours.

Occupancy: Scheduled as 0% from 12 midnight to 7 A.M., 40% from 7 A.M. to 9 A.M., 100% from 9 A.M. to 12 P.M., 80% from 12 P.M. to 1 P.M., 100% from 3 P.M. to 6 P.M., 10% from 6 to 7 P.M., and 0% from 7 P.M. to midnight each weekday. There is 10% occupancy anticipated on Saturdays from 10 A.M. to 1 P.M. and no occupancy scheduled for Sundays and holidays.

Miscellaneous Equipment: Scheduled as 20% from 6 P.M. to 8 A.M., and 80% from 8 A.M. to 6 P.M. each weekday. Weekend and holiday miscellaneous equipment use is scheduled as 20% for all hours, except Saturday from 9 A.M. to noon is modelled as 80% to track the occupancy.

Other schedule information is documented in the computer model input forms.







Code Compliance Description

The Oregon Energy Code is an energy code which lists building energy system requirements. It is primarily enforced through Chapter 53 of the Uniform Building Code. Oregon uses this code as a guide for new building construction throughout the State. The Code Building (Baseline) is the model of this facility designed to just meet these requirements.

There are two methods of complying with the Oregon Energy Code for commercial construction: Components performance and systems analysis. Compliance by components performance analysis is achieved by meeting minimum standards for the thermal performance of individual components of the walls, floor and roof, lighting power, HVAC systems rated performance and other energy-related areas. A prescriptive path is also available for compliance with envelope performance criteria. Compliance by systems analysis is achieved by proving that the proposed building would use no more energy than the same building which would be designed to just meet the component requirements.

Based on the Component Performance method and the current building envelope configuration:

Total Net Wall Ar	ea:	19,930	SQ.	FT.
Total Net Glass A	rea:	10,900	SQ.	FT.
Total Net Roof Ar	ea:	43,880	SQ.	FT.
Total Net Skyligh	t Area:	1,080	SQ.	FT.

The following levels of effective insulation and glazing are required:

WALL:	Greater	than or	equal to	R 10				
ROOF:	Greater	than or	equal to	R 19				
Glass:	Overall Overall	U factor Shading	f of less	than	or equal	to	0.9 emual	to
	0.6	onduring	CUEIIIC.		ess chan	OL.	eyuar	

The Baseline Building model assumed:

WALL:	R 11	· · · · ·
ROOF:	R 19	
Glass:	Overall U factor	= 0.9
	Overall Shading Coefficient	= 0.6

and meets the requirements of the Oregon Energy Code (Component Performance method).
Building Energy Modeling

Modeling Analysis Software and Assumptions

The energy analysis of the METRO Building was performed using accepted, standard engineering calculation procedures and the computer analysis program MICRO-DOE 2.1D.

MICRO-DOE 2.1D is a microcomputer version of DOE-2.1D the mainframe energy use simulation program, which was jointly developed by Lawrence Berkeley and Los Alamos National Laboratories for the U.S. Department of Energy. DOE-2.1D is a program designed to determine the energy behavior of proposed and existing buildings, and their associated HVAC systems utilizing an hour-by-hour simulation procedure.

While DOE-2.1D is generally accepted as the most accurate energy simulation program available, the predicted energy consumption should not be interpreted as a firm prediction. The actual energy consumption may differ from that predicted by the computer model. Many unpredictable factors such as changes in occupancy schedules or maintenance procedures can have a large effect on energy consumption.

Modeling Approach

Based upon the information provided by the design team at the beginning of the project, the building was first reviewed for compliance with the Oregon Energy Code. The building's energy model was then developed from this design and Code information. This configuration was used as a basis for comparing the energy conservation measures. A computer model of the baseline or "Code" building was constructed and run.

Next, the baseline building was evaluated for Energy Conservation Measures (ECMs). A separate computer model for each ECM was constructed and run. In this way, the energy savings for each ECM can be evaluated separately. Added construction and labor costs are determined for each ECM with the cooperation of the design team members and/or the owner's contractors (when possible).

Finally, the recommended or proposed building design is determined using a selected group of the ECMs studied above. The ECMs to be included in the recommended building design are selected in cooperation with other design team members. A computer model of the recommended building is constructed and run.

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When the building is actually built and has operated for at least one full year, a new computer model will be created. This model will be adjusted for real weather, changes in construction, occupancy, etc. This model will be calibrated with the actual electric utility bills, and will be used to re-estimate the energy savings created by the energy conservation measures installed in the building. If necessary, the Energy Service charge based on the savings may be reduced.

Incremental Cost Estimation

Incremental costs for all energy conservation measures were provided by the construction company. At the time of this report, several of the ECM's were at the construction stage and the incremental cost estimates were revised. For those ECM's with revised incremental costs, the initial estimated incremental costs are listed along with the final (actual) incremental cost. This was done primarily because the final incremental cost was provided as a lump sum whereas the initial incremental cost was a total of individual components.

No signatures appear on the estimate sheets since sign-offs were obtained previously and the owner and contractor are in agreement on the final costs listed.

ECM DESCRIPTION, ASSUMPTIONS AND COST ESTIMATING

ECM 1 R-12.5 WALL INSULATION

ECM_DESCRIPTION:

Replace the energy code minimum baseline R-11 wall insulation with R-12.5.

CODE BASELINE:

The basic wall construction is brick veneer on 8" concrete block, R-11 insulation between 2" \times 4" studs, and 1/2" gypsum board with interior finish. Some wall areas are composed of a glass spandrel insulated with 2" of rigid insulation.

PROPOSED_ECM:

The wall construction is the same except it contains a R-12.5 batt insulation in place of the baseline's R-11 wall insulation. Spandrel areas will be insulated to 3" of rigid insulation.

ENERGY SAVINGS:

Energy savings are calculated using a DOE 2.1D computer model. The differences in electrical energy between the two models is as follows:

Baseline Building:

Electrical Energy Use	2,307,860	kWh
Average Peak Demand	784	kW
Natural Gas Energy Use	2,777	Therms

ECM Building:

Electrical Energy Use	•
Average Peak Demand	
Natural Gas Energy Use	

ENERGY SAVINGS: DEMAND SAVINGS: NATURAL GAS SAVINGS 2,305,720 kWh 783 kW 2,760 Therms

> 2,140 kWh 0 kW 17 Therms

Baseline Costs:

The labor to install R-11 insulation is \$0.40 per square foot per Hoffman Construction Co. estimate.

<u>Proposed ECM Costs:</u> The R-12.5 batt wall insulation is indentical in cost per square foot for material and installation to the baseline wall insulation.

INCREMENTAL COST ESTIMATION:

No Cost Difference

Maintenance Costs: There is no incremental maintenance cost.

ECM 2 HIGH EFFICIENCY GLAZING

ECM DESCRIPTION: This ECM would replace the proposed base building vertical glazing with a high efficiency (low emissivity, low U-factor) glazing with a winter U-factor of 0.32 and a shading coefficient of 0.46 (Ref: PPG Solarban 575-30(3) Green). The glazing unit, including aluminum frame with thermal break, is estimated to have a U-factor of 0.49.

CODE BASELINE:

The baseline is the energy code building utilizing vertical glazing with a U-factor of 0.9 and a shading coefficient of 0.6.

ENERGY SAVINGS:

Energy savings are calculated using a DOE 2.1D computer model. The differences in electrical energy between the two models is as follows:

Baseline Building:

Electrical Energy Use	2,307,860	kWh
Average Peak Demand	784	kW 💠
Natural Gas Energy Use	2,777	Therms

ECM Building:

Electrical Energy Use	2,178,379	kWh
Average Peak Demand	743	kW
Natural Gas Energy Use	2,591	Therms

ENERGY SAVINGS:	129,481	kWh
DEMAND SAVINGS:	41	kw -
NATURAL GAS SAVINGS:	186	Therms

18

INCREMENTAL COST ESTIMATION

The incremental cost estimate for materials and installation for this measure was initially based on an estimate from Hoffmann Construction Co., Inc. The Final Contractor Cost is the actual installed incremental cost.

Incremental Cost of High Efficiency Glazing (\$2.25/square foot)		\$ 24,525
Contractor Overhead and Profit (10%)	=	\$ 2,453
Total Incremental Cost	=	\$ 26,978
Final Contractor Cost	Ξ	\$ 36,218

ECM 3 HIGH EFFICIENCY SKYLIGHTS

ECM DESCRIPTION:

This ECM would replace the proposed base building skylight glazing with a high efficiency (low emissivity, low U-factor) glazing with a winter U-factor of 0.44 and a shading coefficient of 0.22. These glazing units are estimated to have a U factor of 0.65, after correcting for window framing and horizontal heat flow.

CODE BASELINE:

The baseline is the energy code building utilizing skylight glazing with a U-factor of 0.9 and a shading coefficient of 0.6.

ENERGY SAVINGS:

Energy savings are calculated using a DOE 2.1D computer model. The differences in electrical energy between the two models is as follows:

Baseline Building:

Electrical Energy Use			2,307,860	kWh
Average Peak Demand	•		784	kW
Natural Gas Energy Use	,	2	2,777	Therms

ECM Building:

Electrical Energy Use	2,300,
Average Peak Demand	
Natural Gas Energy Use	2,

ENERGY SAVINGS: DEMAND SAVINGS: NATURAL GAS SAVINGS 2,300,625 kWh 775 kW 2,777 Therms

> 7,235 kWh 9 kW 0 Therms

20

INCREMENTAL COST ESTIMATION

The incremental cost estimate for materials and installation for this measure was initially based on an estimate from Hoffman Construction Co. The Final Construction Cost is the actual installed incremental cost.

Incremental Cost of High Efficiency Glazing (\$2.25/square foot)	= .	\$ 2,430
Contractor Overhead and Profit (10%)	. =	\$ 243
Total Incremental Cost	. =	\$ 2,673
Final Contractor Cost	=	\$ 4,458

ECM 4 OCCUPANCY SENSORS

<u>ECM DESCRIPTION:</u> Replace the manual switches in toilet rooms and other identified semi-occupied rooms (a total of 76 areas with a total controlled lighting power of 16,305 watts) with ultrasonic occupancy sensor controls.

CODE BASELINE:

The energy code requires manual switching and allows for increased lighting power when occupancy sensors are used. This increased power density credit was not used.

ENERGY CALCULATIONS:

The savings were based on a lighting usage reduction of 4 hours during occupied times for the 76 identified spaces and an increase in electric heating of 20%. The savings were calculated as follows:

Lighting Power: (169) 3F32T8/Elec. Ballast @ 91 W/fixt = 15.379 kW (10) 18 watt Twin Tube @ 46 W/fixt = 0.368 kW (9) 2FB31T8/Elec. Ballast @ 62 W/fixt = 0.558 kW 16.305 kW Reduced Hours: 4 hrs/day x 5 days/wk x 52 wks/yr = 1,040 hrs/yr Lighting Energy Saved = 16,957 kWh/yr Net Increased Heating/Cooling Energy = -3,391 kWh/yr Total Estimated Energy Savings = 13,566 kWh/yr

22

INCREMENTAL COST ESTIMATION:

The incremental cost estimate for materials and installation for this measure was based on an estimate from Hoffman Construction for 27 occupancy sensors prorated to the design number of 76. Additional design costs were also included. This estimate includes any cost for additional conduit, wire, circuits, etc. that may be required for the complete installation of this lighting alternative. The Final Cost is the actual installed incremantal cost.

Incremental Labor Cost	\$	3,950
Incremental Material Cost	<u>\$</u>	6,000
Contractor Overhead and Profit (10%)	\$	995
Incremental Design Cost	\$	600
Total Incremental Cost	\$ 1	1,545
Final Cost	\$ 1	3,856

ECM 5 HIGH EFFICIENCY EXIT SIGNS

<u>ECM DESCRIPTION:</u> Replace the proposed baseline 35 watt incandescent exit signs with 7 watt LED exit signs.

<u>CODE BASELINE:</u> The energy code does not regulate exit sign wattage.

ENERGY CALCULATIONS:

Energy savings are calculated based on an estimated 12 Exit signs per floor, on all four floors (including the parking garage), for a total of 48 exit signs. These signs are illuminated 24 hours a day, each day through the year, for a total of 8760 operating hours. The savings were calculated as follows:

Incandescent Exit Signs: 35 watts per sign x 48 signs = 1,680 watts

Energy Consumption: 1.68 kW x 8760 hours =14,717 kWh

LED Exit Signs: 7 watts per sign x 48 signs = 336 watts

Energy Consumption: 0.336 kW x 8760 hours = 2,943 kWh

Total Estimated Energy Savings:

No reduction of peak demand kW or fossil fuel usage was assumed.

INCREMENTAL COST ESTIMATION:

The incremental cost estimate for materials and installation for this measure was based on an estimate from Hoffman Construction of \$ 144.30/fixture including Contractor Overhead & Profit.

Total Incremental Cost

: \$ 6,926

= 11,774 kWh

Maintenance Costs: An incandescent exit sign requires lamp replacemtn 8 times/year. At an incremental lamp installation cost of \$1.00 the total annual maintenance cost for the incandescent system is \$384. Over the 30 year life of the LED exit signs the total maintenance cost savings is \$11,520.

ENERGY MANAGEMENT SYSTEM ECM 6

ECM DESCRIPTION

This ECM involves implementing Direct Digital Controls (DDC) throughout the entire building in place of a basic control system with This requires the timeclock controls. following additions to the base building control system:

- VAV of the Start/stop optimization 1. package system fans.
- Reset Control of VAV package unit cooling 2. supply air.
- Sweep lighting controls. 3.

CODE BASELINE:

The energy code requires timed operation of HVAC fans and interior lighting. This ECM improves on the energy code requirements by optimizing off-hour use of fans and lighting. The energy code requires reset controls for non-VAV systems.

ENERGY SAVINGS

Energy savings are calculated using the DOE 2.1D computer model. The savings were between the code case model with limited scheduling, no optimum starting of equipment, and no reset of the supply air temperature and an ECM case incorporating improved scheduling, optimum start, and supply air temperature reset. The differences between the two models upon which the estimated energy savings was made is as follows:

Fans on at 6:00 a.m, no reset controls, no sweep BASE CASE: lighting controls.

> Electrical Energy Use 2,307,860 kWh Average Peak Demand Natural Gas Energy Use

784 kW 2,777 Therms

ECM ALTERNATE: VAV units scheduled to optimum start, temperature reset, and sweep lighting controls.

> Electrical Energy Use Average Peak Demand Natural Gas Energy Use

1,931,579 kWh 708 kW . 3,221 Therms

ENERGY SAVINGS: DEMAND SAVINGS: NATURAL GAS SAVINGS 376,281 kWh 76 kW -444 Therms

INCREMENTAL COST ESTIMATION:

The incremental cost estimate for materials and installation for this measure was based on an estimate from Hoffman Construction

Incremental Cost

54 Terminal Units @ \$320/ea	· =	\$ 17,280
Sweep lighting controls	=	\$ 8,300
Data Gathering Panel/Controller	H	\$ 10,000
Contractor Overhead and Profit (10%)	E	\$ 3,558
Total Incremental Cost	=	\$ 39,138

ECM 7 VARIABLE SPEED FAN CONTROL

ECM_DESCRIPTION

This ECM involves replacing the proposed baseline building inlet vane control system with variable frequency drive controls to vary the volume of air supplied to the conditioned spaces. The VFD's would be installed on the supply and return fans of the floor-by-floor air conditioning units to vary fan speed to match the building air requirements.

CODE BASELINE:

The energy code does not regulate the type of fan speed control on VAV systems.

ENERGY SAVINGS

Energy savings are calculated using the DOE 2.1D computer model. The savings were between a code case model with conventional motor starters and inlet vane control and the ECM case utilizing VFD's. The differences in electrical energy between the two models is as follows:

BASE CASE:

Inlet Vane Control System.

Electrical Energy Use Average Peak Demand Natural Gas Energy Use 2,307,860 kWh 784 kW 2,777 Therms

ECM ALTERNATE:

Variable Speed Control System

Electrical Energy Use	2,141,657	kWh 👘
Average Peak Demand	753	kW
Natural Gas Energy Use	2,777	Therms

ENERGY SAVINGS: DEMAND SAVINGS: NATURAL GAS SAVINGS: 2,777 Therms 166,203 kWh 31 kW 0 Therms

INCREMENTAL COST ESTIMATION

The incremental cost estimate for materials and installation for this measure was based on an estimate from Hoffman Construction. The Final Incremental Cost is the actual installed incremental cost.

Incremental Cost	=	\$ 25,000
Contractor Overhead and Profit (10%)	=	\$ 2,500
Total Incremental Cost	=	\$ 27,500
Final Incremental Cost	=	\$ 28,750

ECM 8 EFFICIENT LIGHTING MEASURE: T8 FIXTURES + DAYLIGHTING

ECM DESCRIPTION

Install 3-lamp F32T8 electronic ballasted a. fixtures with a total fixture wattage of 91 watts. b. Replace the baseline fluorescent fixture energy saving magnetic ballasts with continuously dimming electronic ballasts, similar to the MARK VII ballast and provide light controls to maintain 50 footcandles at It would be work surface level. the reasonable to expect the lighting design to change significantly with the incorporation of daylight controls. For instance, uplighting rather than downlighting would be a more effective design.

CODE BASELINE:

The total interior lighting power density allowed by the energy code is 1.7 watts per square foot (w/sf) for the common areas and offices. The base building was assumed to use 3-lamp T12 fixtures with 34 W lamps and (1) 2lamp ballast and (1) 1-lamp ballast for a total fixture wattage of 112 watts. The energy code does not require daylighting controls, but does allow a power density credit when daylighting controls are used. This credit was not utilized and is not necessary for this building to meet the energy code.

ENERGY_SAVINGS:

Energy savings are calculated using a DOE 2.1D computer model. The total savings were between the code baseline lighting level of 1.7 W/sq ft and the ECM lighting level of 1.20 W/sq ft. Energy savings are calculated using For daylighting a DOE 2.1D computer model. controls baseline assumes the lights are on for the scheduled hours listed earlier in this The energy savings are a result of report. dimmed due to the the lights being availability of natural daylight. Natural daylight was assumed to be available from the vertical windows for all floors and from the skylights for the third floor. The final lighting design is included as a table at the The differences in end of this section. electrical energy between the two models is as follows:

Baseline Building:

Electrical Energy Use	2,307,860	kWh
Average Peak Demand	784	kW
Natural Gas Energy Use	2,777	Therms

Efficient Lighting Measure:

Electric	cal 1	Energy	Use
Average	Peal	k Deman	ıd
Natural	Gas	Energy	v Use

ENERGY SAVINGS: DEMAND SAVINGS: NATURAL GAS SAVINGS 2,180,270 kWh 753 kW 2,940 Therms

> 127,590 kWh 31 kW -163 Therms

INCREMENTAL COST ESTIMATION:

The incremental cost estimate for materials and installation for this measure was based on a price quotation from a lighting distributor. The estimate includes costs for additional conduit, wire, circuits, etc. that may be required for the complete installation of this lighting alternative. Additional design costs were also included for this measure. The number of fixtures at 1.2 W/sq ft was estimated to be 1,015. Note that the final design included numerous non-T8 miscellaneous fixtures, and that the final incremental costs remained unchanged.

Incremental Cost for Daylighting

Incremental Ballast Cost (\$63/fixture)		26,586
Photosensors and Wiring	<u>\$</u>	6,000
Incremental Cost	\$	32,586
Contractor Overhead and Profit (10%)	\$	3,259
Incremental Design Cost	<u>\$</u>	2,000
Total Incremental Cost/Daylighting	\$	37,845

Incremental Cost for Efficient Lighting

Incremental Ballast Cost (\$22/fixture) \$ 13,046 (593 interior fixtures)

Incremental Lamp Cost (\$1/lamp) (3,045 lamps)	<u>\$</u>	3,045
Incremental Cost/Efficient Lighting	\$	16,091
Contractor Overhead and Profit (10%)	\$	1,609
Incremental Design Cost	\$	14,000
Total Incremental Cost/1.2 W/sq ft	\$	31,700
l Incremental Cost	\$	69,545

Total Incremental Cost

Maintenance incremental first cost allowance -- \$1/lamp x 3,045 lamps x once every 5 years x 2

\$ 6,090

Table 7

	Final	Interior	miducind be	OWEL	Dudger	
Floor	Area(ft2)	Numb T8/Elect.	er of Fixtu T8/Dimming	ires y Miso	cellaneous	Total Power
First	3,495	24	17	11	(322 W)	4,204 W
Second	36,000	270	99	129	(8,776 W)	42,355 W
Third	36,000	205	86	307	(17,189 W)	43,670 W
Total	75,495	499	202	447	(26,287 W)	90;229 W

Notes: 1. T8/Elect. and T8/Dimming are 3F32T8 fixtures rated at 91 watts/fixture with electronic ballasts and dimming ballasts respectively.

2. Miscellaneous fixtures include 2F32T8 fixtures (69 total), (2)F18 twin-tube fixtures (276 total), 2F32T8 fixtures (23 total), 100 watt incandescent fixtures (49 total), 70 watt Metal Halide fixtures (16 total), and T8 strip lighting (14 total).

3. Area does not include either the Daycare center on the second floor or speculative office and storage area on the first floor.

Lighting Power Budget Calculation:

Lighting power budget with no control credits = 90,229/75495

1.20 W/sg. ft.

Credit for Daylighting - Assume that Dimming Fixtures are 50% on during most occupied hours.

Lighting Power = 90,229 W - 202 fixtures x 91 W/fixture x 50% = 81,038 W

Lighting power budget with daylighting credits = 81,038/75,495

= 1.07 W/sq. ft.

Additional credit for Occupancy Sensors - Assume that 50% Fixtures controlled by Occupancy Sensors are off at any given time during occupied hours. From ECM 5, the total lighting power controlled by occupancy sensors is 16,305 watts.

Lighting Power = 81,038 W - 16,305 W x 50% = 72,886 W

Lighting power budget with Daylighting & Occupancy Sensor credits

= 72,886/75,495

= 0.97 W/sq. ft.

ECM 12 PARKING GARAGE LIGHTING

<u>ECM DESCRIPTION</u> This ECM involves replacing the existing parking garage fluorescent strip lighting with high pressure sodium lighting. The existing lighting system consists of approximately 575 two-lamp strip fixtures. Lighting density is approximately 0.43 w/sq.ft. The ECM would replace the existing lighting with 154 high pressure sodium fixtures rated at 150 watts each and utilize the existing wiring converted to 277 volt distribution.

CODE BASELINE:

The energy code requires less than 0.3 W/sq ft for interior parking garage lighting.

ENERGY CALCULATIONS

Energy savings are calculated manually. Base case hours are current continuous use. ECM case assumes the fixtures are controlled to be on during non-daylit hours only.

BASE CASE: (Based on 96 W/fixture for 2 - 40 watt T-12 lamps with standard ballast.

575 Fluorescent fixtures x 96 W/fixture x 8760 hr/yr = 483,552 kWh/yr

ECM ALTERNATE: (173 watt total lamp and ballast watts for a 150 watt high pressure sodium fixture. Source: Oregon Energy Code Handbook). Additional miscellaneous fixtures to be included in the design are (25) 2-lamp F40T12, (14) 13 W Twin Tube, (12) 150 W HPS, (7) 7 W LED exit signs, (2) 50 W HPS, (2) 250 W HPS, and (2) 18 W Twin Tube. Total lighting density is 0.25 W/sq ft which is more effecient than energy code requirements.

154 High Pressure Sodium fixtures x 173 W x 4380 hr/yr = 116,692 kWh/yr

Miscellaneous fixtures: 5,569 W x 4380 hr/yr = 24,392 kWh/yr

ENERGY SAVINGS:		342,468 kWh/yr
DEMAND SAVINGS:	55.2 kW - 32.2 =	23.0 kW
NATURAL GAS SAVINGS:		0 Therms

INSTALLED COST ESTIMATION

The installed cost estimate for materials and installation for this measure was based on costs provided by Glenn Taylor of METRO from a low bid from a lighting contractor. In addition to the installed costs of the new fixtures, the budget price includes removal and disposal of the existing fluorescent fixtures, including PCB-laden ballast disposal.

Total Installed Cost

\$ 94,781

= ·

BEPS and ES-D Reports

The following is a printout of the DOE 2.1D reports BEPS and ES-D for the baseline building model and each ECM model. The BEPS report lists a breakdown of the modeled building's estimated energy use, total site and source energy, the percent of hours any load from the "central plant" is not met, and the percent of hours any system zone is outside of its assigned temperature throttling range.

Note that the ES-D reports do not exactly correspond with Tables 1 thru 6. It was decided late in the design stage to use natural gas for hot water heating. The DOE-2.1D energy models which assumed electric domestic hot water energy use were corrected for this change manually by subtracting 159.4 MBtu (46,715 kWh) from the annual total electricity use and adding the exact same amount to the annual natural gas energy use. The correct amounts, both dollar and usage are written, in pencil, on the ES-D reports.

WEATHER FILE- THY FORTLAND. OR

	•	
ENERGY TYPE In site MBTU -	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE		•
SPACE HEAT	1423.55	116.23
SFACE COOL	562.05	v.00
HVAC AUX	1294.46	0.00
DOX HOT WIR	159.44	
AUX SOLAR	0.00	0.90
LIGHTS	2366.49	0.00
VERT TRAKS	129.47	0.00
MISC EQUIP	2100.54	0.00
ΤΟΤΑΙ	8036.00	118.23

TOTAL SOURCE ENERGY 24250.88 HBTU 288.6 XBTU/SQFT-YR GROSS-AREA 288.6 XBTU/SUFT-YR RET-AREA

TOTAL SITE ENERGY 8154.40 NBTU 97.0 KBTU/SQFT-YR GROSS-AREA 97.0 KBTU/SQFT-YR HET-AREA

PERCENT OF HOURS ANY SYSTEM ZOKE OUTSIDE OF THROTTLING RANGE = 1.4 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED OH THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EAR S BUILDING RENOVATION ---- KETRO ----PREFARED BY: GLUMAC & ASSOCIATES FORTLAND. OF (503)227-5280 REPORT- BEPS ESTIMATED BUILDING ENERGY PERFORMANCE

SEAR'S BUILDING RENOVATION ---- KETRO ----PREFARED B1: GLUNAC & ASSOCIATES FORTLAND. OR (503)227-5280 REFORT- ES-D SURMARY OF FUEL AND UTILITY USE AND COSTS

	ELECTRIC	NTEL-GAS
HONTH	enit=	UNIT=
· · ·	3413.00	100000.00
 JAII	· · · · · · · ·	
ENERGY CONSUMPTION (UNIT/MO)	245262.	.320.
FEAK DEHAND (UNIT/HR)	1054.	4.
TOTAL COST (\$)	8452.79	1794.76
FES		·
ENERGY CONSUMPTION (UNIT/MO)	176693.	-179:
PEAK DENAND (UNIT/HR)	840.	3.
TOTAL CUST (\$)	6837.85	1004.38
EVERGY CONSUMPTION (NVIT/MG)	206833	130
PEAK DEBAND (UNITZER)	748.	
TOTAL COST (\$)	7175.00	727.40
APR		<i>C</i> - · · ·
ENERGY CONSUMPTION (UNIT/MO)	182597.	68.
PEAX DEHAND (UNIT/HR)	707.	2.
TOTAL COST (\$;	6369.17	375.38
nay		
ENERGY CONSUMPTION (UNIT/RU)	1/9836.	1/.
TOTAL COST (#)	637. 4350 AQ''	. 1.
101HL LUST (\$) JUN	0237.07	79.92
ENERGY CONSUMPTION (UNIT/MO)	176471.	1.
PEAK DEMAND (UNIT/HR)	665.	0.
TOTAL COST (\$)	6147.19	7.46
JUL		-
ENERGY CONSUMPTION (UNIT/MO)	190684.	٥.
FEAK DEMAND (UNIT/HR)	769.	0.
TOTAL COST (\$)	6619.77	3.50
	104700	
ERERGI CONSONFILUM (UNITINO) DEAY NEMAND (HVIT/UD)	179300.	v. 0
TOTAL COST (\$)	4747.48	V+ 3.50
SEP	0/12:00	0.00
ENERGY CONSUMPTION (UNIT/MO)	164000.	. 3.
FEAK DEMAND (UNIT/HR)	694.	0.
TOTAL COST (\$)	5732.55	16.67
CCT	•	
ERERGY CONSUMPTION (UNIT/MO)	189546.	52.
FEAT DEMAND (UNITZHE)	-/43.	. 1.
IUIAL LUSI (\$)	. 0/14.0/	275.36
THE FREY CANCENETION (INIT/MO)	- 199484	147.
FEAS DEMAND (UNIT/HR)	878.	
TOTAL COST (\$)	6730.66	827.07
DEC	•	
ENERGY CONSUMPTION (UNIT/MO)	228788.	/ 263/
PEAK DEMAND (UNIT/HR)	892.	/ /4.
TOTAL COST (\$)	7905.01	1475.30
 TOTAI		/ /
ENERGY CONSUMPTION (UNIT/YR)	2354575)	1182

6625.2

38

81885.82

PEAK DEMAND (UNIT/HR)

TOTAL COST (\$)

CORRECT FOR Other : Other use = 159.4 MBTU =+1,594 Therms = - 46,715 Kuh Electricity: 2,354,575 46,715 2,307,860 tech/41 1 80,261.2 \$ Gas : 1,182 +1,594 2,776 therms 1,555 \$

SEAR'S BUILDING RENOVATION ---- METRO ---- DETRO ---- DETRO ---- DETRO ---- DETRO ---- DETRO ---- DETRO DETLAND. OF (503)227-5280 R12.5 WALL INSULATION REPORT- BEPS ESTIMATED BUILDING ENERGY PERFORMANCE

002-2.10 00:09:92 20:10:08.01 MBL HUA 1 1

WEATHER FILE- INV FOFTLAND. in

ELECTRICITY	NATURAL-SAS
•	
1416.04	116.53
562.34	0.00
1294.36	0.00
159.44	0.00
0.00	0.00
2366.49	0.00
129.47	0.00
2100.54	• 0. 00
8028.69	116.53
	ELECTRICITY 1416.04 562.34 1294.36 159.44 0.00 2366.49 129.47 2100.54 8028.69

TOTAL SITE ENERGY 8145.40 MBTU 96.9 KBTU/SOFT-YR GROSS-AREA TOTAL SOURCE ENERGY 24227.25 MBTU 208.3 KBTU/SOFT-YR GROSS-AREA

96.9 KBTU/SOFT-YR NET-AREA 288.3 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 1.4 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

---- METRO ----00E-2.10 03/04/42 SEAR'S BUILDING RENOVATION R12.5 WALL INSULATION PORTLAND. OR (5031227-5280 PREPARED BY: SLUMAC & ASSOCIATES REFORT- ES-D SURHARY OF FUEL AND UTILITY USE AND COSTS ELECTRIC NTRL-EAS UNIT= UNIT= MANTH 100000.00 3413.00 JAIL ENERGY CONSUMPTION (UNIT/MO) 244844. 316. CORPECT FOR DHW 1054. 4. PEAK DEMAND (UNIT/HR) 9438.86 1771.46 TOTAL COST (\$) FEB 177. 196336. ENERGY CONSUMPTION (UNIT/MO) DEW USE = 837. 3. FEAX DEHAND (UNIT/HR) 6825.98 989.52 TOTAL COST (\$) 159.4 MBTU MAR 127. ENERGY CONSUMPTION (UNIT/MO) 206558. = + 1, 594 Therms 746. 3. PEAK DEMAND (UNIT/HR) 712.46 7165.87 TOTAL COST (\$) = -46,715 twh APR 66. 162409. ENERGY CONSUMPTION (UNIT/NO) 2. 705. PEAK DEMAND (UNIT/HR) 371.95 6362.90 TOTAL COST (\$) NAY Electricity : 16. 179755. ENERGY CONSUMPTION (URIT/KO) 1. PEAX DEHAND (UNIT/HR) 659. 2,352,435 6256.38 72.14 TOTAL COST (\$) JUN - 46,715 176465. 1. 2,305,720 teluh/yr 30,189.9 \$/4r ENERGY CONSUMPTION (UNIT/MO) 665. ٥. PEAK DEMAND (UNIT/HR) 7.25 6147.01 TOTAL COST (\$) JUL 190707. · 0. ENERGY CONSUMPTION (UNIT/MO) 0. 769. PEAK DEMAND (UNIT/HR) 3.50 TOTAL COST (\$) 6620.55 AUG ENERGY CORSUMPTION (UNIT/MO) Û. 194408. 0. 751. PEAK DEHAND (UNIT/HR) 3.50 6743.60 TOTAL COST (\$) SEP N. Gas 163983. 3. ENERGY CONSUMPTION (UNIT/NO) 695. Ô. PEAK DEMAND (UNIT/HR) 1,165 15.93 5731.99 TOTAL COST (\$) OCT 52. ENERGY CONSUMPTION (UNIT/NO) 189369. 2,759 Therms/yr 1,545 \$/yr *I*1. 743. PEAK DEMAND (UNIT/HR) 294.29 6708.10 TOTAL COST (\$) NOV 199212. 146 ENERGY CONSUMPTION (UKIT/HO) 877. PEAK DEMAND (UNIT/HR) 814.82 6921.60 TOTAL COST (\$) DEC 260. 228389. ENERGY CONSUMPTION (UNIT/HO) PEAK DEHAND (UNIT/HR) 890. 4. 1457.03 7891.76 TOTAL COST (\$) TOTAL 2352435 1165. ENERGY CONSUMPTION (UNIT/YR) 1054

6529.84

AO

61814.60

PEAK DEMAND (UNIT/HR)

TOTAL COST (\$)

25:15:08.31 EDL RUN 1

SEAR'S BUILDING RENOVATION ---- NE(RO ---- NE(RO ---- DUC-211) C FREPARED BY: GLUNAC & ASSOCIATES PORTLAND. OR (503)227-5260 HIGH-E DLAING REPORT- BEFS ESTIMATED BUILDING ENERGY PERFORMANCE XEAD

002-2210 00000000 (MIS/120020 MUG 1 HIGH-E SCATING

REATHER FILE- THY FUNTLAND. OR

EHERGY TYPE In Site Mbtu -	ELECTRICITY	NATURAL-6AS
CATEGORY OF USE		
SPACE HEAT	1016.82	99.64
SFACE COOL	558.33	0.00
HVAC AUX	1252.96	0.00
DON HOT WTR	159.44	> 0.vv
AUX SOLAR	0.00	0.00
LIGHTS	2366.49	0.00
VERT TRANS	129.47	0.00
NISC EQUIP	2100.54	0.00
TOTAL	7594.06	99.64

INTAL SITE ENERGY	7693.89 MBTU	91.6 KBTU/SOFT-YR GROSS-AREA
INTAL SOURCE ENERGY	22905.20 NBTU	272.6 KBTU/SQFT-YR GROSS-AREA

91.6 KBTU/SQFT-YR NET-AREA 272.6 XBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZOHE OUTSIDE OF THROTTLING RANGE = 1.4 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED ON THE YEARLY DENAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

PREFARED BY: SLUMAC & ASSOCIATES REFORT- EE-D SUMMARY OF FUEL AND L	PORTLAND, O TILITY USE AND C	R (503)227-528 OSTS	O HIGH-E GLAZING
	ELECTRIC	NTRL-GAS	
NONTH	UNIT=	Unit T=	
	3413.00	100000.00	
••••			
CHELL, CONSUMPTION (UNIT/SO)	721858	280	
FEAK DEMAAD (UNIT/HR)	969.	4.	CORRECT FOIL DRW.
TOTAL COST (\$)	7674.59	1565.83	
FEE			Atw use =
ENERGY CONSUMPTION (UNIT/KO)	179975.	153.	
PEAR DEMAND (UNITZHR) TOTAL COST (K)	804. 4701 90	5. 856 70	159,4 MBtu
HAE	0201.70	030.10	
ENERGY CONSUMPTION (UNIT/MO)	191640.	108.	= +1,594 Therms
PEAK DEMAND (UNIT/HR)	685.	3.	111 - 1 - 1 - 1
TOTAL COST (\$)	0669.86	605.00	2 - 40, 115 HWH
APR SUFERY CONCUMPTION / HUIT/HON	172049	55	
FFAX DEMAND (UNIT/HR)	642.	2.	
TOTAL COST (\$)	6019.06	309.60	Electricity:
HAY			
ENERGY CONSUMPTION (UNIT/NO)	173365.	13.	1725 094
PEAK DEMARD (UNITZHK) TOTAL COST (K)	64/.	70.50	2,2-1,011
JUN		/0.0/	- 46, 715
ENERGY CONSUMPTION (UNIT/NO)	173742.	1.	
PEAK DEXAND (UNIT/HR)	652.	0.	2 178.3/1 1001/94
TOTAL COST (\$)	6056.45	4.02	
FNESSY CONSUMPTION (UNIT/NO)	189415.	0.	A QUA 1 \$/YO
PEAK DEMAND (UNIT/HR)	764.	0.	ייזי י.טודנצר ין
TOTAL COST (\$)	6577.57	3.50	
AUG			
EREAGY CUNSURPTION (UNIT/DU)	191650.	0.	
TOTAL COST (\$)	6651.89	3.50	/N. Casi
SEP			
ENERGY CONSUMPTION (UNIT/MO)	160833.	1.	996
PEAK DEMAND (UNIT/HR)	683. 5427.22	9.	/ (10
	J021•22	0.00	+1.594
ENERGY CONSUMPTION (UNIT/MO)	179484.	j6. /	
PEAK DEMAND (UNIT/HR)	690.	/ Ļ	1590 Therms/4-
TOTAL COST (\$)	6375.72	276.17	Ø1
RUY ENERGY CONSIMPTION (IINIT/MO)	183708	/ / / 21	
PEAK DEMAND (UNIT/HR)	812.	// 3.	1 1450 \$/4r
TOTAL COST (\$)	6406.12	679.32	
DEC	******	//	19
ERENDI LUNSUNPIIUN (UNII/NU) PFAY NEWAND (INII/NR)	20/33/. 875		
TOTAL COST (\$)	7192.43	1254.30	
	/	/ /	
TOTAL	(AND FAR		
PEAT DEMAND (UNIT/HR)	(2223094.	YY6.	
TOTAL COST (\$)	17576.80	5586.747	-
· · · · · · · · · · · · · · · · · · ·			1x1

THE SALE OF A STREET STREET STREET STREET

NEWINER FILE- THY PUFILEND. UN

ENERBY TYPE In Site NBTU	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE		
SPACE HEAT	1421.02	118.23
SPACE COOL	551.50	0.00
HVAC AUX	1282.83	0.00
DOX HOT WTR	159.44	→ 0.00
AUX SOLAR	0.00	0.00
LIGHTS	2366.48	0.00
VERT TRAHS	129.47	6.00
NISC EQUIP	2100.54	0.00
TOTAL	8011.30	118.23

TOTAL SOURCE ENERGY 24176.73 MBTU 287.7 KBTU/SQFT-YR GROSS-AREA 287.7 KBTU/SQFT-YR NET-AREA

TOTAL SITE ENERGY 8129.71 MBTU 96.7 KBTU/SQFT-YR GROSS-AREA 96.7 KBTU/SQFT-YR MET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 1.4 = 0.0 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED

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NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

SEAR'S BUILDING RENOVATION FREPARED BY: BLUMAC & ASSOCIATES REPORT- ES-D SUMMARY OF FUEL AND UT	METF PGRTLAND. O TILITY USE AND (10 IR (5031227-5280 COSTS	DGE-2.1D 03/09/92 22:02:51.40 EDL RUN E HIGH-E SKYLIGHTS/REVISED 2/29/92
	ELECTRIC	NTEL-BAS	
AGNTH	UNIT=	UNIT=	•
·····	3413.00	100000.00	
JAN ENCLOY CONCUMPTION (UNIT, NO)	244012	320	
CAL BEAND CONSUMPTION (ONITION)	1010	3	CORRECT FOIL DHW.
TOTAL COST (1)	6411 22	1701 76	
101HL LU3: (\$) ESB	0711022	1114010	0 11) 159 = 159 4 MPt1
FEB FNERRY CRUSHMPTION (UNIT/MO)	196274	179.	Offw Use - 15 11 19510
PEAN DEMAND (DUIT/HE	835.	3.	- 1564 Theres
TOTAL COST (\$)	6873.93	1004.37	= 1,574, 1 NOM)
	0020170		
ENERGY CONSUMPTION (UNIT/MO)	207215.	130.	46715 KWh
PEAK DENAND (UNIT/HR)	749.	3.	
TOTAL COST (\$)	7187.72	727.41	
APR			
ENERGY CONSUMPTION (UNIT/MO)	183360.	58.	
PEAK DENAND (UNIT/HR)	708.	2.	Electricity !
TOTAL COST (\$)	6394.54	379.39	
NAY -			
ENERGY CONSUMPTION (UNIT/KO)	179886.	17.	2,347,340
FEAK DEMAND (UNIT/HR)	646.	<u>` </u>	
TOTAL COST (\$)	6260.76	94.42	- 46.715
RUE			
ENERGY CONSUMPTION (UNIT/MO)	175361.	. 1.	220675 Kuh/40
PEAX DEXAND (UNIT/HR)	651.	· 0.	2,500,00
TOTAL COST (\$)	6110.31	7.46	Λ .
JUL		. •	1 #///
ENERGY CONSUMPTION (UNIT/MO)	188691.	0.	AO, 020,
PEAK DEMAND (UNIT/HR)	764.	0.	
TOTAL COST (\$)	6553.17	3.50	/ /
AUS			
ENERGY CONSUMPTION (UNIT/NO)	192994.	0.	
PEAK DEHAND (UNIT/HR)	740.	0.	
TOTAL COST (\$)	6696.59	3.50	1 n Const.
SEP		- /	N. Corsi
ENERGY CONSUMPTION (UNIT/MU)	163318.	s. /	
PEAK DEMAND (UNITZHKI	08V.		1132
IUIAL CUSI (\$1	3/10-31	10.0/	
ULI CUCCONCUMPTION (UNIT/MO)	100511	52/	1 11594
EREAGI CUNSURFIIUN (UNIT/UD)	107,000.	, <u>, , , , , , , , , , , , , , , , , , </u>	
TOTAL COST (4)	4714 45	202/24	- 776 Thems/yr
NOU	0/14.00	210,00	2,118
EVEREY CONCUMPTION (UNIT/MO)	198886	· /147. /	A
PEAR DENAND (INTT/ND)	270000 . 282	/]	
TOTAL COST (\$)	6910,78	/825.M	1 1 - × 100
DEC			/ 1,5>5 4/7/
ENERGY CONSUMPTION (UNIT/MO)	227585.	/ /263.	
PEAK DEMAND (UNIT/HR)	882.	/ / 4.	17
TOTAL COST (\$)	7865.02	/1475.27	
	/	/ /	
TOTAL	\sim	\sim	
ENERGY CORSUMPTION (UNIT/YR)	(2347340)	′ (1182.)	
PEAX DENAND (UNIT/HR)	1040.	-I	
TOTAL COST (\$)	(11645.21)	6625.173	
	\sim	·	• •
		47	
•			• • • • • • • • • • • • • • • • • • •

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SEAR 5 BUILDING RENOVATION ---- HETRU PREPARED BY: GLUMAC & ASSOCIATES PORTLAND. OF REPORT- BEPS ESTIMATED BUILDING ENERGY PERFORMANCE

---- HETRU ----PORTLAND. OK (503)227-5280 RGY PERFORMANCE DUE-2.10 USINGIAL 19101102.00 MUN 1 1 ENS-SHEEP CONTROL. OPT. STAAT. REEE. MEATHER FILE- THY FORTLAND. UR

ENERGY TYPE In Site Hetu -	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE	· ·	
SPACE HEAT	792.18	162.64
SPACE COOL	478.45	0.00
HVAC AUX	1024.43	0.00
DOM KOT WTR	(159.44	0.00
AUX SOLAR	0.00	0.00
LIGHTS	2067.21	0.00
VERT TRANS	129.47	0.00
MISC EQUIP	2100.54	0.00
TOTAL	6751.74	162.64

TOTAL SITE ENERGY	6914.56 KBTU	82.3 KBTU/SQFT-YR GROSS-AREA	02.3 KBTU/SQFT-YR NET-AREA
TOTAL SOURCE EXERGY	20438.68 MBTU	243.2 KBTU/SQFT-YR GROSS-AREA	243.2 KBTU/SOFT-TR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 1.4 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY. SEAR'S_BUILDING RENOVATION ---- METRO ----PREPARED BY: GLUNAC & ASSOCIATES FORTLAND, OR (503)227-5280 REPORT- ES-D SUMMARY OF FUEL AND UTILITY USE AND COSTS ODE-2.10 03/07/72 14:01:52.c6 EDL RUH 1 ENS-SWEEP CONTROL. OPT. START. RESET

			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	FUEDTRIC	UTEL-GAS	
	1917-		•
9940 8	9041- 7147 AA	10000 AA	
	3410.00	100000.00	
			0 1 1 0
S Min	· ·		CORRECT FOR Otto
ENERGY CONSUMPTION (UNIT/MO)	. 200573.	422.	
FEAK DEMAND (UNIT/HR)	958.	4.	
TOTAL COST (\$)	ċ∓ćó.88	2365.58	Dull as IFG 4 MR+1
FF1			Uttw Use = 15 1. 191510
ENERGY CONSUMPTION (UNIT/HO)	156202.	256.	
SEAV REMAND (HNIT/HE)	706	3.	= 1,594 Theras
FIN DEMMO (UNITAR)	£101 57	1471 00 -	
ISINE LUSI INI	J471.JJ	1451.00	UL DIT KWh
NER.	4 / 8874		
ENERBY CONSUMPTION (UNIT/NO)	152230.	191.	
PEAX DEMAND (UNIT/HR)	597.	J.	
TOTAL COST (\$)	5691.96	1072.38	•
APF			al has the a
ENERGY CONSUMPTION (UNIT/HO)	147203.	101.	Electrici 17
PEAK DEMAND (UNIT/HR)	550.	2.	
TOTAL COST (6)	5197.37	567.81	
			1.978,294
	15:011	10	
ENERGY CONSUMPTION (UNITYIO)	104741.	17	46 715
PEAK DEMAND (UNIT/HR)	661.	1.	- 90, 1.
TOTAL COST (\$)	5431.34	105.22	
JUN	• .		, 921 517 KWM/4r
ENERGY CONSUMPTION (UNIT/NO)	158321.	1.	1,131,1
PEAK DEMAND (UNIT/HR)	669.	0.	
TOTAL COST (\$)	5543.70	8.09	
Ju	•		1 67722 ¥/UC
EVERGY CONSUMPTION (UNIT/MO)	176721.	Û.	
PEAK DEMAND (INIT/HR)	775.	0.	
TOTAL COST (8)	6155.51	3.50	
	0100401	0.00	
	175047	· · ·	
	1/30/1.	1.	
FEAK DEMAND (UNII/HK)	/36.	V.	
TOTAL COST (\$)	6125.11	4.07	
SEP			/ N , O - a - s ,
ENERGY CONSUMPTION (UNIT/MO)	146774.	3.	
FEAK DEMAND (UNIT/HR)	705.	0.	
TOTAL COST (\$)	5159.78	19.05	1,626
GCT			
ENERGY CONSUMPTION (UNIT/NO)	153974.	70	1 1599
PEAK DEMAND (UNIT/HR)	573.	k.	
TOTAL COST (\$)	5516.58	397.31	220 Thornship
			260 1100 1917
RUY	150201	207	5/
ERENGI LUNSUNFIIUN (UNII/NU)	1302714		
PEAK DEMAND (UNITYHR)	/30.	I un ko	1 1 D 2 Hile
TOTAL COST (\$)	2220.44	11264.28	/ (COS 4/9/
DEC			
ENERGY CONSUMPTION (UNIT/MO)	187256.	358.	
PEAK DEMAND (UNIT/HR)	786. /	· / · ·	
TOTAL COST (\$)	6524.08	2003.58	
	/	. / /	
TOTAL		$1 \sim$	
EXERGY CONSUMPTION (UNIT/YR)	(1978294)	(1626)	
PEAT DENAND (INIT/HR)	958		
TOTAL COST (4)	A9350 70 D	(9111.17	
(UINE COD) (V)			11
• •	-	• .	AU

DUE-2.10 05/11/42 04:4131:24.34 MOL WON 1

BENTMEN FILL IN. FURTLAND. UM

ENERGY TYPE In site mbtu – electricit		Y NATURAL-GAS	
CATEGORY OF USE	• • •		
SPACE HEAT	1424.00	118.23	
SPACE COOL	540.17	0.00	
HVAC AUX	748.64	0.00	
DON HOT WTR	159.44		
AUX SOLAR	0.00	0.00	
LIGHTS	2366.49	0.00	
VERT TRANS	129.47	0.00	
NISC EQUIP	2100.55	0.00	
TOTAL	7468.76	116.23	

TOTAL SITE ENERGY TOTAL SOURCE ENERGY 22547.41 MBTU 268.3 KBTU/SOFT-YR GROSS-AREA 268.3 KBTU/SAFT-YR NET-AREA

7587.15 MBTU 90.3 KBTU/SQFT-YR GROSS-AREA

90.3 KBTU/SOFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 1.4 FERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

REPORT- 23-0 SUMMARY OF FUEL AND	UTILITY USE AND	COSTS	
	ELECTRIC	NTEL-SAS	
HONTH	UNIT=	UNIT=	•
•	3413.00	100000.00	
			•
FREEST FOUSTION (UNIT/MA)	726991.	329.	CORRECT FOR DHW
PEAN DEMAND (UNIT/HR)	1018.	4.	
TOTAL COST (\$)	7911.77	1794.76	
FEB			NH.1 1/20 = 15941
ENERGY CONSUMPTION (UNIT/MO)	192238.	179.	
PEAK DEMAND (UNIT/HR)	795.	3. 1004 TD	
IUIAL LUSI (\$1	6221.21	1004.30	= 1,594
EKERGY CONSUMPTION (HALT/MD)	189837.	130.	· · · · ·
PEAK DENAND (UNIT/HR)	695.	3.	46,715
TOTAL COST (\$)	6c09 . 89	727.40	
APR			
ENERGY CONSUMPTION (UNIT/MO)	167229.	68.	
PEAK DEMAND (UNIT/HR)	634. 5050 10	2. 778 70	Electricity;
NAV	JCJ0.17	571.57	
ENERGY CONSUMPTION (UNIT/MO)	165306.	17.	2 129 272
PEAK DEHAND (UNIT/HR)	647.	1.	2,100,312
TOTAL COST (\$)	5775.98	94.42	-46 715
JUN		·	(5, 1.5
ENERGY CONSUMPTION (UNIT/MO)	164858.	1.	41657 KWh
PEAK DENAND (UNIT/HR)	634. 5741.04	U. 7 AL	2,171,027,1000,
JUINE LUSI (>)	3/01.00 _	10	
ENERGY CONSUMPTION (UNIT/MO)	182928.	0.	1 2/1700 15/12
PEAK DEMAND (UNIT/HR)	768.	0.	1 14,122 4/7/
TOTAL COST (\$)	6361.88	3.50	/ n
AUG			
ENERGY CONSUMPTION (UNIT/KO)	183140.	0.	
TOTAL COST (4)	/JV.	τ.50	
	0300.73	3.00	
ENERGY CONSUMPTION (UNIT/KO)	152735.	3.	/ N. Gas:
PEAK DEMAND (UNIT/HR)	688.	0. /	
TOTAL COST (\$)	5357.97	16.67	1 1 97.
	. 77 / . /		1,00
ENERGY CONSUMPTION TUNIT/OUT	1/3040.	34	× 1,594
TOTAL COST (\$)	6178.16	297.36	
NOV		7 /	~ 776 Thom
ENERGY CONSUMPTION (UNIT/NO)	184072.	/ 147/	dy '
PEAK DEMAND (UNIT/HR)	828.	/ \$.	A
TOTAL COST (\$)	6418.86	825.08	1 immer Hlu-
DEC	517770	1 /	1,555 4171
ENERGY CUNSURPTION (UNIT/NU)	2133/2.	/ / 203.	/ /
TATAL CAST (%)	7392.44	1475.31	
		/ /	
TOTAL	\longrightarrow	$1 \sim 1$	
ENERGY CONSUMPTION (UNIT/YR)	<2188372	/ (1182.)	
PEAK DEMAND (UNIT/HR)	1018.		A
TOTAL COST (\$)	(76352.34)	6625.23	NR

EERAME RUILDING RENOVATION ----- SI'NE -----ENERAME: BY: GLUMAC & ASSOCIATES ----- RENAME, OR (EDE)227-E280 EEAR'S ACLOING RENOVATION REPORT- SEVE ESTIMATED BUILDING ENERGY FIRFORMONDS

DAVIDAT / : WES FT -- RE DESIGNED WEATER FILLS THE PORTLAND, OR

EXERNA TYTE IN SITE 4972 -		NATIRA1-143
LATESCRY OF LOS		
SPACE HEAT	.1706.24	134, 47
FACE 2001	523.71	· 6,83
HAD ALX	:276.55	0.00
otno etti wita		→»
ALX EOLAR	2.30	
116475	1637.+8	- 0.00
VERT TRANS	:29. 48	0.00
MISC ERVIP	8:00.57	0.00
TOTAL	7600.57	134, 47

7735.15 MBTU 92.0 KBTU/EQFT-YR SRCES-AREA 92.0 KBTU/EQFT-YR MET-AREA TOTAL SITE ENERGY TOTAL SOURCE ENERGY 22959.34 MBTU : 273.2 KETU/SOFT-YR SROSS-AREA 273.3 KETU/EOFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.8 FERCENT OF HEURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS AFFORTIONED BASED ON THE YEARLY DEMAND. ALL OTHER EVERSY TYPES ARE APPORTIONED HOURLY.
A SEARNER FULLDING RENCHATION ----- METRO -----CARTARED DYN BLUMAE & ROBECTATEE ----- DIRTLAY DU DR (EDD)227-EDD) REFORM- ED-C - 2177034 CF FLEL RODULTILDIN WEE ROD COSTD

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4^5 ⁻ -	E.E.T 712	172-942 417-	
••••			
<u>12</u> 1			CORRECT FOR DAW 3
ener internet and a state of the state of th		Ξ.	
	2111.43	17163	
	- attat	200	offer use = 15 1.4 MBTU
AHAN LEMAND (UNIT/AR)		<u></u>	
	-1228, 42		= 1,554 Therms
FREEM CONSTICK (ENCLOSE)	1.17751.	Ξ.	= - 46.715 febra
FEAK DEMAND (CNST/HA)	· · · ·		
	5772. QA	343.51	
IKINI LUNGUTY UN (LNI)/ME, III/ NIMERA (MARTINIA)		÷i,	Flortright.
TING II THE ALL AND A CONTRACT OF A CONTRACT. CONTRACT OF A CONTRACT. CONTRACT OF A CONT	2000 - 200 2000 - 200	••	
		-22	
ENERGY ICHELMPTICN (LINIT/ME)			2,226,985
FEDK JEMOND (UNIT/HR)	584.		
T0761_529T_6%*	E824.13	114.15	- 46, 715
ENERGY CONSUMPTION (UNIT/MO)	156360.	2.	2,190270 Kullyn
PEAK LEAGAD (UNIT/HR)	530.	Э.	
(U:=1_105; (3) =na	55E4.97	:2.08	A 21 . 41
	163000	•	16,011 9/20
PEAK DEMAND (INIT/HR)	.ESV56. 707	· · · ·	
TOTPL COST (\$)	5901.72	3.50	
£3		0.0.	
ENERGY CONSUMPTION (UNIT/MD)	174635.	2.	
PEAK DEMAND (UNIT/HR)	680.	Ū.	
TOTAL COST (S)	EC8E.14	8.74	
ENERGY LUNGURF (IIN LUNI)/ HU	149750.	5.	
	52V. 5352 77	70.70	N, Gos
ENERGY CONSUMPTION (UNIT/MO)	:20484.	e et.	1345
FER JEVEND (LAIT/HR)	743.	[ε.]	
T2TAL 2057 (\$)	E408.75	37.20	1.594
			1
ENERGY CONSUMPTION (LANIT/MC)	:34E20,		
FIRS LINE (LSL /FX)	371.		2,459 Therms/4
	5752.31	926.98	91
ENERGY CONSUMPTION (INIT/MO)	294424	207	
PEAK JEMAND (LNIT/HR)	894.	74.	\$ 646 1
T0741 C2ST (\$)	7768.04	15/2.56	
	/	-f	
TOTAL		1-1	
ENERGY CONSUMPTION (UNIT/YR)	(2225:25)	(:345.)	
PERK DETRIND (UNIT/SR)	1060.		
10(HL UR1 (7)	(11529.48)	(1533.84)	
		· · ·	50
	•		

---- *: -: المتراجع وموسيتهم وتجوج 25525483 3-1 31.000 y 4580010 888 - 2007 14 1, 14 600:487-5880 REPORT- SETE (EFTIMATEL RULLOING ENERGY (REFERMENCE)

LE-E. D. Marchiel, 14: Jaikes - Bugaska

2:513" TYTE TY 3172 4970 -	ELECTIC 2174	VATURAL-ERE
CATESCRY OF USE		
01400 XEST	312. 31	:53.15
5:402 000.	4()), 70	9. 50
-VAC ALX	E36, 27	2,00
104 407 - 177	51.44	→ 0. ×
AUX BOLAR	0.00	0.00
LIGHTS	1429.25	0.00
VER TIANS	. 127,48	0,00
MIGD 20017	2:03.58	
TETAL	5434.85	- :52.25

5603.15 MBTU 66.7 KBTU/SOFT-YR GROSS-AREA 66.7 KBTU/SOFT-YR NET-AREA TOTAL SITE ENERGY TOTAL SOURCE ENERGY 16489.29 19TU 196.2 KBTU/SOFT-YA GROSS-AREA 196.2 KBTU/SOFT-YR NET-AREA .

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING FAMSE = 0.7 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO SEVERATE ELECTRICITY IS APPORTIONED ERSED ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOUSLY.

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IEGRY & OULLOING REMANATION ---- NETRO ----DELEGRED BY: BLUMAD & ABBOULATES PORTLAND, OR (503,627-5290 AUCORT- EB-0) EL WARK OF FLEL AND UTILITY LEE SHD DEGTE

165-110-11/12/56 14:000000-48 515 304 2004/25175 500 900 - COSAECTED

	ELECTRIC	N-11-1-1-1	
	Gait Te	··=	•
		ente Standage ogs	
	_7V		· · · ·
•••			
	11.101		CORRECT FOIL DAW
	7.2TC.		
TITLESSING NUMBER OF STREETS	es/.	2.	1.561.1.711
	Itto. s/	202.17	MW Use = 157.4 MSTU
		•	
EVERSY CONSLATTION (CONTINC)	125499.	265.	- 1 rai than
FIRK DEMAND (UNIT/-8)	£14.	÷.	= 1, 599 1 (lerms)
TETAL CORT (\$)	447), 81	:46.3:	• •
7 4 5		•	46.715 Kulh
EVEREY CONSUMPTION (LNIT/MG)	169145.	≎ 68.	
SHOK DEMOND (INTT/HR)	197		· · · ·
	10 ·57	्र २२४ वर्ष	
A**			Electricity:
	112420.	118.	
2535 2579ND (CA1.733)	<u>/</u>	2.	1,572,414
TCTR1_2027_1\$1	-170.77	E5. 28	
AUA -		•	- 46,713
EVERBY CONSLMPTICN (UNIT/MO)	121939.	Č4.	I with here
ferk cemand (lnit/hr)	5:0.	1.	-45.704 FCW 177
TETAL COST (\$;	4324.00	13.36	1,5 101
			A
EVERSY CONSIMPTION SINIT (MO)	*241EC	2	7
IEST BENERAL (INTERIOR	547	- -	-4057 H/40
TOTA DELATE (CALLARA)	546 70	V. 3 EA	/ 57,527 4/17
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EMS 😞

DESCRIPTION

An energy management system (EMS) is a computer-based system designed to monitor and control building equipment. Its function is to optimize operations and reduce energy costs. The basic components of an EMS are:

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- direct digital control (DDC) panel
- user interface (typically a personal computer)
- interface with building systems (starters, dampers, sensors, etc.)

Very large systems also include:

- additional panels
- communication bus
- central processing unit (mainframe or PC)

The DDC panel is a small programmable computer that senses temperature, time and other signals and modulates values, dampers, switches, lights, or motors on and off according to schedules. From one to 64 points are typically wired into a DDC Panel. For example, all the points in a mechanical room may go into one DDC panel, all the points in the boiler plant may go into another, and all the points from a small building into a third. Information is transferred between DDC panels and the user interface over a single, twisted pair of low-voltage wire.

Other names for DDC Panels, depending on manufacturers, include SCU (stand-alone control unit), UC (unit controller), and FID (field interface device). The program or review status can be modified through the user interface.

The energy management system market is extremely competitive and constantly evolving. As a result, there are hundreds of affordable products representing a spectrum of capabilities. Although there are no official standards and the categories are not exact. EMS can be defined as low, medium or high technology. (See Table 1 below.)

In comparing energy management systems, the critical features are:

• number of points supported by the system, which determines the size of the system

- functions available on the system, which determine the extent to and manner in which energy can be conserved
- user interface, which impacts ease of use
- communications bus, which determines information transfer speed

Table 1Energy Management SystemsComparison from low to high technology

Number of points (also called channels or loads)

4-125	(low)
50-750	- -
500-2500	-
2000-plus	(high)
Functions available	
duty cycling	(low)
time-of-day	- , .
demand limiting	-
temperature compensation	- '
record keeping	-
optimum start-stop	_
remote access	-
enthalpy optimization	-
load prediction	-
low level user programming	-
simple building security	-
custom application	-
maintenance management	-
full HVAC control (PID)	-
full fire and security	 · ·
higher level programming	(high)
User interface	
LED display with keypad	(low)
with auxiliary LED dot lights	
ASCII terminal with English language	÷
supports multiple terminals	-
color graphics	-
mouse-driven color graphics	(high)
Communications bus speed	
1200 baud	(low)
9600 baud	-
1 mega baud	(high)

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APPLICATIONS

Energy management systems can be installed in most commercial buildings and on virtually all types of HVAC and lighting systems.

Typical EMS applications include:

- Variable Air Volume (VAV)
- Hot Water Reset
- Chilled Water Reset
- Lighting Control
- Fan Start/Stop
- Chiller Control
- Optimized Start/Stop
- Temperature Control
- Submetering

BENEFITS

- Reduced energy consumption
- Faster response to complaints
- Improved preventive maintenance
- Centralized control
- Improved control
- Improved occupant comfort and productivity
- Can be utilized as a security system (if U.L. listed as such)
- Fewer personnel to operate
- Enhanced diagnostic capability
- System performance information available immediately

CASE STUDY

A 250,000-sq. ft., 15-story office building in Oregon is specified for an Energy Management System. The primary function of the EMS is to provide sweep lighting control, which turns off all lights in various sections of the building based on a pre-programmed schedule. As a result, the number of lights turned on during each hour is reduced.

Because the building owner is also considering a reduction in the power density for the lighting system, and because the lighting system adds internal heat load to the HVAC system, a computer model of the building is needed to establish energy savings. For modeling, the percentage of lights left on from 5 p.m. to 8 p.m. is reduced from 60% to 10%. The percentage of lights on for the remaining portion of the schedule is assumed to be the same as the baseline building schedule. The model estimates that the system saves 150,000 kilowatt-hours per year for an annual energy cost savings of \$7,500 at \$0.05 per kilowatt-hour.

The EMS central control system handles two nodes or control points per floor. Each node is tied into the baseline low voltage switching system, which controls circuits for 150 two-lamp fixtures. The building has 4500 fixtures for a total connected lighting load of 315 kW. The incremental installed cost for the central computer, interface hardware and two weeks of training for the building operators is estimated at \$36,000. The simple payback for the EMS system with only the sweep lighting control function is 4.8 years. If other functions are added, the EMS system could have an even shorter payback.

DESIGN AND OPERATION GUIDELINES

1. Energy management systems vary in size depending upon the building size, type, occupancy, HVAC systems, and level of control. Because building controls may be eventually overridden and not adequately fine-tuned or maintained. a significant amount of energy is wasted. A detailed energy study should precede any EMS system design to properly identify the areas in which energy savings can be realized. Once the energy conservation measures have been identified and resultant savings and payback periods are acceptable, then the designer can begin to configure the EMS system.

2. Building systems can be monitored using the run time, trending and reporting capabilities of the EMS. In large EMS systems, a full-time operator may be required to extract the desired information necessary for the building manager to monitor the energy effectiveness of the EMS system and the building in general. The system also can be finetuned by changing operating parameters to better suit the building and occupants and to achieve optimum comfort and energy savings.

THE OWNER'S RESPONSIBILITIES

The owner must direct the entire design team to work cooperatively with the energy modeler to study the various systems for energy conservation opportunities. The designer must provide a written schedule describing all of the building functions that are to be controlled by the EMS system.

To aid in inspection and performance verification, the owner must provide Pacific/Utah Power with the contractor's submittal specifying the technical characteristics and control strategies for the various systems to be controlled by the EMS. The owner needs to provide blueline design and as-built drawings as well. The owner's controls and EMS contractors need to work with Pacific/Utah Power's commissioning agent by providing access to the EMS user interface and the schedule of installation..

The EMS contractor must perform a 100% pointto-point inspection and short form testing as part of the final check out of the system and programming. In installations where both heating and cooling dominated load conditions will occur, the contractor should run verification tests in both the heating and cooling season. A copy of the report with the results of this final check out must be provided to Pacific/ Utah Power's commissioning agent. The EMS contractor must provide operator training including trend logging to verify the operation of other funded measures. The owner is required to provide minimum maintenance as specified in the Maintenance Requirements section below.

PERFORMANCE VERIFICATION REQUIREMENTS

Performance verification by Pacific/Utah Power will include a review of the point-by-point inspection conducted by the EMS contractor. Pacific/Utah Power's commissioning agent will coordinate with the owner's contractors on performance verification, including the sharing of information and training of maintenance personnel.

MONITORING REQUIREMENTS

Should Pacific/Utah Power decide to monitor the performance of the EMS system. the owner will be asked to have the controls and EMS contractors work with Pacific/Utah Power's monitoring contractor to determine what information can be gained directly from the EMS system. Pacific/Utah Power will cover the cost of the contractor for support in developing the monitoring plan. Pacific/Utah Power's monitoring contractor will provide any additional monitoring sensors or processing equipment as needed.

VERIFICATION OF SAVINGS

Energy savings from an Energy Management System, must be determined by a computer model of the building. Because an EMS can control lights, HVAC and other building functions, the interaction of these changes and adjustments must be accounted for in the model. For verification in the field, the proposed control functions (building operating schedules) will be compared to the control strategy actually programmed into the EMS as recorded during the audit. The actual schedules will then be simulated and compared to the base assumptions to verify savings.

MAINTENANCE REQUIREMENTS

Pacific/Utah Power may require that the owner have a qualified person on staff or under contract who is responsible for properly operating and maintaining the EMS and associated equipment. In addition, Pacific/Utah Power recommends that the owner have a maintenance contract with the factory authorized control contractor, which covers at least an annual checkout and update of the system software, keyboard cleaning, cursory hardware check and replacement of any faulty components. A summary report of the annual checkup may be required and sent to Pacific/Utah Power for the first three years after the performance verification process.

FOR EXPERT HELP

Many energy conservation. mechanical and electrical design firms have experienced staff who can assist in energy studies and EMS system design.

MANUFACTURERS

Note: This listing of manufacturers should not be construed as complete, nor does it indicate an endorsement of these products by Pacific/Utah Power.

Andover Controls Andover. Maine	(508) 470-0555
Honeywell Golden Valley, Minnesola	(612) /82-7039
Landis & Gyr Powers Buffalo Grove, IL	(708) 215-1000
Alerton Technologies Portland, OR	(503) 620-4228

WHAT PACIFIC/UTAH POWER PROVIDES

Pacific/Utah Power will assist with developing the design concept, the contractor's short form testing, verify performance of the measure and associated components, and ensure that the building operator understands how to operate and maintain the measure.

ELECTRONIC BALLASTS

DESCRIPTION

An electronic ballast is a solid-state device that transforms 60-cycle current into high-frequency (20,000-cycle) current, thus making fluorescent lamps more efficient than those with the older magnetic ballasts. While there were some failures in the early 1980's when the technology was first introduced, current products from the major manufacturers (see list below) have had failure rates less than 1% over the last 3.5 years. In addition, the major manufacturers offer three-year warranties on parts and allow \$10.00 for labor to replace electronic ballasts that fail.

In new construction, lighting manufacturers sell fixtures with electronic ballasts as a standard option, although the manufacturer will select the electronic ballast to be installed. When ordering large numbers of fixtures, the lighting designer can request a particular electronic ballast be installed at the factory for a small premium.

An electronic ballast to control two, four-foot lamps typically costs \$30 to \$45 when purchased in quantities of 10 to 12. This compares to efficient magnetic ballasts, which range from \$20 to \$25. A single electronic ballast can be selected to control three or even four lamps, further reducing electrical energy usage. With tandem wiring, a single, fourlamp ballast can serve a pair of two-lamp fixtures.

APPLICATIONS

Electronic ballasts are available for two general lighting applications: constant light and dimming. Constant light ballasts are constructed of either discrete electronic components or use an integrated circuit. The newer, integrated circuit ballasts offer better electrical control, because they apply preconditioning to control power factor and to reduce harmonic content; and they use feedback control to sense and regulate wattage to the lamps. Feedback control allows the ballasts to serve different lamp wattage and may provide longer lamp life. Dimming electronic ballasts have been available since 1989. These ballasts work with low voltage dimming systems and allow versatility in a lighting layout. The level of dimming depends on the ballast; some offer continuous dimming while others are step controlled. Dimming ballasts are more expensive than constant light electronic ballasts.

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Because electronic ballasts are a direct replacement for magnetic ballasts, they can be used in any four-foot or eight-foot general fluorescent lighting application. They also are available for other specialized applications. Be sure to consult with a qualified lighting designer.

Some lighting designers recommend the highfrequency electronic ballast in areas with computers and video display terminals (VDTs), because the ballasts do not interact with the 60-cycle flicker of the VDT.

BENEFITS

- Reduced electric energy consumption
- Reduced heat output and air conditioning load
- Reduced fluorescent lamp "flicker"
- Better power control increases service life of lamps.
- Reduced number of ballasts needed
- Lighter weight
- More design flexibility with dimming capability
- Electronic ballasts with feedback control are more tolerant of brownout conditions than magnetic ballasts
- Reduced thermal factor, thus creating higher net light output
- Reduced noise

PACIFIC POWER

CASE STUDY

A 25.000-sq. ft. office building in Idaho must meet the lighting power budget of 1.5 watts per square foot. as established by the Northwest Energy Code. The lighting designer has determined that the general lighting should provide a maintained footcandle level of at least 50, and has selected a threelamp parabolic lens fixture with two efficient magnetic ballasts and three 32-watt T-8 lamps.

This combination requires an input wattage of 120 watts: when spaced at one per 80 square feet, the fixture fits the power budget at 1.5 watts per square foot and delivers about 60 foot-candles. The building requires 312 fixtures with 624 ballasts. The total installed lighting load is 37.4 kilowatts. The fixture, ballasts and tubes cost about \$150 for a total lighting equipment cost of \$46,800.

The lighting designer is asked to reduce the lighting power and still provide at least 50 footcandles. One-lamp electronic ballast replaces the magnetic ballasts, leaving every thing else the same. The 624 efficient magnetic ballasts cost \$20.00 each and the 312 three lamp electronic ballasts cost \$50.00 each. With the new electronic ballast, the fixture requires only 90 watts or 1.13 watts per square foot. This is a reduction of 30 watts per fixture, but a cost increase of only \$10. The 312 fixtures save 9360 watts and cost \$3,120 more. Although the total air conditioning load is reduced by over 2.5 tons, it is unlikely that the mechanical engineer would be able to select a smaller system.

For 3000 hours per year of operation at \$0.05 per kilowatt-hour, the savings is \$1400 per year and the added investment is recovered in 2.3 years based on lighting energy savings alone. However, the impact on the HVAC energy use must be considered by using a computer model. Lowering the lighting power will save on cooling energy but will increase the need for heating.

DESIGN AND OPERATION GUIDELINES

1. Electronic ballasts are available in 120 and 277 volts and in one, two, three and four lamp versions. Most operate the lamps at rated light output, but some ballast and lamp combinations may operate above or below rated output. The ballast supplier or a lighting or electrical consultant can provide further information.

2. Note: Be sure that computers and other sensitive electronic equipment are powered from a dedicated and power conditioned electrical circuit. Never power electronic office equipment off the lighting circuit, especially if electronic ballasts are specified.

3. If the building has many motors with variable speed drives or power-factor correcting capacitors, electronic ballasts with low total harmonic distortion should be specified.

4. In older buildings with transformers that may be close to over-loaded, an engineer should run an electrical system check to be sure the system is properly balanced and can handle the ballast harmonics.

5. If sensitive data processing or communications equipment is within 10 feet, then select electronic ballasts with low total harmonic distortion, low radio frequency and low electromagnetic interference.

6. In applications with dimming electronic ballasts, krypton gas-filled energy saving lamps (34 watt) are not recommended. T-8 lamps (32 watt) are preferred.

MINIMUM SPECIFICATIONS:

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The following specifications apply to both discrete and integrated electronic ballasts. When specifying electronic ballasts for a lighting system in a building that contains sensitive electronic or communications equipment, the more expensive integrated-circuit ballasts should be specified.

Power Factor (PF) - The National Appliance Energy Conservation Amendments of 1988 to the Energy Policy and Conservation Act specifies that the fluorescent lamp ballasts must have a power factor greater than 90%. Most electronic ballasts have much better power factors than magnetic ballasts. Ballast Factor (BF) - BF is the ratio of light output(lamp lumens) produced by the lamp's operation on a commercial ballast versus the operation on a standard laboratory reference ballast using an ANSI test. The ANSI/CBM minimum is 92.5% when using standard F40 T-12 rapid start lamps with argon gas-fill. If an energy saving lamp with krypton gas-fill is used with the same ballast, it will have a lower ballast factor and produce less light. The designer must carefully check the light output of the various ballast lamp combinations.

Ballast Efficacy (Efficiency) Factor (BEF) - The National Appliance Energy Conservation Act specifies the following minimum BEF values:

One four-foot rapid start	1.80
Two four-foot rapid start	1.05
Two eight-foot slimline	0.57
Two eight-foot high output rapid start	0.39

Two, four-foot rapid start, new energy efficient magnetic ballasts have BEFs of about 1.2. The electronic ballasts have BEFs of approximately 1.4.

Ballasts must be able to sustain power-line transients and surges without damage as defined in IEEE Publication 587, Category A.

Ballasts must meet Federal Communications Commission Rules and Regulations Part 18.15J for Radio Frequency (RFI) and Electromagnetic Interference (EMI); be UL approved; and be listed for Class P, thermal protection. Case temperature cannot exceed 25oC temperature rise over 40oC ambient.

Total Harmonic Distortion (THD) - THD must not exceed 33% with the third-harmonic content below 25%.

Lamp Current Crest Factor (CF) - Crest factor is the peak current in relation to the mean (rms) current that is delivered to the fluorescent lamp. A lower CF means smoother current and long lamp life. Crest Factor cannot exceed 1.6.

Ballast warranty must be a minimum of three years for parts and material and must include at least a \$10 allowance for replacement labor for each ballast that fails due to defect in material or workmanship.

Ballasts cannot contain polychlorinated biphenyls (PCBs). Ballasts must operate at sound levels quieter than electromagnetic Class A sound rated ballast levels.

THE OWNER'S RESPONSIBILITIES

To aid inspection and performance verification, the owner should provide a shop drawing showing the number and location of the lighting fixtures and controls. If Pacific/Utah Power notifies the owner that it wishes to monitor some of the lighting circuits, the owner will direct the electrical contractor to not power miscellaneous equipment or convenience outlets from the lighting circuits. The contractor will check the shop drawing to confirm the lighting circuits to be monitored. The owner is required to provide maintenance as specified in the Maintenance Requirements section below.

PERFORMANCE VERIFICATION REQUIREMENTS

Performance verification by Pacific/Utah Power will include a review of floor plans showing locations and power requirements of fixtures. The type and manufacturer of the ballast will be reviewed.

MONITORING REQUIREMENTS

If Pacific/Utah Power elects to monitor some or all of the lighting circuits, the owner will need to direct the electrical contractor to work with Pacific/ Utah Power's monitoring contractor to identify circuits and to ensure that there is adequate space in the circuit breaker panel to attach current transformers or other monitoring equipment as needed.

VERIFICATION OF SAVINGS

The energy savings will be estimated using a computer model to account for the interaction of the lighting and the HVAC systems. The power density per zone in the computer model will be specified to meet the appropriate code baseline for the building type. The proposed design will be modeled by reducing the lighting power density as a result of the new lighting design.

To verify the actual lighting system, Pacific/ Utah Power will perform an audit of the lighting fixtures for each model zone to verify the actual power density installed. Where the actual number of lighting fixtures installed is greater than the number proposed, it will be assumed that the number of fixtures in the baseline also would have been higher, even though that number of fixtures may not have met code requirements.

For example, if in the case study above, the number of fixtures actually installed in the building was 345 instead of the 312 proposed, the baseline would be assumed to have required 345 fixtures also. The 345 baseline fixtures with magnetic ballasts, at 120 watts per fixture, would have had an installed power density of 1.65 watts per square foot.

To account for the owner's decision, the savings will be re-estimated with the as-built model and revised baseline using 345 fixtures. With the 345 fixtures each using 90 watts, the actual lighting power density would be 1.24 watts per square foot and the savings would be \$1550 per year.

MAINTENANCE REQUIREMENT

Electronic ballasts require no special long term service or maintenance. Like most electronic equipment, they usually fail within the first few weeks of operation (a burn in period). In the last few years failure rates have been consistent with magnetic ballast failures.

FOR EXPERT HELP

Energy Resource Center *Tualatin. Oregon* (503) 692-4800 Lighting Design Lab *Seattle. Washington* (206) 325-9711

MANUFACTURERS

Note: This listing of manufacturers should not be construed as complete, nor does it indicate an endorsement of these products by Pacific/Utah Power.

Advance Transformer Co Rosemont, IL	(312) 390-5000
MagneTek, Inc. Huntington, Indiana	(219) 356-7100
Etta Industries, Inc. Boulder, Colorado	(303) 444-2244
Valmont Electric, Inc. Danville, Illinois	(217) 446-4600

WHAT PACIFIC / UTAH POWER PROVIDES

Pacific/Utah Power will assist with developing the design concept, oversee the contractor's precommissioning activities, verify performance of this measure and associated components, and ensure that the building operator understands how to maintain the measure.

EFFICIENT MOTORS

DESCRIPTION

Electric motors are classified by horsepower ratings. Those under one horsepower (HP) are referred to as "fractional" and those above as "integral" horsepower. Motors are usually oversized for the application, thus a load of 4 HP on a 5 HP motor means the motor has an eighty percent load factor (LF = 4/5 = 80 %). The most popular type of motor is the polyphase, squirrel-cage induction motor, because it is low cost, simple yet rugged and requires little maintenance. Basically constant speed devices, these motors are rated for efficiency at full speed and load.

Efficiency of a motor is the ratio of useful power output over electrical power input. Motor label efficiency is specified under NEMA Standard MG1-1983. Most energy efficient motors are general purpose NEMA Design B type with normal starting torque, normal starting current and low slip. Most motor manufacturers now offer energy efficient models which consume 3% to 8% less energy, depending on size and load. The retail cost is usually 20 to 40 percent more than a standard motor.

APPLICATIONS

Energy efficient motors can be used virtually anywhere a standard motor would be used. Manufacturers of packaged equipment containing motors may offer an efficient motor option. In many cases, they can change to efficient motors if provided with enough lead time. Energy efficient motors are best used where loads are constant and well defined. so the motor can operate at or near full load. For variable loads, either a multi-speed motor or an additional "pony" motor is more suitable. A pony motor is a small motor used along side the large motor allowing the large motor to be shut off during periods of low load. If the load continuously varies, an adjustable (variable) speed motor drive is recommended. These are especially good for HVAC (VAV) fan and pump applications.

In applications where high starting torque is required or where motors will be starting and stopping frequently, standard motors may be more appropriate. In addition. energy efficient motors must be carefully applied to loads which are sensitive to speed. Because efficient motors have lower slip, they may run faster, closer to synchronous speed. For example, in retrofitting a centrifugal fan, the efficient motor may run 1% faster increasing both air flow and power requirement by about 3% which could negate the energy savings.

BENEFITS

- Reduced electricity cost
- Reduced heat gain
- Increased operating life over standard motors
- Easy installation during construction
- Widely available
- Operates in higher ambient temperature
- Reduced maintenance

CASE STUDY

A 90% loaded (LF =0.9) five HP motor used to power an exhaust fan for a hotel parking garage is to operates 24 hours a day all year long. From Table 1 below, the standard 5 HP motor would have a nominal base efficiency of 80%. An energy efficient motor of 86.5% is selected at a cost of \$540. The standard motor costs about \$400, so the difference is \$140. Using the equation below, the electrical savings for 8760 hours of operation is 2760 kWh/year or \$138 at \$0.05 per kWh. This application has a one year simple payback.

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DESIGN AND OPERATION GUIDELINES

For calculating energy savings, the baseline motor efficiency is assumed to be as shown in the table. In sizing motors, the motor should be matched to the load required. Constant loads of more than 2000 hours should be considered for high efficiency motors. Pony motors, multi-speed motors or adjustable speed drives for loads with wide variations. If retro fitting motors be sure that the motor controller (starter) is adequate for the new motor.

THE OWNER'S RESPONSIBILITIES

To help with the inspection and performance verification, the owner must provide Pacific/Utah Power with the contractor's submittal specifying the motor type, size and NEMA nominal efficiency rating. The owner is required to provide minimum maintenance as specified in the Maintenance Requirements section below.

PERFORMANCE VERIFICATION REQUIREMENTS

Performance verification by Pacific/Utah Power will include reviewing the contractor's submittal information and O&M manuals for the efficient motors. Pacific/Utah will also review the performance verification short form and conduct field testing of the motor loading and operation. Name plate NEMA nominal efficiency will be documented to assure that the proper motor is installed. Pacific/ Utah also will ensure that the building operators are trained in use and maintenance of the measure.

MONITORING REQUIREMENTS

If Pacific/Utah Power decides to monitor the efficient motors, access to the motor controller wiring is needed to allow the attachment of clamp-on CTs to each phase for testing and monitoring. There also must be visual access to the motor shaft to allow a tachometer reading.

VERIFICATION OF SAVINGS

For constant speed applications where the number of hours of operation per year is known, savings is calculated with the equation below. Because motors are often oversized in application, the actual energy use could be different. To verify energy use in the field, efficient motors will be checked for voltage, current draw and operating speed. If warranted, a check of power factor may also be made. Using the motor performance curves supplied by the manufacturer, the actual HP being applied to the load may be determined.

In applications with seasonal loads such as HVAC equipment, the NEMA (nameplate) efficiency will be incorporated into a computer modeling program. The result will be compared to a similar model with the standard or base efficiency. Baseline efficiencies are presented in Table 1. For the design model, a load factor of 0.9 (LF=.9) will be assumed. After performance verification, the field test results will be used to better estimate the actual load factor.

MAINTENANCE REQUIREMENTS

Maintenance for an energy efficient motor is similar to a standard motor. Some efficient motors with higher manufacturing quality and better materials for bearing may allow a reduced maintenance schedule. Refer to the operations and maintenance manual for the particular motor to determine maintenance needs. Over lubrication is as much a problem as under lubrication. However, due to the lower power requirements and less internal heat generation, the efficient motors last longer than conventional motors. One other advantage for larger motors that are re-wound, is that they can be restored much more closely to their original high efficiency by the re-wind shop.

FOR EXPERT HELP

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Most mechanical and electrical engineers can help select energy efficient motors to meet building load applications.

MANUFACTURERS

Note: This listing of manufacturers should not be construed as complete. nor does it indicate an endorsement of these products by Pacific/Utah Power.

Magnetek St. Louis. Missouri (314) 436-7800
U. S. Electrical Motors (Emerson) St. Louis. Missouri (314) 553-1168
Marathon Electric Manufacturing Corp Wausau. WI (715) 675-3311
W. W. Granger Inc. (Dayton Electric) Chicago, Ilinois (312) 775-4400
Siemens Energy Little Rock, Arkansas (501) 897-4905

WHAT PACIFIC / UTAH POWER PROVIDES

Pacific/Utah Power will assist with developing the design concept, and ensure that the building operator understands how to maintain the measure.

Table 1	•
Baseline Efficiency for Motor Savings	Calculations

Nominal HP	Baseline Eff.	Typical High Eff.
less than 1.5	75%	80%
1.5 to 5	80%	83%
6 to 9	85%	87%
10 to 24	88%	90%
25 to 59	90%	92%
60 to 100	92%	93%
over 100	93%	95%

Equation to calculate electrical energy savings.

Motor Savings = HP X LF X 0.746 X HR X [(100 / BE) - (100 / HE)]

where:

HP - Motor full load horsepower (hp)

HR - Hours of operation per year (hr/yr)

HE - NEMA nominal high efficiency rating, (%).

BE - Baseline efficiency at rated horsepower (from table above) (%).

LF - Load Factor, actual load over rated full load. For loads under 70 % refer

to manufacturers motor performance curves.

EXIT SIGNS

DESCRIPTION

Exit signs are required by building codes and are used to identify safe exit passages in the event of an emergency. Energy saving exit signs use fluorescent lamps, LED lamps, sub-miniature incandescent lamps or electroluminescent lamps. There are also self-luminous exit signs that use no electricity. Some energy saving conversion kits allow retrofitting exit signs to fluorescent.

APPLICATIONS

Energy efficient exit signs can be used anywhere that an older-style incandescent exit signs is used.

BENEFITS

- Long life, from 7,500 hours to 175,000 (self luminous) hours
- Electrical energy use can be reduced by 40% to 100%
- Low maintenance cost due to long life and less labor to replace lamps
- Less chance of fire code violation for having burned out signs

CASE STUDY

A standard incandescent sign uses two, 20-watt bulbs with 5000 hours of life. The more efficient fluorescent exit sign has two, 9-watt compact fluorescent bulbs and ballasts using a total of 22 watts with a bulb life of 10,000 hours. Since the signs burn 24 hours a day, all year long the incandescent signs use 350 kwhs per year and the fluorescent signs use 190 kwhs. During the year 3.5 incandescent bulbs need to be replaced at a cost of \$2.00 per bulb plus \$5.00 labor, for a total annual replacement cost of \$24.50. The fluorescent bulbs cost \$5.00 each but only 1.75 must be replaced each year at a labor cost of \$5.00. The total annual fluorescent replacement cost is \$17.50. As shown below the \$45.00 first cost difference per exit sign is recovered in three years due to the energy and lamp replacement cost savings of \$15.00 per year.

Inc	andescent	Fluorescent	Difference
First Cost Annual Costs	\$50.00	\$95.00	\$45.00
Lamp Replacement Energy Cost @ \$.05/k	\$24.50 Wh \$17.50	\$17.50 \$ 9.50	\$ 7.00 \$ 8.00

DESIGN AND OPERATION GUIDELINES

1. There should be an even light over the entire face of the sign. Fluorescent lamps should use high power factor ballasts for maximum energy conservation. Verify the voltage requirements (120VAC or 277VAC) and make sure the exit sign is compatible with the building voltage.

2. Fluorescent retrofits do not fit in all exit signs. Before selecting a retrofit, make sure it will fit and that it illuminates the sign properly.

3. If the appearance of the sign is important, be sure the project owner/architect reviews the sign. This is especially true of LED signs which have a very distinctive look. Check local codes before installing self-luminous signs, because these signs are controlled by the Nuclear Regulatory Commission and require registration and special disposal methods.

4. Some projects require part of the exit signs to have a battery back-up, which will increase the cost of those signs. Check with local code officials about color and any special requirements for the face of the sign.

5. It is advisable to test an exit sign for visibility in a smoke filled room.

THE OWNER'S RESPONSIBILITIES

To help with the inspection and performance verification. the owner must provide both the contractor's submittal showing the number and power requirement for each type of exit sign installed. and an as-built or shop drawing which shows the location of all exit signs. The owner is required to provide minimum maintenance as specified in the Maintenance Requirements section below.

PERFORMANCE VERIFICATION REQUIREMENTS

Performance verification by Pacific/Utah Power will include an inspection to verify the number and type of exit signs.

MONITORING REQUIREMENTS

None

VERIFICATION OF SAVINGS

Savings will be verified by a hand calculation similar to the case study example for each type of sign. The 40-watt incandescent is the baseline exit sign.

MAINTENANCE REQUIREMENTS

Since exit signs are part of the life safety system of a building, it is necessary to monitor the signs for lamp failure. This should be done regularly.

Efficient fluorescent exit signs require less maintenance and labor than incandescent signs, because the lamps last 2500 to 5000 hours longer. LED exit signs should last in excess of 10 years, and so require very little maintenance and labor. Electroluminescent exit signs do not contain standard lamps but have a sheet that glows when electricity passes through it. Since electroluminescent signs should last more than 8 years, maintenance and labor is extremely low. Self-luminous exit signs require registration with the Federal Government and must be returned to a Federal depository for disposal at the end of life cycle. Self-luminous signs can last in excess of 20 years, so there is no maintenance or labor cost until replacement.

FOR EXPERT HELP

Energy Resource Center Tualatin, OR(503) 692-4800Lighting Design Lab Seattle, WA(206) 325-9711

MANUFACTURERS

Note: This listing of manufacturers should not be construed as complete, nor does it indicate an endorsement of these products by Pacific/Utah Power.

Exide Electronics Raleigh, NC	(919) 872-3020
Lightalarms Electronics Corp. Balwin, NY	(516) 379-1000
Lithonia Control Systems Decatur, GA	(404) 987-4400

WHAT PACIFIC/UTAH POWER PROVIDES

Pacific/Utah Power will assist with developing the design concept, and ensure that the building operator understands how to maintain this measure.

VARIABLE SPEED DRIVES FOR FANS AND PUMPS

FINANSWER

DESCRIPTION

A variable speed drive (VSD) is an electronic device that reduces energy costs through controlling the speed of a motor to match its loading requirements. For commercial building applications VSDs are typically used on AC motors serving fans and pumps.

Variable speed drives can use various methods to control speed, eddy current clutch, direct current and variable frequency converters. The most common is variable frequency. Variable frequency drives (VFDs) are very common because they work well with the standard AC motors found in most commercial applications. A VFD will vary both the frequency and voltage to maintain proper torque. VFDs operate at 85 to 95 percent efficiency over their entire speed range.

As an electronic control system, the VFDs are becoming more cost effective and should be considered on variable loads with motors as small as 5 hp. Smaller motors with very long hours of variable operation also may be cost effective for a VFD under The Energy FinAnswer funding.

Energy and electrical demand savings are achieved because centrifugal fans and pumps are sized to meet the maximum design conditions. However, the system operating conditions often will vary, reducing the flow requirements. VSDs offer the best method for matching pump and fan flow rates to system requirements. This is achieved by adjusting the fan or pump speeds, so that the unit delivers the required flow. Unlike throttling control devices (ie. inlet vanes, dampers, valves, etc.), a VFD closely follows the theoretical curves to achieve maximum energy savings.

See Figure A, Variable Air Volume System and Figure B, Variable Water Volume System.

APPLICATIONS

Fans

- Supply and Return
- Exhaust and Make-up Air
- Cooling Towers and Condenser Units

Pumps

- Chilled Water Circulation
- Hot Water Circulation
- Condenser Water
- Well Water
- Irrigation

Centrifugal fan applications: Variable air volume (VAV) systems are the most common fan application for commercial buildings. VAV systems are most applicable when each zone which the fan serves has differing loads, such as perimeter and core spaces. At constant supply air temperature, a VAV system adjusts the volume of air delivered to each zone. A zone thermostat modulates a damper to vary the flow of conditioned air entering the space. A pressure sensor senses the increasing pressure as the dampers close and relays a signal to the fan VFD. The VFD will slow the fan speed, reducing its output to match the space requirements.

Centrifugal pump applications: The VFD application most often used for centrifugal pumping systems in commercial buildings is to modulate the water volume on chilled and hot water secondary distribution loops. The variable water volume (VWV) system uses VFD to regulate distribution of water flow to match the served load instead of using throttling devices.

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Benefits

- Improve comfort and control
- Maximize fan and pump motor energy savings
- Increase energy savings by reducing the volume of air and water flow
- · Possible KW demand savings if the motor is oversized
- Lower maintenance cost due to soft starts which reduce stress on belts, pulleys, bearings, and seals
- VSDs compensate for over-sized motors
- VFD has a high power factor (typically 95 percent) which can reduce KVAR charges in a large installation
- A VFD can be integrated with an EMS for automatic control and when properly outfitted it will not cause electronic interference with telecommunications or computer equipment
- Improved equipment life through soft starts and lower average current but only if the power is properly conditioned

- VFDs can smoothly restart a rotating motor after a temporary power loss, thus reducing down time
- VFDs provide accurate and smooth process control

CASE STUDY

VFDs of 50 hp or smaller cost \$150-550 per rated horsepower for materials and labor depending on motor size, the type of VFD installation, and the product selected.

Relative energy savings between any two variable devices for controlling air flow can be estimated using Table One below. Since each device has a different shaped part load curve, the table is set-up for a range of load ratios. The actual savings will depend on the number of hours of operation at each load ratio.

Power Input Ratios for Supply Air Flow Control					
Load	Constant	Outlet	Inlet	Eddy	VFD
Ratio	Volume	Damper	Vane	Current	•
0.2	1.1	0.64	0.57	0.04	0.09
0.3	1.1	0.73	0.67	0.09	0.11
0.4	1.1	0.82	0.71	0.16	0.14
0.5	1.1	0.90	0.72	0.26	0.20
0.6	1.1	0.97	0.75	0.39	0.29
0.7	· 1.1	1.05	0.80	0.54	0.43
0.8	1.1	1.11	0.88	0.71	0.62
0.9	1.1	1.17	0.99	0.91	0.85
1.0	1.1	1.22	1.20	1.12	1.16
			•		1

Table One

To find the difference in energy usage between any two control strategies, the difference in power input is taken times the duty cycle of the load. In an existing facility, the duty cycle should be determined by monitoring the load over the hours of typical operation. Using Table Two, the delta energy factor for each load ratio and the total energy factor can be determined.

Example: An office supply air system is being evaluated. The options include using a constant

volume system or a VFD on the fan motor to create a VAV system. The fan motor is sized at 25 horsepower. The building is scheduled to operate about 6000 hours per year. What is the annual fan energy savings in going from a constant volume to a VFD drive system?

The VFD factor accounts for the efficiency of the drive at each load ratio. Since this is a new building and the duty cycle of the fan cannot be measured, a typical duty cycle for a supply air fan in the VAV mode is included in Table Two.

	Power Inpu	Table Tw t Ratios for A	70 Air Flow Conti	rol
Load	Constant		Typical Duty	Energy
Ratio	Volume	VFD	Cycle	Factor
(1)	(2)	(3)	(4)	(2-3)X4
0.2	1.1	0.09	0.00	0.00
0.3	1.1	0.11	0.05	0.05
0.4	1.1 .	0.14	0.16	0.15
0.5	1.1	0.20	0.23	0.21
0.6	1.1	0.29	0.23	0.19
0.7	1.1	0.43	0.20	0.13
0.8	1.1	0.62	0.09	0.04
0.9	1.1	0.85	0.03	0.01
1.0	1.1	1.16	0.01	0.00

To determine the annual savings in kWh per year, the Total Energy Factor is multiplied times the rated horsepower (HP); the hours of operation (Hr); and the conversion from horsepower to kilowatt-hours (0.7457).

Equation One: Annual Savings = Total Energy Factor X 0.7457 X HP X Hr = 0.78 X 0.7457 X 25 X 6000 = 87,250 kWh/year

To determine the cost of a new VFD system, consult local vendors and contractors. However, for a rough cost estimate, use the following Table Three.

Table ThreeRange of Costs for VFD					
Size	Cost	(HP)			
(HP)	Low	High			
5 or less	\$450	\$600			
10	\$300	S450			
25	\$175	\$250			
50	\$125	\$175			
100 or more	\$100	\$150			

For this example the 25 hp VFD is assumed to cost \$200 per hp or \$5,000. At an electricity cost of \$0.05 per kilowatt-hour, the savings of 87,250 kwh/year is \$4.360 per year. The simple pay back for this VFD would be just over one year.

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DESIGN AND OPERATION GUIDELINES

The VSD system design will vary depending on the application. However, it is important to consider that the design is for the whole system not just the drive. This includes design and operation implications for the VSD drive features, motor, pump/ fan. distribution system, sensors, and operating strategy.

1. A primary electrical design factor is to control harmonics and electrical noise that can be created by variable frequency drives (VFD). This is especially critical in buildings that will have other electronic devices such as computers, electronic ballasts, occupancy sensors, EMS systems, etc. The first step is to select VFDs with minimum levels of electrical noise and harmonic distortion. Then properly size and match the VFD to its electrical circuit. For VFDs on larger motors, it may be necessary to install a line inductor (coil) to correct the voltage problem of line notching. If the building or plant distribution system will have power factor correcting capacitors, then the electrical engineer should take precautions to avoid resonant frequencies. If harmonics from the VFD threaten other electronic equipment, the answer may be an electronic filter. Be sure to consult with the design electrical engineer or a qualified vendor about preventing power quality problems.

2. The VFD itself can provide many features, the most important of which is to vary the speed of the motor driving the fan or pump. In designing a VAV or VWV, it is important to check what features are optional or standard. In particular, features such as Auto Restart, Power Quality/Line Reactors, 1-300 second adjustable acceleration ramp times, dynamic/ regenerative breaking, manual bypass and speed control should be considered. Generally, manufacturers of drives specialized for commercial building VAV/VWV applications provide these and many other features as standard. Manufacturers of industrial drives offer these and many other features as optional, so each needs to be explicitly specified.

3. The drive size and cost is based on motor HP, type, and voltage. Often a drive will be able to control two motors based on the same sensor input.

4. The load characteristics are critical for the drive design and operation. HVAC centrifugal fans and pumps are variable torque loads. Some fans present a high inertia load to the drive based on the physical characteristics of the fan. shaft, and motor. High inertia loads require more time to change speeds and so require specific VFD features.

5. In a VAV system, the speed is determined by an input signal from the pressure sensor in the fan supply duct. The pressure sensor detects changes in the system static pressure as each VAV volume control unit opens and closes in response to the zone thermostat. This sensor is typically located two thirds of the way down the main duct.

In a VWV system, the speed is determined from either the return water temperature to the pump or from a differential pressure sensor at the end of each zone piping loop. It is recommended that the differential pressure sensor be used to ensure an adequate flow of water across the coils.

THE OWNER'S RESPONSIBILITIES

To help with the inspection and Performance Verification, the owner must make available shop drawings specifying size and type for each variable speed drive to Pacific/Utah Power's commissioning agent. The owner's contractor must complete Pacific/ Utah Power's commissioning short form tests to verify system operation. In addition, the owner is required to provide maintenance as specified in the Maintenance Requirements section below.

PERFORMANCE VERIFICATION REQUIREMENTS

Performance Verification by Pacific/Utah Power will include defining the short-form tests to be used by the owner's contractor, based on documentation provided by the owner; reviewing the results of those tests: field testing of the controls; and verifying personnel training in the use and maintenance of the system.

MONITORING REQUIREMENTS

Pacific/Utah Power may decide to monitor one or more of the VSD systems. They often come with displays, which indicate the percent of speed, amps, or percent loading, and so the monitoring status can be determined at any time.

If Pacific/Utah Power decides to document longer term seasonal savings in the field, then additional monitoring equipment may be installed for up to two years. A longer term monitoring plan would monitor input power to the VSD, static pressure, and outdoor temperature. Since the HVAC load is weather sensitive. the KW load should vary with outdoor temperature. PC-based monitoring systems would offer the best hour-by-hour monitoring of a VAV/VWV system.

VERIFICATION OF SAVINGS

For applications where savings are seasonal, energy consumption will be verified by calibrating the computer model to the as-built building with the VSD drives installed. The calibrated model will be then used to determine energy usage without the VSDs. The difference will be the verified savings. For simple applications, short term testing of the motor usage profile and the VSD performance will be used to verify the savings using the method demonstrated in the above case study.

MAINTENANCE REQUIREMENTS

Because the VSD does not have moving parts, its maintenance requirements are limited. However, proper start-up commissioning and calibration is critical. The temperature/pressure sensors and volume control dampers are far more susceptible to problems and require periodic inspection and calibration.

FOR EXPERT HELP

Many mechanical and electrical engineers can assist you with the evaluation of the potential savings from VSD applications to fans and pumps.

MANUFACTURERS

Note: This listing of equipment manufacturers should not be construed as complete, nor does it indicate an endorsement of these products by Pacific/ Utah Power.

Graham Company Milwaukee, Wisconsin	(414) 355-8800
Toshiba/Houston Houston, Texas	(713) 466-0277
Allen-Bradley Milwaukie, Wisconsin	(414) 242-8200
Systecon Inc Cincinnati, Ohio	(513) 777-7722
Reliance Electric Cleveland. Ohio	(216) 266-1855

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WHAT PACIFIC/UTAH POWER PROVIDES

Pacific Utah Power will assist with developing the design concept. define and oversee the contractor's short form testing, verify performance of the measure and associated components, and ensure that the building operator understands how to operate and maintain the measure.







OCCUPANCY SENSORS

DESCRIPTION

An occupancy sensor is a device that automatically turns lights off when a person leaves an area or room. Typical wall mounted occupancy sensors directly replace conventional wall switches and are particularly useful in retrofit applications. Ceiling mounted sensors are usually more effective in new applications.

Two technologies are generally used in occupancy sensors: Ultrasonic and Infra-red. Infra-red is the most common.

Ultrasonic sensors use sound waves to detect motion. Movement disrupts the sound waves triggering the device on.

Infra-red sensors use a lensing system to direct infra-red or "body heat" energy onto sensitive cells within the sensor. When a person passes between one area of lens coverage and another, the sensor turns on the lights.

APPLICATIONS

Wall mount occupancy sensors are typically used in areas less than 250 sq. ft. Most wall mount sensors are infra-red due to their low cost and easy application. Ceiling mounted occupancy sensors can be successfully applied in any size room or area. In order to operate, infra-red sensors must be in direct sight of the person they are trying to sense. If the people in the room are blocked from sight of the sensor by partitions or other objects, the sensor will not sense their motion. Infra-red sensors become less sensitive to motion when the person being sensed is more than several feet from the device. Typical applications include: store rooms, copy rooms, closets, mail rooms and small offices.

Ultrasonic sensors fill a space with sound waves, which bend around corners and over objects. This makes them a better choice than infra-red for bathrooms and other areas with partitions. However, ultrasonic sensors may "bleed" out into hallways, bounce off open doors, and sense motion in other areas. Typical applications include large open office areas, bathrooms and rooms where doors are usually closed. Because they are more sensitive to smaller motions at greater distances, they are better than infra-red for large areas.

BENEFITS

- Increased occupant convenience
- Reduces lighting energy costs
- Reduces HVAC loading from fixture heat

CASE STUDY

A wall-mounted occupancy sensor costing \$80 installed turns off five 2-lamp, four-foot fluorescent fixtures of 75 watts each. The sensor keeps the lights off for 10 additional hours per week, saving 95 kWh over the year. At \$.0.05/kWh, this adds up to \$10/per year and a payback of 8 years for the sensor.

DESIGN AND OPERATING GUIDELINES

 Features to look for include: 150° area of vision Adjustable time delay and sensitivity Visible indicator light Manual override 2-year warranty or longer

2. Regardless of the technology used, or how careful the product is applied, there may be times when an occupant is left in the dark by the occupancy sensor. This usually happens when the person is doing sedentary work for extended periods of time. A longer time delay on the sensor will allow a person to be inactive longer without turning off the lights. However, too long of a delay period will sacrifice energy savings. Other actions can compensate for this problem and increase the sensor efficiency:

Place the work area in direct site of the sensor.

Have the person make a slight hand wave periodically to reset the sensor.

3. Occupancy sensors are small electronic devices. which are sensitive to rough handling. They should not be installed while the circuit is energized. since electrical sparks can damage the sensor. Wallmounted. two-wire occupancy sensors have a minimum load requirement of 50W to 150W. Check the manufacturer's specifications. Small areas often have a low total lighting load. If the load is smaller than the minimum load, the sensor will not operate correctly.

THE OWNER'S RESPONSIBILITIES

To help with the inspection and performance verification, the owner must provide Pacific/Utah Power with both the contractor's submittal specifying each type of occupancy sensor and a blue print or shop drawing showing where each sensor is installed. The owner also needs to provide an estimated occupancy schedule for each area. The installer is responsible for carrying out the short form test to verify proper installation. The owner is required to provide maintenance as specified in the Maintenance Requirements section below.

PERFORMANCE VERIFICATION REQUIREMENTS

Performance verification by Pacific/Utah Power will include an inspection to verify proper installation and operation. Sensitivity, visual range and time delay will be checked for proper calibration.

MONITORING REQUIREMENTS

If Pacific/Utah Power elects to monitor the occupancy sensors, access to the electrical circuit is needed to allow the attachment of sensors for monitoring current and hours of operation.

VERIFICATION OF SAVINGS

For design modeling purposes, the occupancy sensors are assumed to reduce the lighting operating hours by 20 percent from normal occupancy hours in areas where applied.

For the as-built building, the connected wattage of lighting and other equipment controlled by the i occupancy sensor will be verified. At Pacific/Utah

Power's option, a simple monitoring system may be installed for several weeks to spot check the actual hours of operation for some sensors. The baseline hours of operation is determined from normal business hours, with the assumption that lights are normally turned off after hours. The difference in hours is multiplied times the connected wattage to determine the actual energy savings. The as-built computer model can handle all the zone lighting and account for the interaction between lighting and HVAC.

MAINTENANCE REQUIREMENTS

Once properly installed and calibrated, occupancy sensors require little or no maintenance. Sensitivity or time delay may need to be adjusted if furniture is moved or the type of activity in the area changes.

FOR EXPERT HELP

Energy Resource Center Tualatin, OR(503) 691-3971Lighting Design Laboratory Seattle, WA(206) 325-9711

MANUFACTURERS LIST

Note: This listing of manufacturers should not be construed as complete, nor does it indicate an endorsement of these products by Pacific/Utah Power.

Hubbell, Inc. Bridgeport, Connecticut	(203) 333-1181
Unenco, Inc. San Leandro, California	(415) 352-1802
The Watt Stopper Santa Clara, California	(408) 988-5331
Novitas, Inc. Santa Monica, California	(213) 452-7890
Lithonia Controls Systems Decatur, GA	. (404) 987-4400

WHAT PACIFIC / UTAH POWER PROVIDES

Pacific/Utah Power will assist with developing the design concept, oversee the short form test, verify performance of the measure and associated components, and ensure that the building operator understands how to operate and maintain the measure.

See the General Lighting fact sheet for further information on code baseline lighting requirements.

EFFICIENT WINDOWS

DESCRIPTION

High efficiency windows decrease heat loss due to conduction. convection. and radiation. The efficiency of these windows is measured by their overall ability to allow heat flow. This is called thermal transmittance, or system heat loss (U_s) .

 U_s includes the effect of windows frames and sashes, as well as the glazing (glass pane). Insulated or simple double pane windows with U_s from 0.78 to 0.49 have the following characteristics:

- Clear glass panes, 1/8-inch thick.
- Sealed air space between 1/4-inch panes.

Windows with U_s less than 0.49 are high efficiency and have the following characteristics:

- Two to three panes of clear glass, 1/8 inch to 1/4 inch thick.
- Panes may have low emissivity (Low-E) coatings or Low-E films between two glass panes. Low E measures work by preventing radiation heat from leaving the space.
- Sealed air space between 1/4 to 1/2 inch panes. Air space can be filled with argon or krypton gas.
- Insulated metal, wood, or vinyl frames and sashes.

Windows currently available from manufacturers are listed below.

Panes	Air Space	Frame S	ystem U _s
2 Clear	1/4" air	Metal	0.78
2 Clear	1/2" air	Metal	0.72
2 Clear	1/4" air	Insulated metal	0.65
2 Clear	1/2" air	Insulated metal	0.59
2 Clear	1/4" air	Wood or vinyl	0.55
2 Clear	1/2" air	Wood or vinyl	0.49
2 Low-E	1/2" air	Insulated metal	0.46
2 Low-E	1/2" argon	Insulated metal	0.42
3 Low-E	1/2" argon	Insulated metal	0.39
2 Low-E	1/2" air	Wood or vinyl	0.37
2 Low-E	1/2" argon	Wood or vinyl	0.33
3 Low-E	1/2" argon	Wood or vinyl	0.31
2 w/2 Low-E	2 7/8° air	Insulated compos	ite 0.14

APPLICATIONS

High efficiency windows can be installed in most commercial buildings. They are particularly costeffective for harsh winter climates that impose severe heating conditions.

Benefits

- Reduced energy cost
- Reduced cooling and heating equipment size
- Reduced heat loss through glass
- Increased comfort due to a reduction in cold areas next to windows
- Reduced condensation on window interiors, resulting in less mold growth, and decreased maintenance costs
- Reduced solar or UV radiation which protects carpet, furniture, etc. from fading
- Enables window area to be increased
- Augmented building aesthetics

CASE STUDY

Project: 5300 sq. ft., Idaho Falls, Idaho 1987.

Description: 400 sq. ft. of Low E windows were installed for \$1100 beyond the original double pane price (\$2.75 per square foot). These windows produced an estimated 3500 kwh/year savings in a heat pump building. With an electric rate of \$ 0.05/kWh, the simple payback is 6.5 years.

DESIGN AND OPERATION GUIDELINES

1. Baseline windows must meet State Code or Model Conservation Standard (MCS) requirements for maximum allowed U_s that is consistent with the overall heat loss coefficient (U_o). U_o is determined from the U-value and area of the windows, doors and wall components.

2. Because windows transmit sunlight into the building, they can add significantly to the cooling load requirements of the building. This can cause

PACIFIC POWER

high cooling loads and increased chiller size. The amount of solar heat gain can be controlled by shading the window with blinds or exterior shades and by specifying window glazing with a low shading coefficient (SC). Low shading coefficients are accomplished with reflective and absorbing coatings on the glass or with films between the glass panes.

3. Except for Oregon code, state codes and MCS do not specify a maximum shading coefficient. Therefore, for this program the baseline shading coefficient is set the same as a 1/4- inch single pane window (SC=0.95), if it would pass the U_o requirement. If double pane windows are required for the U_o test, then a shading coefficient for two 1/4-inch panes (SC=0.82) is used for the baseline.

4. In Oregon, the minimum baseline shading coefficient must be selected based on a real window that just meets the requirement for both the U_o and the OTTV (Overall Thermal Transfer Value).

5. Exterior shading patterns used in conjunction with films and coatings may create a thermal stress on the window and cause premature discoloring or breakage. Consult with an architect, manufacturer or sales representative.

THE OWNER'S RESPONSIBILITIES

To help with the inspection and performance verification the owner must provide Pacific/Utah Power with the contractor's submittal specifying for each window type installed, the technical specifications for U_s and shading coefficient. If available, the owner should provide AMMA 1503 test results for the windows to be installed and a blueprint or shop drawing showing all window types and locations as finally constructed. The owner is required to provide minimum maintenance as specified in the Maintenance Requirements section below.

PERFORMANCE VERIFICATION REQUIREMENTS

Performance verification by Pacific/Utah Power will include reviewing the designer's intended windows and confirming that windows were installed properly.

MONITORING REQUIREMENTS

None

VERIFICATION OF SAVINGS

Savings from high efficiency windows is determined by using a computer model because the savings depend on mechanical systems, internal heat sources, weather, fuel type, and other factors. The computer model is based on the AMMA 1503 tested U_s or data from Table 13, Section 27.16, of the 1989 ASHRAE Fundamentals Handbook. While window performance will not be measured, a simple field test can determine an approximate heat loss and U_s by measuring the inner glass temperature and the outdoor air temperature. The presence of a Low-E coating can be verified by infra-red scanning.

MAINTENANCE REQUIREMENTS

Window films and coatings, which are applied to the outside surfaces of the windows, may be sensitive to cleaning solvents or methods. Window cleaning personnel should be instructed on cleaning procedures for these type of windows. They also should be instructed on proper replacement procedures for broken windows.

FOR EXPERT HELP

Most architects can help select appropriate windows for aesthetic purposes. To determine energy efficiency, you should consult an energy consultant.

MANUFACTURERS

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Note: This listing of manufacturers should not be construed as complete, nor does it indicate an endorsement of these products by Pacific/Utah Power.

Window Frames and Units	
Andersen Corp. Bayport, Minnesota	(612) 439-5150
Peerless Kansas City, Kansas	(913) 432-2232
Vinyl Therms, Inc Minneapolis, MN	(612) 884-4329
Visionwall Technologies	(403) 451-4000
Insulated Glass Panels	
Guardian Industries Carleton, Michigan	(313) 654-6264
Monsanto Company St. Louis, Missouri	(314) 694-1000

WHAT PACIFIC / UTAH POWER PROVIDES

Pacific/Utah Power will assist with developing the design concept. oversee the contractor's precommissioning activities, verify performance of this measure and associated components, and ensure that the building operator understands how to maintain the measure.

: :	•	Above 3 Stories	3 Stories or less
Oregon ¹ :	U,	0.29 - 0.38	0.23 - 0.31
•	OTTV	34.0 - 35.1	34.0 - 35.1
Washington ² :	Zone 1 (U)	0.30	0.25
.	Zone 2 (U)	0.25	0.20
MCS ³ :	U,	0.30	0.25
(Idaho & Montana)	•	•	
California ⁴	(See Building Energy Efficiency Standards)		
Utah ⁵	U,	0.29 - 0.38	0.23 - 0.31
· ·	OTTV	32.6 - 34.0	32.6 - 34.0

¹ Structural Specialty Code, 1990 Edition, Table 53-A, Design and Compliance Criteria, p. 786.22.

² Washington State Energy Code, WAC 51-11, Table 5-2, Component Requirement for Other Than Group R Occupancies. Effective 7/1/91.

⁴ Northwest Energy Code, June 1987, Table 5-2, Component Requirement Other Than Group R-1 and R-3 Occupancies.

¹Building Energy Efficiency Standards, July 1988, California Energy Commission.

⁵ Utah, Model Energy Code, 1990 Amendments to 1989 Edition, Council of American Building Officials, Table No. 502.3.1 (Figures 4 & 9).

Table 2General equation to determine overall heat loss coefficient (U,)

 $U_{o} = [U_{w} * A_{w} + U_{s} * A_{s} + U_{d} * A_{d}]/A_{o}$

Where:

 $U_w = Average thermal transmittance of opaque wall.$

 $A_w = Opaque area of exterior walls above grade.$

U_e = The thermal transmittance of the glazing system.

 $A_{t} =$ The glazing area, including sash.

 $U_d =$ The thermal transmittance of the door.

 $A_d =$ The door area.

 $U_o =$ The overall heat loss coefficient

 $A_o =$ The gross wall area.

			Table 3 Overall Thermal Transfer Value. Oregon Code Only
UTTV :	U.,,,,	A	$TDEQ_{1} + (A_{r} * SF * SC_{1} + (Uf * A_{r} * T))$
			A.
Where:	•		
	OTTV	=	Overall thermal transfer value.
	U _{wail}	=	The thermal transmittance of all elements of the opaque wall area.
		•	Btu/h./ft.²/°F.
	A_{wall}	=	Opaque wall area, ft. ²
	A	=	Fenestration area, ft. ²
	TDEQ	=	Value given in Table 53-A. Oregon Code. or Figure No. 10. Chapter 7 Utah Model Code.
	SC	=	Shading coefficient of the fenestration
	A	=	Gross area of exterior walls. ft. ²
	Т	=	Temperature difference between exterior and interior design conditions, "F.
	SF	=	Solar factor value given Btu/h/ft.2 (See Table 53-A, Oregon Code, or Figure No. 11,
			Chapter 7 Utah Model Code.)



Fig. A - Efficient Windows

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WALL INSULATION

DESCRIPTION

Insulation effectiveness is measured by its resistance to heat flow. or R-value. Wall insulation levels from R-11 to R-30 can be achieved using fiberglass batt insulation. rigid foam board insulation. or combination of both. The choice of insulation depends on the type of wall construction and the required Rvalue.

A typical light-frame wall constructed of wood or metal studs can be insulated with fiberglass batt and rigid foam board sheathing. If metal studs are used, the insulation thickness must be increased to achieve the same overall R-value. For example, ASHRAE 90.1 suggests using a multiplier of 0.50 for determining the overall R-value if an R-11 batt is installed in a wall with 2 X 4 metal studs 16 inches on center. Heavyweight concrete or masonry block walls can use fiberglass batt or rigid foam board. Wall insulation materials are listed below.

Insulation Material	R-value (per inch)	Available Thickness
Rigid Foam Board	•	
Polyisocyanurate	R-7.2	1/2" Increments
Extruded polystyrene	R-5.0	1/2" Increments
Expanded polystyrene	R-3.8	1/2" Increments
Batt		
Fiberglass batt	R-3.4	3-1/2",6",9",12"
Compressed batt	R-4.0	3-1/2",6",9",12"

Combining layers of insulation materials increases the number of wall construction techniques that can be used. The R-value of combined materials is the sum of the R-values of each material. For example, a 3-1/2 inch fiberglass batt (R-11) and 1 inch of expanded polystyrene (R-3.8) has a total Rvalue of 14.8.

APPLICATIONS

Wall insulation can be applied to all opaque wall areas in commercial buildings. It comes with or without facing material.

Interior Installation: Batt insulation is installed within the stud cavities. If the insulation has facing material, the facing is overlapped and stapled to the interior frame surface to provide a vapor barrier. If the insulation is unfaced, a vapor barrier should be applied to the inside surface after installing the insulation.

Rigid foam board insulation can be installed on the interior or exterior surface of a wall. Interior installation is common for concrete masonry walls above grade and concrete basement walls (below grade). Rigid foam board on the wall's interior creates a continuous vapor barrier. Interior installation may require nailing strips at rough openings and corners to allow interior finishing material to be installed. Electrical boxes may need to be deeper than normal if wiring is concealed within the wall.

Exterior Installation: When installing insulation to below grade exterior walls, the material must be suitable for below grade use. It should resist moisture absorption from the ground and damage from freezing or thawing. Therefore, extruded polystyrene (blue or pink) is recommended over the less expensive expanded polystyrene. Exterior installation of rigid foam board requires wood or steel structural bracing. The board may require wooden nailing strips around rough openings, corners, and door thresholds. Joints and seams should be unsealed so water vapor can escape.

Exterior installation makes it possible for walls to be used for thermal storage. Concrete or masonry walls will store and release energy slowly, lessening peak heating and cooling loads during the day. However, if a winter night setback is used, thermal storage walls may cause the morning warmup to take longer and the walls to feel cold to the occupants. This is especially true following a weekend or holiday period.

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BENEFITS

- Reduces heat loss during winter
- Reduces heat gain during summer
- Reduces air and moisture leakage through walls
- Allows concrete/masonry walls to be used for thermal storage.
- Easily installed during wall construction.

CASE STUDY

Project: 25.000-sq. ft. Office/Warehouse/ Assembly Building

Description: This building was modeled with both a gas and an electric resistance heating system. Oregon Code for the wall insulation was approximately R-7. The proposed building achieved an R-11 by adding more insulation. The additional insulation cost \$5,600 and saved about 16,000 kWh/year in the electric resistance building. For the same building with gas heating, the increased wall insulation saved only 1600 kWh of electricity for fans and air conditioning but saved 1300 therms of natural gas.

DESIGN AND OPERATION GUIDELINES

Baseline insulation must meet State Code or Model Conservation Standard (MCS) requirements for maximum overall heat loss coefficient (U_o) . U_o is determined from the U-value and area of the windows, doors, and wall components. (See Tables) The insulation material also must meet fire code requirements and be UL approved. If the wall is underground or in a very wet environment, an insulation that does not absorb moisture should be used.

THE OWNER'S RESPONSIBILITIES

To aid with the inspection and performance verification, the owner must provide Pacific/Utah Power with the contractor's submittal specifying the insulation product type, area and thickness or Rvalue. The owner also needs to notify Pacific/Utah Power when it is appropriate to inspect insulation before enclosure. The owner is required to provide minimum maintence as specified in the Maintenance Requirements section below.

PERFORMANCE VERIFICATION REQUIREMENTS

Performance verification by Pacific/Utah Power includes inspecting to assure proper installation. appropriate insulation thickness and vapor barrier. and to confirm proper R-value of the product.

MONITORING REQUIREMENTS

None

VERIFICATION OF SAVINGS

Savings from insulation is determined from a computer model, because it depends on climate zone, heating and cooling system type, type of heating fuel, and the starting level of code insulation. It generally is not possible to measure insulation performance in the field; however, infrared scanning can identify thermal leaks caused by poor installation or by insulation that has absorbed high levels of moisture.

MAINTENANCE REQUIREMENTS

Generally insulation does not require maintenance. However, if the moisture barrier fails and the insulation gets wet it may need to be replaced. The vapor barrier must be properly sealed.

MANUFACTURERS

Note: This listing of manufacturers should not be construed as complete, nor does it indicate an endorsement of these products by Pacific/Utah Power.

Fiberglass Batt	• •
Manville Denver, CO	(800) 654-3103
Owens-Corning Fiberglass Toledo. OH	(419) 248-8000
Rigid Foam Board	
Celotex Corporation Tampa, Florida	(813) 873-1700
Dow Chemical Co. Midland. Michigan	(517) 636-1000

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FLUORESCENT LAMPS

DESCRIPTION

There is a wide variety of four-foot fluorescent lamps on the market today. This allows lighting designers to select lamps that will provide color quality and visual performance needed for any job. Standard four-foot fluorescent lamps use 40 watts when powered with old, standard magnetic ballasts. The National Appliance Energy Conservation Amendments of 1988 to the Energy Policy and Conservation Act specifies that the fluorescent lamps must meet a minimum lumens per watt.

There are three general categories of four-foot lamps that are more efficient than the old standard 40 watt: energy saving lamps, energy saving plus lamps, and T-8 lamps. Energy saving lamps range from 34 to 32 watts per lamp.

The energy saving, 34-watt lamp is the standard 1-1/2" diameter lamp that has been in use for years. It uses the designation T-12, for 12- eighths of an inch in diameter. When a T-12 lamp is used with standard energy saving magnetic ballasts, the total light output is reduced compared to the old 40-watt lamp. Using an electronic ballast with the 34-watt lamp can increase the light output.

The energy saving plus, 32-watt lamp is the same as the T-12 energy saver lamp, but is has a "cut-out" that turns the cathode heater filament off after the lamp is operating at full temperature. This feature saves over two watts per lamp with only a slight reduction in light output. While suitable for retrofit, the lamps are not recommended for use with electronic ballasts. There is also a one to two-minute re-strike required if the lamp is extinguished and then immediately restarted. While too new to be fully tested, the energy saving plus lamp is expected to have a life about 25 percent less than the 34-watt energy saver.

The 32-watt T-8 lamp is now very popular with lighting designers, because of their improved optical characteristics and high color rendering. These T-8, one-inch diameter lamps should be used in new construction, because older ballasts cannot supply the proper operating current. Ballasts rated to operate T-8 lamps are only slightly more expensive. In combination with electronic ballasts, T-8 lamps can be step and continuously dimmed. They have higher light output and superior color rendering. In large quantities, the T-8 lamps are the same cost as high-color rendering, energy efficient 34-watt lamps.

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APPLICATIONS

The energy saving (34-watt) and energy saving plus (32-watt) lamps are designed for retrofit. They will reduce the light output, but maintain even distribution.

The T-8 lamps (32-watt) are for use in new construction or when light fixtures are replaced. In combination with electronic ballasts and high efficiency parabolic reflecting lenses, the T-8 lamps can produce more light with three lamps and one ballast than four, energy saving lamps with two ballasts in an acrylic lens fixture.

BENEFITS

- Reduced electric energy consumption
- Reduced heat output from lighting fixtures
- Better color rendering
- Longer lamp life than incandescent

CASE STUDY

Energy saving lamps have a small cost premium over standard 40-watt tubes. For comparison, the following prices were given by one major U.S. manufacturer for quantities of 30.

Standard 40 Watt	\$ 1.68	0.0 %
Energy Saver 34 Watt	\$ 2.32	38.1 %
Energy Saver Plus 32 Watt	\$ 2.56	52.4 %
Octron T-8 32 Watt	\$ 2.77	64.9 %

It is important to remember that over the total life of a lamp (20,000 hours), the initial cost of the

lamp is only 4 to 8 percent of its total cost at \$.05 per kilowatt-hour.

Based on light output, three T-8 lamps are used instead of four energy saver 34 watt lamps. The price of four energy savers is \$9.28, but the price of three T-8 lamps is \$8.31. The T-8 lamps are less expensive and save 40 watts. The energy cost savings is \$40 over the life of the lamps.

If one T-8 lamp is compared to one energy saver, the first cost difference is \$0.45 and the savings is two watts. At \$0.05 per kilowatt-hour, the energy cost savings is \$2.00 over 20,000 hours.

DESIGN AND OPERATION GUIDELINES

1. The average life of a fluorescent lamp is 20,000 hours; however, this is influenced by the length of time the lamp is turned on. If a lamp is turned on and off many times during a day the life may be reduced.

2. In larger buildings, it is recommended that all lamps be changed at the same time. As a lamp ages, it produces less light, and when new lamps are mixed with older lamps, the lighting pattern becomes spotty. Because of labor costs, group re-lamping is also more economical.

3. The color of light produced by a lamp determines how rich and vibrant an environment's color appears. Because the range of color available in lamps is so great, several different color lamps should be tested in a space or in lighting lab before buying.

4. If the lamp is used outdoors, a cold weather ballast is needed for the lamp to operate properly.

THE OWNER'S RESPONSIBILITIES

The owner should establish a maintenance schedule that lists when group re-lamping will occur based on hours used. Every four to five years is common. For reorder purposes, the wattage and color of the fluorescent lamps should be noted. To aid performance verification the owner must provide a list of fixture types, number and location. The owner is required to provide maintenance as specified in the Maintenance Requirements section below.

PERFORMANCE VERIFICATION REQUIREMENTS

Performance verification by Pacific/Utah Power will include a review of floor plans showing locations and power requirements of fixtures. The type of lamp, color and wattage will be reviewed.

MONITORING REQUIREMENTS

No monitoring of fluorescent lamps is required. Refer to the general lighting and electronic ballast fact sheets.

VERIFICATION OF SAVINGS

Refer to the general lighting and electronic ballast fact sheets.

MAINTENANCE REQUIREMENTS

Maintenance labor is the same as for standard fluorescent lamps although replacement cost is higher.

FOR EXPERT HELP

Energy Resource Center Tualatin, OR(503) 692-4800Lighting Design Lab Seattle, WA(206) 325-9711

MANUFACTURERS

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Note: This listing of manufacturers should not be construed as complete, nor does it indicate an endorsement of these products by Pacific/Utah Power.

General Electric Cleveland, Ohio	(216) 266-3900
Sylvania <i>West Seneca, New York</i>	(716) 668-8001
Philips Somerset, New Jersey	(800) 631-1259

WHAT PACIFIC / UTAH POWER PROVIDES

Pacific/Utah Power will assist with developing the design concept, and ensure that the building operator understands how to maintain the measure.

EXHIBIT C

ENERGY SERVICE CHARGE

1. <u>Calculation of Energy Service Charge</u>. The Energy Service Charge shall be calculated as follows:

180 monthly payments of \$2,515.24 per month based on \$293,672 of conservation payments at an interest rate of 6.23%.

2. <u>Term of Energy Service Charge</u>. The term of the Energy Charge shall be 180 months.

EXHIBIT D

ASSIGNMENT OF ENERGY SERVICES CONTRACT

This assignment is made and entered into as of ___, 19___ by and between _____ (Assignee). (Assignor) and

Assignor hereby transfers, assigns and delivers to 1. Assignee, and Assignee accepts, all of Assignor's rights, title, interest and obligations under the Energy Services and Pacific Power & (Energy Services Contract between Light Company, dated Contract).

Assignee hereby accepts the within assignment and 2. agrees to perform, pay or discharge all past, present and future obligations of Assignor which under the Energy Services Contract will accrue after the date of this Agreement. If there is more than one Assignee, each Assignee shall be jointly and severally liable for all such Energy Services Contract obligations.

Assignee represents that it is the arms-length, bona 3. fide transferee for value of the entire real property referenced in the Energy Services Contract.

Pacific Power & Light Company is an intended third 4. party beneficiary as to this Assignment.

5. This Assignment shall be interpreted, construed and enforced in accordance with the laws of the State of Oregon. The use of the singular in this Assignment shall include the plural and use of the plural shall include the singular.

Assignor(s)

Assignee(s)

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EXHIBIT E MEMORANDUM OF AGREEMENT AFFECTING_REAL_PROPERTY

DATED AS OF: November 23, 1992

BETWEEN:

Metropolitan Services District 2000 SW 1st Avenue Portland, OR 97201-5398

AND:

Pacific Power & Light Company 920 SW Sixth Avenue, 440 PFFC Portland, Oregon 97204

PP&L

Owner

Owner is the owner of that certain real property in Portland, Multnomah County, Oregon, commonly known as Metro Services District Headquarters and as more particularly described on attached Exhibit F (the "Property"). PP&L is a duly authorized public utility that provides electrical service in the area in which the Property is located.

Owner and PP&L are parties to that certain Energy Services Contract dated November 23, 1992 (the "Agreement"), the terms and conditions of which are hereby incorporated by this reference and made part of this Memorandum of Agreement Affecting Real Property as if completely set forth herein, pursuant to which PP&L has agreed to provide conservation assistance as described in the Agreement for the purpose of improving the Property through weatherizing and making more energy efficient the structures, fixtures and facilities on the Property. The Agreement provides in part for Owner, Owner's successor or other persons occupying the Property to pay additional charges for conservation assistance provided or to be provided by PP&L to the Property, as authorized by Energy Services Tariff Schedule 120.

The sole purpose of this Memorandum of Agreement is to place on notice any person or persons who may intend to acquire the Property or any interest in the Property that Owner is a party to the Energy Services Contract, and that any person acquiring the Property or any interest in the Property, which intends to receive electrical service from PP&L at the Property, will become obligated to pay the charges when they become due under the Agreement. Neither the Agreement nor this Memorandum of Agreement shall create any lien of any type against the Property.

The Agreement also provides that PP&L may discontinue any and all such services, including the provision of electricity to the Property, if Owner, Owner's successor or other person occupying the Property ceases or fails to make such additional payments as scheduled.

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The provisions of the Agreement shall bind Owner and each successor owner of the Property or assignee of Owner's interest in the Energy Service Contract and shall bind and inure to the benefit of PP&L and its successors and assigns.

All persons acquiring or intending to acquire any interest in or to the Property during the effective period of this Memorandum should direct a written inquiry to PP&L at the following address:

> Pacific Power & Light Company 920 SW Sixth Avenue, 440 PFFC Portland, OR 97204 ATTN: Energy FinAnswer Manager

All such inquiries must include the name of the owner and street address of the Property and be signed by such owner authorizing release of such information to the person making the request.

Owner

PacifiCorp

Sy:	Ву:
e:	Title:
County of) ss.	County of) ss.
This instrument was acknowledged before me this day of, 1992, by	This instrument was acknowledged before me this day of, 1992, by of PacifiCorp, an Oregon
· · · · · · · · · · · · · · · · · · ·	. corporación.
(Notary signature)	(Notary Signature)
NOTARY PUBLIC FOR OREGON My Commission Expires:	NOTARY PUBLIC FOR OREGON

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EXHIBIT F

(Legal Description)

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