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October 6, 2006

BY E-MAIL AND FIRST CLASS MAIL

PUBLIC UTILITY COMMISSION
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Re: **Docket UE 180:** In the Matter of PGE's Request for a General Rate Revision

Dear Filing Center:

Enclosed are an original and 5 copies of the City of Portland's, City of Gresham's and League of Oregon Cities' Surrebuttal Testimony and Accompanying Exhibits in the above-referenced matter. Service copies have been sent by e-mail to the attached Service List.

Very truly yours,

Benjamin Walters
Senior Deputy City Attorney

BW:lw
Enclosures
cc: Service List (by e-mail)

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Witnesses: Richard Gray, John Harris, Andrea Fogue, John Heberling, and Lon L. Peters

BEFORE THE PUBLIC UTILITY COMMISSION
OF THE STATE OF OREGON

CITY OF PORTLAND (COP)
CITY OF GRESHAM (COG)
LEAGUE OF OREGON CITIES (LOC)

**Surrebuttal Testimony of Richard Gray, John Harris,
Andrea Fogue, John Heberling and Lon L. Peters**

on

**Service Restoration Priority
Schedule 91 (Street and Highway Lighting) Charges**

October 2006

1 **Q. PLEASE IDENTIFY YOURSELVES.**

2

3 A. (by Mr. Gray) My name is Richard Gray. I am currently employed as a Contract
4 Administrator and Senior Management Analyst with the Office of Transportation for the
5 City of Portland (“PDOT”). My business address is 1120 S.W. 5th Avenue, Room 800,
6 Portland, Oregon 97204. My qualifications are listed in COP/305. I have previously
7 submitted direct testimony in this docket, identified as COP/COG/LOC/200.

8 (by Mr. Harris) My name is John S. Harris. I am employed as the Transportation
9 and Streetlighting Superintendent for the City of Gresham, Department of Environmental
10 Services. My business address is 2123 SE Hogan Road, Gresham, Oregon 97080. My
11 qualifications are listed in COP/COG/LOC/201. I have previously submitted direct
12 testimony in this docket, identified as COP/COG/LOC/200.

13 (by Ms. Fogue) My name is Andrea Fogue. I am employed by the League of
14 Oregon Cities as a Senior Staff Associate. My business address is 1201 Court Street NE,
15 Suite 200, Salem, Oregon 97301. My qualifications are listed in LOC/100. I have
16 previously submitted direct testimony in this docket, identified as COP/COG/LOC/200.

17 (by Mr. Heberling) My name is John Heberling. I am a Vice President at D.
18 Hittle & Associates, Inc. My business address is 19101 36th Avenue West, Suite 209,
19 Lynnwood, Washington 98036. My qualifications are listed in LOC/101. I have
20 previously submitted direct testimony in this docket, identified as COP/COG/LOC/200.

21 (by Mr. Peters) My name is Lon L. Peters. My business address is 607 S.E.
22 Manchester Place, Portland, Oregon 97202. I am the President of Northwest Economic
23 Research, Inc. My qualifications are listed in COP/303. I have previously submitted
24 direct testimony in this docket, identified as COP/COG/LOC/200.

1 **Q. ON WHOSE BEHALF ARE YOU SPONSORING THIS TESTIMONY?**

2

3 A. This testimony is jointly sponsored by the City of Portland (“Portland”), the City of
4 Gresham (“Gresham”), and the League of Oregon Cities (“League”). For simplicity, these
5 parties are collectively referred to herein as the “Cities”.

6 **Q. WHAT IS THE PURPOSE OF THIS SURREBUTTAL TESTIMONY?**

7

8 A. In this testimony we respond to those portions of PGE’s rebuttal testimony (PGE/2200)
9 that address the issues of service restoration priority and proposed streetlight costs.

10 **I. RESTORATION PRIORITY**

11

12 **Q. PLEASE SUMMARIZE THE CITIES’ POSITION ON RESTORATION**
13 **PRIORITY.**

14

15 A. In direct testimony, the Cities argued that PGE’s existing rules regarding service
16 restoration priority (known as PGE’s “Rule C”) should require closer coordination with Oregon
17 cities regarding restoration of service to accounts designated as “critical” by the cities PGE
18 serves. See COP/COG/LOC/200, Gray-Harris-Fogue-Heberling-Peters at 5. Specifically, the
19 Cities ask that PGE (1) be required to work with its municipal customers to develop, maintain
20 and regularly update lists of critical accounts for each city; (2) for each city it serves designate a
21 specific PGE representative to maintain the critical accounts list and coordinate emergency
22 response efforts; and (3) establish mechanisms to ensure that PGE’s representatives and
23 appropriate emergency response personnel have the means to communicate in times of
24 emergency.

25 **Q. PLEASE SUMMARIZE PGE’S RESPONSE TO THE CITIES’ PROPOSAL ON**
26 **SERVICE RESTORATION PRIORITY.**

27

28 In rebuttal testimony, PGE’s witnesses state that “[a]bsent the Cities providing specific
29 language changes within Rule C, and identifying specific lapses in our current service to the

1 cities, we conclude that no changes in our service restoration policy are necessary.” PGE/2000,
2 Kuns-Cody at 4. PGE states that the Cities “did not propose specific modifications to the Rule
3 C language” and therefore it is difficult for PGE to determine what needs to be changed. *Id.*
4 PGE states that “our tariff needs no modification” because “we list ‘Protect Public Safety’ as the
5 top priority.” PGE also asserts that its “Key Customer Account Managers currently provide the
6 services that the Cities request.”

7 **Q. DOES PGE ADDRESS ALL OF THE SERVICE RESTORATION POLICY**
8 **CHANGES RECOMMENDED BY THE CITIES IN THEIR DIRECT**
9 **TESTIMONY?**

10
11 A. No. PGE’s summary of the Cities’ position asserts that the Cities request that PGE’s
12 existing policy be modified in only two ways: (1) listing “Protecting Public Safety” as the top
13 priority; and (2) requiring PGE to (i) maintain a specific list of “critical accounts” within each
14 City it serves, and (ii) designate a PGE representative who is available to each individual City 24
15 hours a day and who has a current list of critical service facilities and City staff names and
16 cell/pager numbers. PGE’s summary does not address a number of other issues raised by the
17 Cities, including for example the fact that Rule C refers to “critical Customers” as examples of
18 high priority accounts, rather than focusing on the function-specific facilities and infrastructure
19 being served by a specific account, and that Rule C does not require or specify the means for
20 specific City/utility communications regarding restoration of service to critical accounts.

21 **Q. HAS PGE PROVIDED ANY EVIDENCE OF WHAT ACTIONS IT IS TAKING**
22 **TO IMPLEMENT ITS EXISTING RESTORATION POLICIES?**

23
24 A. Yes. In response to discovery requests submitted by the City of Portland, PGE provided
25 samples of form letters from Account Managers to customers and contact lists for critical
26 facilities. *See* COP/COG/LOC-251, which is a copy of PGE’s response to COP/PGE-082
27 including the non-confidential “Confidential Information” by PGE. According to PGE’s

1 description of its practices, as set forth in COP/COG/LOC-251, the company is capable of taking
2 the steps needed to meet the Cities' request. However, this evidence does not (as PGE implies)
3 demonstrate that PGE's existing policies and practices concerning restoration priority cover all
4 accounts considered critical by all of the cities that PGE serves. To the contrary, the Cities have
5 discovered that a number of cities have no information from PGE regarding protocols for
6 restoration of service to critical accounts, and those that may have a specific PGE representative
7 to contact may not have the means to do so (e.g., cellular/pager number, contact name, etc.)
8 when it will be most needed.

9 **Q. WHAT EVIDENCE DO THE CITIES HAVE THAT PGE'S EXISTING POLICY**
10 **MAY NOT PROVE ADEQUATE IN A TIME OF EMERGENCY?**

11
12 A. In response to PGE's claim that currently its Key Customer Account Managers serve as a
13 direct link to PGE for the cities' critical accounts, and are accessible via cell phone, pager or
14 another form of communication reliable in a time of emergency, the League conducted an
15 informal survey of its PGE-served member cities. Specifically, the League posed the following
16 question:

17 Has PGE provided your city with the specific contact information (names, cell/pager
18 numbers, etc.) of PGE employees available to you 24 hours a day to respond to an
19 emergency? Do you have something like the attached sample emergency contact card
20 PGE provided to City of Portland?

21
22 (COP/COG/LOC-252, referenced below, is a copy of the sample referenced in the survey
23 question.) Of the 52 cities that receive service from PGE, the League was able to present the
24 question to 48 (92.3%). The League received responses from 26 of those 48 cities (53%). Of the
25 responses received, sixty two percent (62%) of the Cities stated that they have not been provided
26 the specific contact information described in COP/COG/LOC-252. In the case of the City of
27 Gresham, only one critical account has the information that we believe is necessary.

1 **Q. WHAT DO YOU RECOMMEND?**

2

3 A. We recommend that PGE be required to include language in Rule C that requires the
4 following:

5 (1) municipal customers directly responsible for public safety or emergency response
6 functions will provide PGE with lists of accounts they deem critical to public welfare and safety,
7 and the name and 24-hour contact information (cell phone or pager or 24x7 dispatch center
8 phone number) for city personnel assigned to each account for restoration purposes;

9 (2) PGE will provide city customers with the name(s) of the individual(s) at PGE
10 responsible for coordinating restoration for each critical account, and 24-hour contact
11 information (cell phone or pager) for such individuals;

12 (3) PGE's designated representative(s) will be made accessible in a manner that will
13 cover both planned and unplanned outages and be sufficient to cover a number of contingencies;

14 (4) both PGE and the cities have a continuing responsibility to notify the other if there are
15 any changes in critical account or contact information; and

16 (5) PGE will meet with the League and any interested customer for the purposes of
17 developing protocols and procedures sufficient to ensure that PGE and its city customers each
18 can continue to meet their obligations to update and maintain the accuracy of all information
19 required or intended to be exchanged.

20 An example of the type of contact information referred to herein (a PGE business card with
21 contact information) is provided here as COP/COG/LOC-252. The Cities believe that these
22 procedures, if applied to all critical accounts as identified by all PGE-served cities, will be
23 sufficient to meet the Cities' concerns about restoration of electrical service in the event of a
24 widespread outage.

1 **II. STREETLIGHT MAINTENANCE COSTS**

2
3 **Q. WHAT IS PGE'S OVERALL POSITION IN REBUTTAL ON**
4 **STREETLIGHT MAINTENANCE COSTS?**

5
6 A. PGE in general rejects the specific proposals of the Cities on streetlight
7 maintenance costs and proposes instead that maintenance costs should be subject to the
8 overall 2.7 percent reduction that was part of an earlier stipulation in this docket. See
9 PGE/2200, Kuns-Cody at 7.

10 **Q. DO YOU AGREE WITH THIS PROPOSAL?**

11
12 A. No. PGE has not adequately documented its assertions in rebuttal testimony on
13 the issues raised by the Cities in their direct case.

14 **Q. WHAT IS PGE'S POSITION REGARDING THE LEVEL OF THE**
15 **PROPOSED INCREASE IN STREETLIGHT MAINTENANCE COSTS?**

16
17 A. PGE has argued that the Cities have overstated the proposed increase, because we
18 compared the proposed maintenance costs for 2007 against the stipulated maintenance
19 costs in UE 115, rather than against the actual maintenance costs in 2002. See
20 PGE/2200, Kuns-Cody at 7.

21 **Q. DID THE CITIES STIPULATE TO STREETLIGHT MAINTENANCE**
22 **COSTS IN UE 115?**

23
24 A. Yes, but only in part. In UE 115, the City of Portland, the League of Oregon
25 Cities, and PGE entered into a stipulation that covered a number of issues. With regard
26 to streetlight maintenance costs, three subjects were addressed: group relamping, Power
27 Door replacements, and pole replacements. Group relamping is considered "preventative
28 maintenance", whereas replacements are considered "corrective maintenance". In the
29 current docket, the Cities have challenged PGE's assumptions regarding corrective
30 maintenance for facilities other than Power Doors and poles. PGE has also stated that the

1 UE 115 stipulated streetlight maintenance documentation was provided in the workpapers
2 for PGE/2200. See COP/COG/LOC-253, which is a copy of PGE's response to
3 COP/PGE-078. However, to our knowledge, PGE has not submitted any workpapers for
4 PGE/2200. Adjustments to streetlight maintenance costs or budgets may have been
5 required to comply with the Commission's order in UE 115, but with the exceptions
6 noted above were not required to comply with the more limited terms of the stipulation
7 entered into by Portland and the League. In any event, the Cities are advancing different
8 arguments in UE 180.

9 **Q. WHAT IS PGE'S RESPONSE TO THE CITIES' ARGUMENT**
10 **REGARDING REPAIR FREQUENCIES?**

11
12 A. PGE argues that the Cities' recommendation for lower repair frequencies should
13 be rejected because the investment portion of the streetlight revenue requirement is
14 falling, not increasing. See PGE/2200, Kuns-Cody at 10-11.

15 **Q. PLEASE EVALUATE THIS ARGUMENT.**

16 A. PGE's argument is misleading at best. First, the important fact to observe is not
17 the share of the streetlight revenue requirement represented by recovery of investment,
18 but rather the total investment in the streetlight system. The investment share of the
19 streetlight revenue requirement could be falling for a variety of reasons, including a
20 decline in depreciation and a lower requested return on equity. In fact, PGE states that
21 "[t]he defining element or factor in causing the decline in revenue requirements can be
22 associated with the depreciation that has occurred since the 2002 test period." (Emphasis
23 added.) See COP/COG/LOC-254 and -254A, which is a copy of PGE's response to
24 COP/PGE-066, including Attachment COP/PGE-066A.

1 Second, PGE's workpapers demonstrate that the total investment in the system
2 has increased, even if the share of the streetlight revenue requirement associated with
3 streetlights has fallen. See COP/COG/LOC-254. The end of year plant balance for the
4 three FERC accounts that comprise streetlights has increased from about \$37 million in
5 2001 to about \$48.5 million in 2006 (estimated), or over 30 percent. Thus, the Cities
6 conclusions that the average age of the system is declining are supported by PGE's own
7 data. Accordingly, it should not be surprising that repair frequencies should be actually
8 falling in 2006 and projected to remain at that level in 2007.

9 **Q. WHAT HAS BEEN THE HISTORICAL PATTERN OF PGE'S**
10 **EXPENDITURES ON CORRECTIVE STREETLIGHT MAINTENANCE?**
11

12 A. In response to COP/PGE-054, PGE has provided detailed data on historical,
13 current, and proposed lighting maintenance costs. The historical data show that
14 corrective streetlight maintenance more than doubled from 2001 to 2004: from just over
15 \$600,000 to almost \$1.3 million. Actual maintenance costs in 2005 for Schedule 91 were
16 almost as high as in 2004. See COP/COG/LOC-255, which is a chart based on data
17 received from PGE. The Cities conclude that an unusual amount of corrective
18 maintenance was concentrated in these five years, which in turn reduced the average age
19 of the streetlight system. Accordingly, we continue to conclude that the repair
20 frequencies experienced in Portland and Gresham during the first half of this calendar
21 year are more likely to be representative of future repair frequencies than those proposed
22 by PGE.

23 //

24

1 **Q. WHAT IS PGE'S POSITION REGARDING LABOR PRODUCTIVITY**
2 **IMPROVEMENTS?**

3
4 A. PGE argues that it has included all identified labor productivity improvements,
5 and that there are no other such improvements.

6 **Q. PLEASE RESPOND.**

7
8 A. The City of Portland sought documentation from PGE for this assertion. See
9 COP/COG/LOC-256, which is a copy of PGE's response to COP/PGE-067. PGE is
10 unable to document any of its conclusions regarding selected productivity improvements,
11 beyond the assertions already made in the company's workpapers. Therefore, PGE
12 should be required to assume across-the-board improvements instead of selected
13 improvements.

14 **Q. WHAT IS PGE'S RESPONSE TO THE CITIES' ARGUMENT ON**
15 **MAINTENANCE CREW DISPATCH ASSUMPTIONS?**

16
17 A. PGE argues that the Cities' proposal would actually raise maintenance costs,
18 because PGE would have to hire additional Eagle crews to perform streetlight-specific
19 maintenance. See PGE/2200, Kuns-Cody at 12.

20 **Q. PLEASE RESPOND.**

21
22 A. First, PGE has misunderstood the Cities' proposal. The Cities do not propose that
23 PGE actually hire more Eagle crews, but that PGE should assume "least cost dispatch" of
24 maintenance crews. In response to discovery requests, PGE has been unable to provide
25 any documentation that its assumptions regarding crew dispatch are the least-cost
26 solution. See COP/COG/LOC-257, which is a copy of PGE's response to COP/PGE-
27 068. In the absence of such documentation, the Cities' proposal on this issue should be
28 required by the Commission.

1 **III. STREETLIGHT OPERATING HOURS**

2
3 **Q. WHAT IS PGE'S POSITION IN REBUTTAL REGARDING**
4 **STREETLIGHT OPERATING HOURS?**

5
6 A. PGE has conducted additional analysis and concluded that the number of annual
7 operating hours should be either kept at its current level, which is 4,150, or increased to
8 4,176. See PGE/2200, Kuns-Cody at 12-16.

9 **Q. WHAT IS YOUR EVALUATION OF PGE'S NEW STUDY?**

10
11 A. PGE has made several errors. First, PGE's response does not accurately reflect
12 the City of Portland's position stated in the City's Amended Petition to Intervene in UE 1
13 and UE 6 of June 8, 1983. On page 5 of the Amended Petition, the City does recommend
14 using the Sigma Instruments, Inc. ten-year study. However, that study recommended a
15 base operating time be set at 4,140 hours per year, not the 4,200 being used by PGE.

16 Second, PGE's response does not accurately reflect the purpose or the results of
17 the joint PGE – City of Portland study conducted in 1984. The 1984 study used a survey
18 to determine the percentage of malfunctioning luminaires and had nothing to do with
19 base burning hours. That study included a sample of 4,000 luminaires in PGE's service
20 territory and recorded both outages at night and lamps on during the day. The sample
21 size provided a 95% confidence level to the study.

22 Third, PGE's rebuttal testimony included a description of adjustments to
23 operating hours, including reference to an IESNA document relating to "dayburners".
24 PGE recommends adding 50 hours per year for dayburners. However, the 1984 study
25 obviously refutes that generalized IESNA recommendation with actual field data. Rather
26 than adding 50 hours for dayburners, PGE should subtract 50 hours based on the 1984
27 study. See COP/COG/LOC-258, which is a copy of the 1984 study. Using this revised

1 factor in PGE's calculations, we conclude that PGE should assume no more than 4,076
2 operating hours for Portland.

3 **Q. GIVEN THESE COMPETING METHODOLOGIES, WHAT DO YOU**
4 **RECOMMEND IN THIS DOCKET?**

5
6 A. First, the Cities still support our original testimony on this subject, as filed in
7 COP/COG/LOC/200. The number of operating hours assumed by PacifiCorp is not
8 disputed by either the utility or its customers, applies to streetlights in the Portland
9 metropolitan area, and thus should carry a significant amount of weight in this
10 proceeding. Second, although PGE has offered Puget Sound Energy as an alternative
11 source for operating hours, PGE has not explained why data from the Puget Sound area is
12 more appropriate than a number that is agreed to for the Portland metropolitan area by
13 PacifiCorp and its customers in Portland. Third, the Cities recommend working with
14 PGE to construct a field test that would develop an updated number for operating hours,
15 based on actual and current data. The Cities thus recommend that the Commission
16 require PGE to (a) adopt 3,931 as the appropriate number of operating hours per year,
17 and (b) develop a field study with the Cities that will yield a new stipulation on the
18 number of operating hours. To allow enough time for the field test, the Cities
19 recommend that the results of the test be reported to the Commission no later than
20 January 1, 2008.

21 //

22

1 **IV. METERING OF NEW OPTION C LIGHTS**

2
3 **Q. PLEASE SUMMARIZE PGE'S REBUTTAL POSITION ON THE NEED**
4 **TO METER NEW OPTION C LIGHTS.**

5
6 A. PGE continues to assert that energy diversion is occurring at Option C lights, and
7 that the appropriate response is to require that all new Option C lights be metered.

8 **Q. HAS PGE PROVIDED ANY DOCUMENTATION FOR THE ALLEGED**
9 **DIVERSION OF ENERGY?**

10
11 A. No. In response to discovery by the City of Portland, PGE has been unable to
12 document any of the assertions regarding alleged energy diversion, either the frequency
13 of diversion or the amount of energy diverted. PGE asserts that Puget Sound Energy
14 conducted an audit that compared actual load with expected load on un-metered
15 customer-owned systems, which resulted in a decision to prohibit new un-metered
16 lighting. PGE does not have a copy of the audit, and PGE has not conducted a similar
17 audit of its own system. See COP/COG/LOC-259, which is a copy of COP/PGE-071.
18 PGE has only provided anecdotal evidence based on notes taken by its maintenance
19 crews. We still do not know how extensive this alleged problem is.

20 **Q. IS ENERGY DIVERSION ALLOWED UNDER PGE'S RULES?**

21
22 A. No. Energy diversion is a violation of PGE's Rules. Specifically, Rule H.1.1
23 allows PGE to disconnect a customer if power is diverted by the customer, and Rule B.44
24 defines diversion as "theft of service".

25 **Q. IS PGE'S PROPOSAL A REASONABLE SOLUTION EVEN IF ENERGY**
26 **DIVERSION TAKES PLACE?**

27
28 A. No. Based on the lack of documentation, the amount of energy diversion must
29 not be significant. Otherwise, PGE would presumably have already taken action against
30 the customers that have allegedly diverted power. PGE's response to COP/PGE-070

1 contains no evidence that any actions were taken by PGE against customers who may
2 have diverted power. See COP/COG/LOC-260.

3 **Q. WHAT DO YOU CONCLUDE ON THIS SUBJECT?**

4
5 A. PGE's proposal punishes the innocent for the misdeeds of a few, unidentified
6 individual customers, and is not connected in any way to the size of the alleged problem.
7 Rather than requiring metering of new Option C lights and arbitrarily raising the cost of
8 streetlighting for all Schedule 91 customers, PGE should address energy diversion when
9 it is discovered, using existing rules.

10

11 **V. MAINTENANCE OF OPTION C LIGHTS ON COMPANY-OWNED**
12 **POLES**

13

14 **Q. WHAT IS PGE'S RESPONSE TO THE CITIES' PROPOSAL THAT**
15 **CUSTOMERS SHOULD BE PERMITTED TO CONDUCT**
16 **MAINTENANCE OF CUSTOMER-OWNED LIGHTING FACILITIES ON**
17 **UTILITY-OWNED POLES?**

18

19 A. PGE makes three points. First, PGE asserts that customers should not be allowed
20 to perform maintenance of customer-owned lights mounted on company-owned poles, for
21 reasons of safety and reliability. PGE/2200, Kuns-Cody at 20. Second, although the
22 company relies to some extent on contract labor for maintenance, PGE also asserts that
23 PGE's maintenance contracts require utility oversight and disallow subcontracting. See
24 COP/COG/LOC-261 and -261A, which are copies of the supplemental response of PGE
25 to COP/PGE-075. Finally, PGE also asserts that other utilities, either explicitly or
26 implicitly, require customers to provide their own poles for customer-owned lights that
27 the customers want to maintain.

28 //

29

1 **Q. PLEASE EVALUATE PGE’S FIRST ARGUMENT.**

2
3 A. The Cities share PGE’s concerns about safety and reliability, but believe that
4 those concerns should not prohibit the Cities from engaging directly in maintenance of
5 City-owned lights on utility-owned poles. Rather, the appropriate response by PGE
6 should be a requirement that Cities adhere to the same safety standards as any contractor
7 hired directly by PGE. If the Cities wish to contract out the maintenance, these safety
8 standards would also apply to contractors hired by the Cities. The important point is that
9 the Cities should have the choice of maintenance by the utility, by contractors chosen by
10 the Cities, or by City personnel, as long as safety standards are adhered to.

11 **Q. PGE MAY BE CONCERNED THAT CONTRACTORS HIRED BY THE**
12 **CITY WOULD NOT ADHERE TO PGE’S SAFETY STANDARDS. HOW**
13 **WOULD YOU ADDRESS THIS POSSIBLE CONCERN?**

14
15 A. If PGE is concerned about contractors hired by the Cities, then the Commission
16 should simply require that customers doing maintenance on Option C lights attached to
17 distribution poles will adhere to reasonable safety standards, which would be set forth in
18 writing, and give the Cities the choice between using City personnel and contractors hired
19 by the Cities. Any contractors hired by the Cities (essentially, “subcontractors”) would
20 be held to the same safety standards.

21 **Q. DOES PGE ALLOW SUBCONTRACTING OF MAINTENANCE?**

22
23 A. PGE has provided contradictory evidence on this question. First, in response to
24 discovery filed by the City of Portland, PGE has asserted that “PGE does not have any
25 maintenance contracts that allow contractors to subcontract to other contractors.”
26 Second, PGE has provided what appear to be standard terms and conditions for contract
27 labor, which include (in §7) that subcontracting is not allowed “without PGE’s prior

1 written consent.” See COP/COG/LOC-261. The Cities conclude that PGE’s standard
2 terms and conditions for contract labor actually govern in this situation, rather than the
3 data response, which means that subcontracting is permitted, although subject to PGE’s
4 approval.

5 **Q. GIVEN THIS INFORMATION, WHAT DO YOU RECOMMEND?**

6
7 A. PGE should be required to develop and submit to the Commission safety
8 standards that would be required of any City that wishes to switch to Option C for a light
9 attached to a utility-owned pole. These standards would be articulated in the company’s
10 rules.

11 **Q. WHAT HAS PGE ASSERTED REGARDING THE PRACTICES OF**
12 **OTHER UTILITIES IN THIS REGARD?**

13
14 A. PGE asserts that its prohibition of maintenance by customers on non-customer
15 poles is standard utility practice. In support of this conclusion, PGE has provided two
16 lists of utilities that either explicitly or implicitly prohibit such maintenance. See
17 COP/COG/LOC-262 and -262A, which is a copy of PGE’s response to COP/PGE-073.
18 PGE concludes that 13 utilities “require” customers to provide their own poles for
19 customer-owned lighting fixtures and that nine utilities have tariffs that “imply or prefer”
20 that customers provide their own poles for customer-owned lighting fixtures.

21 **Q. HAVE YOU REVIEWED THE TARIFFS CITED BY PGE?**

22
23 A. Yes, at least in part. We examined most of the tariffs in PGE’s second list, to
24 assess how the tariffs “implied” that customers should provide their own poles for
25 customer-owned lighting fixtures, which by the way is not what the Cities have
26 requested. One of the tariffs could not be located on the Internet, but the eight others
27 cited by PGE were located and reviewed.

1 **Q. WHAT INFORMATION DID THIS REVIEW YIELD?**

2
3 A. In the eight tariffs reviewed, we found the following. (1) The streetlight tariff of
4 Arizona Public Service does not refer to maintenance of lights on either customer-owned
5 or utility-owned poles. (2) The Central Illinois Light Company tariff can be interpreted
6 to permit customer-owned lights not maintained by the utility but located on utility
7 distribution poles. (3) The Dayton Power and Light Company tariff is for energy only,
8 and does not address issues associated with maintenance, or make a distinction between
9 lights maintained by the customer and those maintained by the utility. (4) The Detroit
10 Edison tariff contains the following provisions: "Except for control equipment, the
11 customer will furnish, install, own and maintain all equipment comprising the street
12 lighting system up to the point of attachment with the Company's distribution system.
13 The Company will connect the customer's equipment to the Company's lines and supply
14 the energy for operation. All of the customer's equipment will be subject to the
15 Company's review." (Emphasis added.) The Cities conclude that maintenance by the
16 customer of all facilities is mandated by the utility in this case. (5) One Interstate Power
17 and Light Company tariff (Rate Code 230) apparently requires that almost all
18 maintenance be performed by the utility, whereas the other tariff (Rate Codes 270, 280,
19 620, 630) requires that facilities be attached to "distribution poles" but allows customer
20 maintenance as a pricing option. (6) The Public Service Electric and Gas Company tariff
21 does not address maintenance by customers at all. (7) The Public Service Company of
22 New Mexico tariff does not address maintenance by customers at all. (8) The Southern
23 California Edison tariff apparently applies to facilities where the customer owns the pole

1 and other equipment. A list of these tariffs with the relevant URLs is provided in
2 COP/COG/LOC-263.

3 **Q. WHAT DO YOU CONCLUDE FROM THIS REVIEW?**

4
5 A. There is no “standard practice” among the utilities on PGE’s second list. The
6 tariffs of these utilities do not prove PGE’s point.

7 **Q. HAVE YOU CONDUCTED ANY OTHER RESEARCH REGARDING**
8 **MAINTENANCE BY CUSTOMERS OF LIGHTING FACILITIES ON**
9 **UTILITY-OWNED POLES?**

10
11 A. Yes. Two investor-owned utilities (IOUs) in California explicitly permit
12 maintenance by customers of customer-owned lighting facilities located on utility-owned
13 poles. Pacific Gas and Electric and San Diego Gas and Electric both have retail lighting
14 rate schedules (both titled “LS-2”) that permit such maintenance. In the case of both
15 utilities, the customer is required to sign a pole attachment contract; in PG&E’s case, the
16 pole attachment contract has been in place since at least 1991. See Special Condition 12
17 in the PG&E rate schedule and Special Condition 2 in the SDG&E rate schedule. It is
18 our understanding that neither PG&E nor SDG&E charges lighting customers for such
19 pole attachments, nor has either utility ever charged for such attachments. We provide
20 copies of PG&E’s and SDG&E’s LS-2 rate schedules, and PG&E’s pole attachment
21 agreement, in COP/COG/LOC-264, -264A, and -264B.

22 //

23

1 **VI. CIRCUIT CHARGES**

2
3 **Q. WHAT HAS PGE STATED IN REBUTTAL TESTIMONY REGARDING**
4 **CIRCUIT CHARGES?**

5
6 A. PGE has argued that changing the accounting system, so that only those lights that
7 rely on company-owned circuits will be assessed the circuit charge, would be
8 prohibitively expensive. See PGE/2200, Kuns-Cody at 21.

9 **Q. IN LIGHT OF THIS RESPONSE, WHAT DO YOU RECOMMEND?**

10
11 A. At this point, we simply do not have the information required to evaluate PGE's
12 assertions and conclusions. Therefore, we recommend the following steps. First, the
13 Commission should require PGE to conduct an audit of a sample of the lights that are
14 assessed the circuit charge, in cooperation with the Cities. The purpose of this audit
15 would be to determine how many lights are being served with a PGE-owned circuit and
16 how many do not require a PGE-owned circuit. The results of this audit should be
17 reported to the Commission no later than March 1, 2007. Second, the Commission
18 should require PGE to develop an independent estimate of the cost required to modify the
19 accounting and billing systems so that streetlight customers are only charged for the
20 circuits that are actually being used. By "independent estimate" we mean a neutral third
21 party hired by PGE. The Cities and the Commission staff should be consulted in the
22 selection of the third party. This cost estimate should also be reported to the Commission
23 no later than March 1, 2007. Once the information above is developed and made public,
24 the Cities (and PGE and the Commission) will be better able to determine the best course
25 of action.

26 **Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

27
28 A. Yes.

September 27, 2006

TO: Benjamin Walters
Office of City Attorney

FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UE 180
PGE Response to City of Portland Data Request
Dated September 20, 2006
Question No. 082**

Request:

PGE/ Kuns-Cody/2200/4, lines 17-18. Please provide documentation supporting the conclusion that “Key Customer Account Managers currently provide the services that the Cities request.” Please describe which specific services are referenced and how these services are currently provided. Please provide copies of instructions to Key Customer Account Managers, customer service guidelines, or similar internal company policies that reference the services requested by the Cities, and how those services are currently provided by the Managers. Please describe and document any changes in PGE’s provision of such services since the stipulation with the City of Portland in UE 115.

Response:

In Exhibit 200/5, lines 3-8 the Cities request that: “PGE should designate a utility representative for each critical account for each city, available via individual cell phone or pager at all hours to serve as the prime point of communication during emergencies. The utility representative should also have a current list and address of all critical service facilities including city staff names and cell phone or pager numbers. PGE representatives should work with cities’ staff to regularly update the list of critical facilities.”

PGE’s Key Customer Account Managers provide the services requested by the Cities. For example, Attachment 082-A contains a form letter that PGE’s Key Customer Account Managers send to customers with critical service facilities. The letter outlines expectations for communication between PGE and the customer with critical service facilities should a planned or emergency outage occur. Attachment 082-A is confidential and subject to Protective Order No. 06-111 and is provided under separate cover.

PGE's Key Customer Account Managers also maintain a list of critical facilities including staff's contact information (cell phone or pager numbers) responsible for the critical facility. Attachment 082-B contains a sample copy of the emergency customer contact list. The list includes the name and address of the critical facility, primary and backup contact name and regular and emergency phone numbers. Every Key Account Manager carries an emergency customer contact list pertaining to the customers they represent. Attachment 082-B is confidential and subject to Protective Order No. 06-111 and is provided under separate cover.

In addition to Key Customer Account Managers, PGE system dispatchers are accessible for critical information at all hours. Please refer to Attachment 082-A for specific instructions that managers of critical facilities receive.

PGE's Rule C pertaining to service restoration process states that "... special consideration is given to critical Consumers that are essential to public welfare." (Rule C.8.A). In addition Rule C, paragraph B.4 specifically identifies: "The Company maintains a list of critical Consumers such as hospitals, airports, 911 dispatch centers, fire and police stations, water and sewage treatment plants, radio and television stations, newspapers and telephone exchanges." These rules are consistent with the UE 115 stipulation (OPUC Order 01-777).

UE 180
Attachment 082-A

Confidential and subject to Protective Order No. 06-111

PGE's Key Customer Account Managers' Form Letter

UE 180
Attachment 082-B

Confidential and subject to Protective Order No. 06-111

Sample of the emergency customer contact list

COP/COG/LOC/252
Gray-Harris-Fogue-Heberling-Peters



Portland General Electric
121 SW Salmon Street
1WTC0807
Portland, Oregon 97204

[Redacted]

(503) [Redacted]
Fax (503) [Redacted]
Cellular (503) [Redacted]
Pager (503) [Redacted]
[Redacted]@pgn.com

CONTACT LISTING AT PGE City of Portland Water Bureau			
Outage Repair Dispatcher – Portland 24 hours		503-[Redacted]	
PGE Account Representative – [Redacted]			
Office	503-[Redacted]	24hr Pager:	503-[Redacted]
Fax:	503-[Redacted]	Cellular:	503-[Redacted]
Home:			503-[Redacted]
PGE Back-Up Representative – [Redacted]			
Office:	503-[Redacted]	24hr Pager:	503-[Redacted]

September 27, 2006

TO: Benjamin Walters
Office of City Attorney

FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UE 180
PGE Response to City of Portland Data Request
Dated September 20, 2006
Question No. 078**

Request:

PGE/ Kuns-Cody/2200/7, lines 18-20. Please provide documentation and references supporting the conclusion that PGE stipulated in UE 115 to \$1.62 million in lighting maintenance for 2002.

Response:

UE 115 stipulated streetlight O&M maintenance revenue documentation was provided with the UE 180-UE 181-UE 184/PGE/2200 work papers, pages 1 through 6. Page 1 includes the summary amount for street and area light maintenance costs used to get street and area light rates in compliance with the UE 115 Order. The following pages include maintenance revenue detail by schedule and lamp code.

The streetlight maintenance and other stipulated adjustments to the lighting schedules are found in OPUC Order 01-777 under Paragraph 14 of Appendix C, Section III. Those adjustments include, but are not limited to, power door frequencies of repair, emergency replacement rate for poles and lamps, group lamp frequency of repair rate reduction, and circuit charge rate reduction.

September 21, 2006

TO: Benjamin Walters
Office of City Attorney

FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UE 180
PGE Response to City of Portland Data Request
Dated September 14, 2006
Question No. 066**

Request:

PGE/2200/10, line 22 through p. 11, line 2. Please provide the annual investment amounts for lighting schedules in nominal dollars for 2001-2006. Please provide documentation that supports the decline in "investment collection." Please define "investment collection" as used on p. 246 of the Pricing Work Papers. Please explain and quantify the extent to which the decline in revenue requirement from UE 115 to E18 Proposed on p. 246 results from (a) changes in assumed levels of depreciation, (b) new investments since 2001, (c) requested rates of return in UE 115 and UE 180, and (d) other factors.

Response:

Attachment 066-A contains the requested capital additions and end of year plant balances for the years 2001-2006.

Attachment 066-B contains the depreciation reserve activity for the years 2001-2006. The 2006 actual reserve activity is through August 31, 2006.

Investment collection as used on page 246 of the Pricing Work Papers is \$4,970,526 and represents the revenue requirement associated with the capital investment in lighting.

Attachment 066-C contains streetlight revenue requirement work papers, pages 241 and 247 of the UE 115 Rate Case, as filed, and work papers, pages 236 and 243 from the UE 180 Rate Case. The work papers from each Rate Case quantify all of the elements that went into the streetlight revenue requirement calculation for comparison purposes. The defining element or factor in

causing the decline in revenue requirements can be associated with the depreciation that has occurred since the 2002 test period.

Please note that the overall revenue requirement for streetlights in the UE 115 work papers included in attachment 066-C is slightly higher than what was actually approved through settlement.

UE 180
Attachment 066-A

Capital Additions and End of Year Plant Balances 2001-2006.

COP/COG/LOC/254
Gray-Harris-Fogue-Heberling-Peters/4

UE 180
Attachment 066-B

Depreciation Reserve Activity 2001-2006

COP/COG/LOC/254
Gray-Harris-Fogue-Heberling-Peters/5

UE 180
Attachment 066-C

Streetlight Revenue Requirement Work Papers

COP/COG/LOC/254A

Gray-Harris-Fogue-Heberling-Peters/1

UE 180

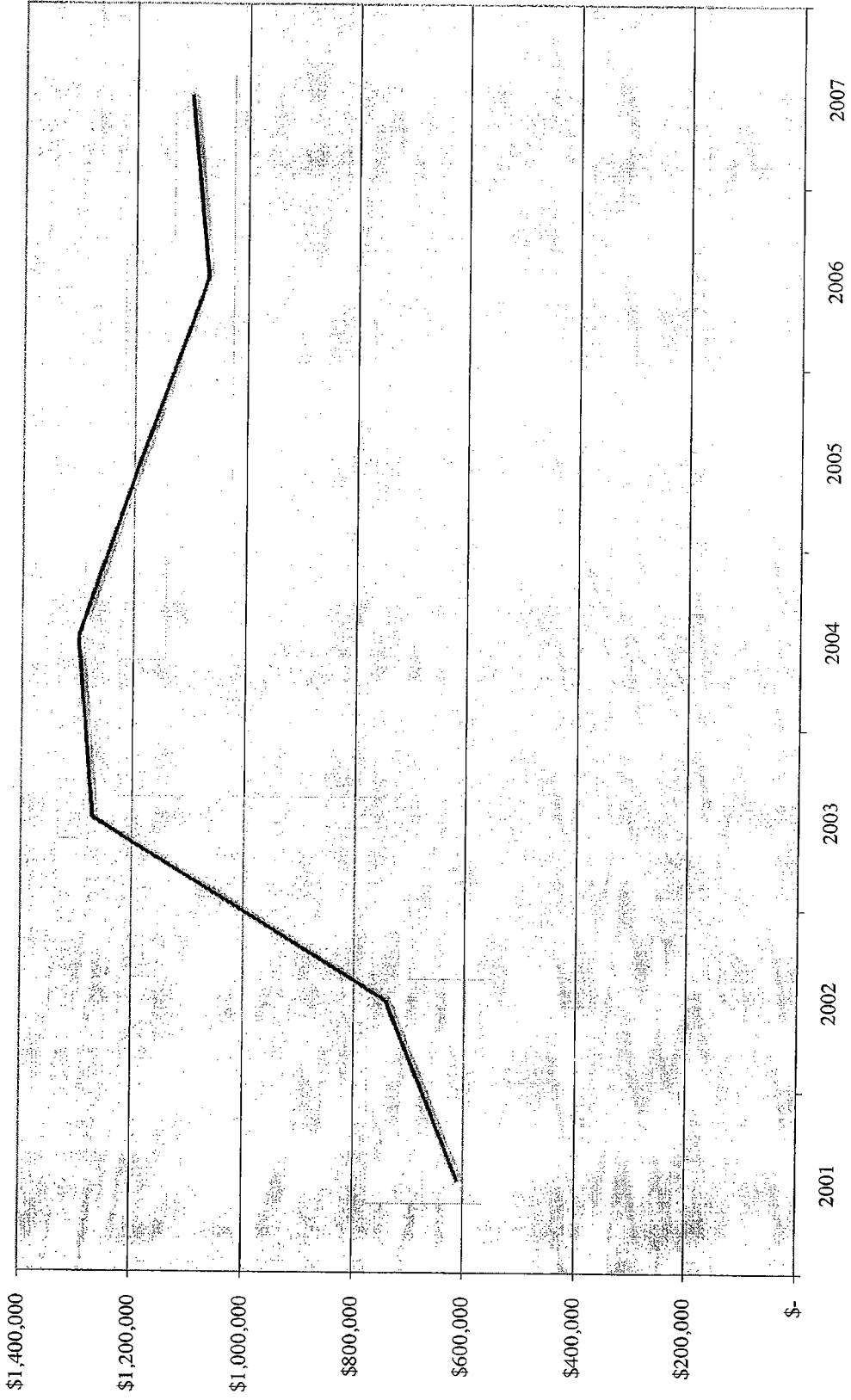
Attachment 066-A

Capital Additions and End of Year Plant Balances 2001-2006.

Portland General Electric

<u>Ferc Account</u>	<u>Additions and Retirements</u>	<u>End of Year Plant Balance</u>	<u>Year</u>
373-01	\$847,901.28	\$13,630,953.76	2001
373-01	\$794,212.65	\$14,425,166.41	2002
373-01	\$730,883.63	\$15,156,050.04	2003
373-01	\$863,642.97	\$16,019,693.01	2004
373-01	\$953,729.48	\$16,973,422.49	2005
373-01	\$1,084,638.03	\$18,058,060.52	2006 Estimated
373-02	\$874,196.97	\$17,444,075.73	2001
373-02	\$952,613.52	\$18,396,689.25	2002
373-02	\$854,098.84	\$19,250,788.09	2003
373-02	\$1,107,785.20	\$20,358,573.29	2004
373-02	\$1,188,687.90	\$21,547,261.19	2005
373-02	\$1,337,141.45	\$22,884,402.64	2006 Estimated
373-07	\$240,278.34	\$6,124,827.48	2001
373-07	\$310,600.12	\$6,435,427.60	2002
373-07	\$211,209.75	\$6,646,637.35	2003
373-07	\$294,591.55	\$6,941,228.90	2004
373-07	\$302,977.50	\$7,244,206.40	2005
373-07	\$378,562.35	\$7,622,768.75	2006 Estimated

Schedule 91 Corrective Maintenance



September 21, 2006

TO: Benjamin Walters
Office of City Attorney

FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UE 180
PGE Response to City of Portland Data Request
Dated September 14, 2006
Question No. 067**

Request:

PGE/2200/11, lines 10-11. Please provide documentation for the “recently achieved productivity improvements.” Please provide all studies of labor productivity related to streetlight maintenance during the “recent” period referenced in the testimony.

Response:

The documentation for the estimated productivity improvements is contained in PGE Pricing Work papers, pages 284, 286, and 288. Specifically, PGE believes it has achieved productivity improvements in the following categories relative to UE 115: Emergency Starter Replacement, Emergency Luminaire Replacement, and Power Doors. These improvements which are reflected in the UE 180 Streetlight Cost Study are based upon discussions with the Manager of Lighting Services.

September 21, 2006

TO: Benjamin Walters
Office of City Attorney

FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UE 180
PGE Response to City of Portland Data Request
Dated September 14, 2006
Question No. 068**

Request:

PGE/2200/12, lines 12-14. Please provide studies and documentation for the conclusion that hiring more Eagle crews would “undoubtedly increase” the total cost of streetlight maintenance.

Response:

As discussed in PGE/2200, page 12, PGE dispatches its crews to perform distribution maintenance in a manner that attempts to achieve the lowest total distribution maintenance cost. As explained in the testimony referenced above, when a particular crew is in a designated area, they are the lowest cost resource at that point in time. Should PGE hire more Eagles dedicated to streetlight maintenance, the total cost of distribution maintenance would increase because less than optimal distribution crew dispatch would occur. In order to equitably allocate costs, this increase in distribution maintenance would need to be attributed to streetlight maintenance.

COP/COG/LOC/258
Gray-Harris-Fogue-Heberling-Peters/1

CITY OF PORTLAND AND PGE PROCEDURES AND RESULTS OF THE
APRIL 1984 STREETLIGHT SURVEY FOR DETERMINING THE PERCENTAGES OF
MALFUNCTIONING LUMINAIRES

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CITY OF PORTLAND AND PGE PROCEDURES AND RESULTS OF THE
APRIL 1984 STREETLIGHT SURVEY FOR DETERMINING THE PERCENTAGES OF
MALFUNCTIONING LUMINAIRES

April 1984

I. Introduction

During the 1983 UE 1/UE 6 Portland General Electric Company (PGE) general rate hearing before the Oregon Public Utility Commissioner (OPUC), the City of Portland (City) intervened in four areas of streetlight service. One of these issues was outage credits for luminaires not burning at night. To determine the appropriate adjustment for such luminaires, a sample of 4,000 luminaires of the total system was taken. The results warranted that, starting with the next general rate filing, burning hours should be reduced from 4,200 annual burning hours to 4,150 annual burning hours.

II. Purpose of the Survey

A. City of Portland's Request to the Commissioner

During the 1983 UE 1/UE 6 general rate hearings, the City requested that changes be made in the streetlight services in four areas (Appendix 1): (1) an outage energy credits for lamps not burning at night, (2) a reduction of the annual burning hours from 4,200 to 4,009, (3) a revision in the rates for 150-watt and lower high-pressure sodium vapor luminaires (HPS) to reflect service at 120 volts, (4) a maintenance credit due to failure to implement the 5-year relamping program be given. Except for the outage credits, these issues were resolved during the proceedings.

The outage issue arose from a study the City conducted on May 25, 1982, to determine what percentage of streetlights were inoperative at night. A sample of 218, 109 mercury vapor and 109 HPS, lights maintained by PGE within the City of Portland was taken. The City found that 2 percent of the mercury vapor and 3 percent of the HPS lights were off (inoperative) at night. No survey was taken of these lights during the daylight hours, since these malfunctioning lights were presumed by the City to be many less in number and were deemed to be a result of PGE's maintenance activities. Therefore, a credit of 3 percent on the energy consumption for the nighttime inoperative lights was requested in testimony before the OPUC.

B. PGE's Response

PGE's response to this outage credit was two-fold. First, if a credit was to be given, it should be given systemwide. Secondly, all streetlight systems have nonfunctioning luminaires, as this is an inherent part of the streetlight system just as luminaires burning during the day are an inherent part of any streetlight system. These characteristics should be part of the rate structure, not a separate outage credit. PGE argued that lamps burning during the day, energy use that PGE is not compensated for, offsets the lamps not burning during the night.

PGE did not claim to know the percentage of lamps off at night or on during the day, but estimated it could be between 1/2 to 1 percent, as approximately 7 percent of the luminaires fail annually. This 1/2 to 1 percent of malfunctioning luminaires at any point in time assumes that on an average it takes an estimated one to two months for PGE to be notified of a nonfunctioning luminaire and then to repair it. At 99 to 99.5 percent levels of reliability a credit would not be justified. PGE determined statistically that a sample of 109 lamps per luminaire type gave little credibility for estimating outage credits.

C. The Agreement

The City and PGE agreed that both outages at night and lamps on during the day are an inherent part of the streetlight system, and if the percentage of lamps on during the day or off at night differs significantly ($\pm 1/2$ percent), then an adjustment to the 4,200 annual burning hours would be made at the next general rate filing. This was so ordered by the OPUC on November 8, 1983 (Appendix 2).

To determine the correct fraction of malfunctioning lights, a survey comprised of a random sample of PGE's standard Options A and B streetlight system would be taken designed to provide estimates within $\pm 1/2$ percent with 95 percent confidence (Appendix 3). The cost of the survey would be shared with the sample results tabulated before the next general rate filing. The sample was to determine both the percentage of lamps on during the day and the percentage of lamps off at night for standard Option A and B mercury vapor and high-pressure sodium luminaires. From these results, if the percentages differ significantly ($\pm 1/2$ percent), the following equation would be used to adjust the burning hours up or down for the entire system:

$$\begin{aligned} \text{Annual Burning Hours} = & 4,200 - (\text{Percent Off at Night} \times 4,200) \\ & + (\text{Percent On During Day} \times 4,560) \end{aligned}$$

III. Calculating the Sample Size and Selecting the Sample

A. Sample Size

Given the lack of reliable data on the fraction of malfunctioning luminaires at a given point in time, it was difficult to estimate the appropriate sample size to achieve precision within $\pm 1/2$ percent with 95 percent confidence. Using standard equations for proportions (P), a sample of 1,525 is needed if the true P is 1 percent. If the true P is 3 percent, a sample of 4,471 is appropriate. As the City estimated P to be 2.5 percent, it was decided this would be the base proportion requiring a sample of 3,745. To add additional reliability of meeting the criteria, 5 percent was added in case some luminaires could not be located. This brought the sample total to 3,932. For convenience, the sample was rounded to 4,000.

Given a $\pm 1/2$ percent difference between percentages if the average P of lamps off at night and lamps burning during the day is less than 1.3 percent, then a sample of 4,000 lamps during the day and 4,000 lamps during the night allows us to be 95 percent confident that we would not mistakenly adjust the burning hours when we really should not (Appendix 4).

B. Sharing the Cost

In specifying the method of sharing the cost of the survey, the City and PGE agreed a satisfactory arrangement would be to separate the efforts equally (Appendix 5). The City was to sample 2,000 lamps in the Portland area (both day and night), prepare the sampling procedures, conduct the training session, and help tabulate the results.

PGE was to sample 2,000 lamps (both day and night) in the rest of the system, select the sample from the streetlight master, print the survey sheets, and help tabulate the results.

C. Selecting the Sample

To minimize costs of traveling around the PGE service territory (both day and night) to determine what percentage of the PGE streetlight system is functioning properly, the following sample characteristics were agreed upon:

To reduce travel time, lights were selected in groups of ten that were geographically close. These same groups were to be examined first during the day and then at night. This reduced problems in finding pole locations during the hours of darkness.

To assure an even distribution throughout the system and the close vicinity of lights in each group, the following procedure was used (Appendix 6):

1. From the November 1983 streetlight master, only Options A and B mercury vapor and high-pressure sodium luminaires were allowed in the universe from which the sample would be selected.
2. The universe was sorted by plat numbers and sequence numbers. These were the best informational variables to guarantee that each group of luminaires was geographically close together.
3. A jump number, 197.9425, was calculated to allow the most random selection process possible in selecting 400 groups of 10 luminaires.
4. A seed number, 176, was specified by a random number table to start the selection process. The sample was determined by selecting observation 176 plus the next nine observations. From 176, a jump of 197.9425 was made to designate the next ten observations. From this location, another jump of 197.9425 was made to the next group of ten. This procedure was continued until 400 groups had been acquired. Printouts by groups of ten were developed with the following information: group number, account number, plat number, sequence number, pole number, lamp type, location, and other information contained in the streetlight master file.

IV. Taking the Sample

A. Training and Sample-Taking Procedure

PGE used its own employees (field inspectors, area representatives, and rate analysts) to take its portion of the sample, while the City hired streetlight consultants in addition to using its own streetlighting staff. On March 29, 1984, City and PGE representatives conducted a training session for sample-takers at which time the following items were given out (Appendix 7): maps of the area with pole locations circled; computer printouts of the sample containing group number, sequence number, pole number, luminaire number, location, and boxes for marking day-off, day-on, night-off and night-on; flashlights; and pens.

During this meeting, the procedure for taking the sample was explained and the importance for samplers to be certain that the lamps being examined were actually the ones listed on the computer code sheet was emphasized. Samplers were instructed to "trust the location descriptions" if there were any discrepancies between pole number, sequence number, and the location. They were told to explain any assumptions they made on luminaires they could not find in the blank area of the computer code sheets. Lamps were checked during the day and then again at night, or within the next few nights. This procedure greatly reduced the difficulty of the night survey.

B. Location Spot Checks

At the participant training session held at PGE on March 29, 1984, it was announced that management and staff would conduct a spot check of the light locations. This was to ensure that participants completed their location checks and reported honestly of their findings. PGE calculated percentages of discovering errors based on estimated light figure. Appendix 8 shows 1 through 4 percent projected day and night light failure systemwide.

Using this as a guide, it was mutually agreed by the City and PGE to sample 20 groups of 10 pole locations. This offered a high percentage of catching any inaccuracies either by the participants or the sample itself. Based on a random selection, 11 groups fell within the City's survey area and 9 groups fell within PGE's survey area. In order to avoid bias, the City spot checked those in PGE's survey area, while PGE spot checked those within the City's survey area.

C. PGE's Method of Taking the Sample

PGE divided its 200 groups among its divisions according to the groups' geographic location as follows: Central, 42; Willamette, 42; Western, 58; Gresham, 33; Oregon City, 19; and St. Helens, 6. The field work was accomplished during the first two weeks of April.

D. City of Portland's Method of Taking the Sample

The City separated their 200 groups by geographic location, both within and without the City of Portland, and distributed them to the samplers. These were also completed within the first two weeks of April.

E. The Inability to Locate a Few Poles

As anticipated, the samplers were unable to locate a small number of poles. Second attempts were made by PGE supervisors, with all but 42 of the total 4,000 luminaires being located, leaving 3,958 as the sample base. As this was well within the model perimeters of the study, it was agreed to leave the 42 lamps out of the sample and use the 3,958 as the denominator in calculating the percentage of malfunctions.

V. Survey Results and Recalculating Burning Hours

With all the data collected, the following results were derived
(Appendix 9):

- . 3,958 was the total usable sample.
- . 13 luminaires or 0.32845 percent were on during the day with a 95 percent confidence range of 0.1502 to 0.5067 percent.
- . 60 luminaires or 1.51592 percent were off at night, with a 95 percent confidence range of 1.13526 to 1.89658 percent.
- . Based on a difference of 1.18747 between the percent off at night and on during the day and a sample size of 3,958, we are over 99 percent confident that the percentage of luminaires off at night and the percentage of luminaires on during the day are not the same. As this difference is greater than 0.5 percent, burning hours are to be adjusted using the base equation:
 - . Annual Burning Hours = $4,200 - (4,200 \times .0151592) + (4,560 \times .0032845)$
= 4,151 Annual Burning Hours
- . This 4,151 annual burning hours was rounded to 4,150 annual burning hours and was agreed upon by both PGE and the City of Portland to be used in the next general rate case filing to calculate streetlight rates.

MM/lpsc/2556e37.1284

Appendix 1



CITY OF
PORTLAND, OREGON
 OFFICE OF CITY ATTORNEY

COP/COG/LOC/258
 Gray-Harris-Fogue-Heberling-Peters/15

Christopher P. Thomas, City Attorney
 1220 S.W. 5th Avenue
 Portland, Oregon 97204
 (503) 248-4047

P.O. #
F.V.I.
CSB/6/29

June 8, 1983

Route to: **RECEIVED**
 AA: _____ JUN 9 19
 JB: _____ PRE LEGAL DEPT.
 DF: _____
 ES: _____
 R/R: _____

Mr. Alvin L. Alexanderson
 1300 Willamette Center
 121 SW Salmon Street
 Portland, Oregon 97204

Dear Alvin:

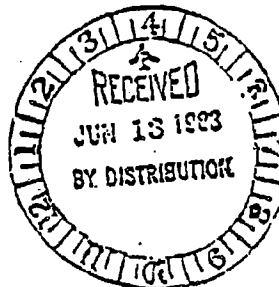
Enclosed is a copy of our Amended Petition to Intervene in UE 1 and UE 6. Our original Petition only asked that we be permitted to intervene in UE 6. The only additional change in this Amended Petition is the correction of a typographical error which occurred in the sixth to the last line on page 5. The Amended Petition substituted 4109 hours for 4009 hours mistakenly used in the original Petition.

Sincerely,

Lynda Nelson Gardner
 Lynda Nelson Gardner
 Deputy City Attorney

pm/9869
 Enclosure

CC - EFW
JSW
ATS *[Signature]*



BEFORE THE PUBLIC UTILITY COMMISSIONER

OF OREGON

UE 1

UE 6

In the Matter of Revised Tariff)
Schedules for Electric Service in)
the State of Oregon filed by PORTLAND)
GENERAL ELECTRIC COMPANY.)

AMENDED
PETITION TO INTERVENE

1. NAMES(S) AND ADDRESS(ES) OF PETITIONER(S)

City of Portland
1220 SW Fifth Avenue
Portland, OR 97204

Phone No. 248-4058

2. NAME AND ADDRESS OF ATTORNEY, IF ANY, REPRESENTING THE PETITIONER(S)

Lynda Nelson Gardner

Phone No. 248-4058

3. IF THE PETITIONER IS AN ORGANIZATION:

A. STATE THE NUMBER OF MEMBERS IN THE ORGANIZATION:

Not applicable

B. STATE THE PURPOSE OR OBJECTIVES OF THE ORGANIZATION:

Not applicable

4. THE PETITIONER PARTICIPATED IN THE FOLLOWING ADMINISTRATIVE PROCEEDINGS IN THE PREVIOUS TWO YEARS:

DATE	AGENCY	SUBJECT OF PROCEEDING	NATURE OF PARTICIPATION
	NONE		

5. I AM (WE ARE) INTERESTED IN THE OUTCOME OF THE PROCEEDING FOR THE FOLLOWING REASONS:

The costs of providing street lighting has accelerated rapidly over the past 5 years. The City of Portland is currently paying over \$1.5 million per year for energy used by these lights. Another \$1 million is paid each year for maintenance, circuitry and poles. A tabulation of these costs paid for street lighting by all cities and counties served by PGE would show a large amount of public funds are being spent.

We would like to have the Public Utility Commissioner examine the services we are receiving and, in particular, examine specific cases where we believe the public is being unfairly charged.

Note: If you are representing a public interest, you must provide a detailed statement of the interest, the manner in which the public interest will be affected by the results of the proceeding, and your qualifications to represent that public interest.

6. I (WE) WISH TO RAISE THE FOLLOWING ISSUES IN THIS CASE:

SEE PAGES 5 AND 6.

7. I (WE) INTEND TO PARTICIPATE IN THE PROCEEDING:

AS A FULL PARTY.

AS A LIMITED PARTICIPANT (DESCRIBE THE NATURE OF THE PARTICIPATION AND EXTENT OF YOUR INTEREST IN THE PROCEEDING).

8. I (WE) CAN ASSIST THE COMMISSIONER IN MAKING A DETERMINATION IN THIS PROCEEDING BECAUSE I (WE) HAVE SPECIAL KNOWLEDGE OR EXPERTISE IN THE FOLLOWING SUBJECT AREAS:

SUBJECT AREA	EDUCATIONAL OR OTHER BACKGROUND IN THE SUBJECT AREA
City Street Light Schedules	<p>The City of Portland Bureau of Street Lighting is representative of a class of ratepayers (City Street Lighting customers) not ordinarily represented in these proceedings. The City of Portland has been discussing the issues set out on pages 5 and 6 with PGE for as long as ten years.</p> <p>The Bureau of Street Lighting is a distinct bureau of the City of Portland Office of Public Works. It has five full-time staff members. The Bureau is charged with providing street lighting to the City at reasonable rates, maintaining and operating the existing street lighting system (estimated at 37,000 lights), and administering and monitoring the operating contract with PGE.</p>

6. I (WE) WISH TO RAISE THE FOLLOWING ISSUES IN THIS CASE:

- 1) Outage credits - The energy charge from Schedule 91 of the rate tariff is developed under the assumption that all streetlights operate during the stated operating hours (4200 hours) throughout the year. The reality is that at any given time, a certain percentage of streetlights are not operating. Since these inoperative streetlights do not use energy that is currently being charged, the City and other Schedule 91 customers should receive credit for this unused energy.

The City of Portland has observed a statistically valid random sample of streetlights to estimate the percentage of streetlights not operating at a given time. The City has estimated that 2% of the mercury vapor (MV) luminaires and 3% of the high pressure sodium vapor (HPSV) luminaires are inoperative at any given time. This test is available for the Commissioners consideration.

- 2) Operating hours - The energy charge from Schedule 91 of the rate tariff is developed under the assumption that streetlights operate for 4200 hours per year. These 4200 operating hours were developed from a test conducted by PGE from April 1978 to October 1979. The test utilized 29 photoelectric controls mounted on the Hawthorne building in Portland, Oregon.

The City of Portland has reviewed a sample of the PGE test results and has raised at least two questions regarding the test. First, the PGE test utilized many photoelectric cells with turn-on values in the 10-15 footcandle range rather than the 1-3 footcandle range of photoelectric cells that have been available and are presumably used as replacements. Second, the PGE test records for April 1978 indicate that April operating hours were computed using a 31-day month rather than the 30-day month that one would expect.

The City believes these two questions raise significant doubt about the accuracy and reliability of the test results to establish streetlight operating time at 4200 hours. For example, the difference between a one-footcandle turn-on and a 10-footcandle turn-on equates to 15 minutes less operating time per night based on charts prepared by Sigma Instruments, Inc., a photoelectric cell manufacturer. This 15 minutes per night would reduce streetlight operating time by 91 hours per year, from 4200 hours to 4109 hours annually.

The City of Portland recommends that annual Streetlight operating time be established at 4140 hours. The City has determined that streetlight operating time be 4140 hours based on data from a ten-year test conducted by Sigma Instruments, Inc. in Braintree, Massachusetts.

Continued on Page 6

6. Continued from page 5

This data was adjusted to Portland latitude and climatological conditions. The City has also noted that Pacific Power and Light utilizes 4150 hours for annual streetlight operation.

- 3) Streetlight lamps - The PGE cost of service study support for the Schedule 91 rate tariff does not reflect that the City has converted all streetlight lamps with 150 watt (W) ratings and below to 120 volt current. Specifically, Appendix A of the cost of service study indicates line watts for 70 HPSV lamps at 93W rather than 80-82W and 100W HPSV lamps at 132W rather than 112-114W indicated in performance data supplied by Westinghouse Electric Corporation. This watt difference significantly affects the computed annual energy usage of each streetlight. The City currently has 6664 70W and 100W HPSV lamps.
- 4) Maintenance credit - A portion of the maintenance charges in Schedule 91 of the rate tariff include a 5-year relamping schedule. In actuality, PGE has been negligent by as much as 9 years in performing this service to the City of Portland. As such, the City believes a one-time credit is applicable.

Appendix 2

ORDER NO. 83-724
ENTERED November 8, 1983

BEFORE THE PUBLIC UTILITY COMMISSIONER
OF OREGON

UE 1
UE 6

In the Matter of Revised Tariff)
Schedules for Electric Service)
in the State of Oregon filed by)
PORTLAND GENERAL ELECTRIC COMPANY.)

ORDER

BACKGROUND

On January 10, 1983, Portland General Electric Company (PGE) filed revised tariff schedules designed to increase rates to Oregon retail electric customers by \$63,441,606, or 9.79 percent on a 1983-1984 test year. This amount excludes a credit pursuant to the exchange provisions of the Pacific Northwest Electric Power Planning and Conservation Act (Regional Power Act). After the credit, the requested net increase was \$47,527,519, or 8.35 percent. PGE proposed that the increase become effective with meter readings made after February 9, 1983. The filing was docketed as UE 1.

On January 26, 1983, the Commissioner suspended the proposed rates. Order No. 83-051. On February 1, 1983, the Industrial Customers of the Bonneville Power Administration (DSI's) and the Oregon Committee for Equitable Utility Rates (OCEUR) filed petitions to intervene. On March 4, 1983, the Coalition for Safe Power (CSP) and Forelaws on Board (FOB) filed petitions to intervene. On March 10, 1983, the DSI's and OCEUR filed complaints requesting a hearing. PGE did not respond to the petitions or complaints.

On April 29, 1983, PGE filed revised tariffs designed to increase revenues from Oregon retail customers by \$29.2 million. After the Regional Act credit, the increase was \$22.7 million. On May 5, 1983, and May 13, 1983, PGE filed corrections to the revised tariffs. The load forecast subsequently stipulated in this case establishes that the tariffs filed would only increase revenues by \$28.6 million on an annual basis. The filing was docketed as UE 6. On May 18, 1983, the DSI's, OCEUR, and the City of Portland filed petitions to intervene in UE 6. On May 19, 1983, CSP and FOB filed petitions to intervene.

ORDER NO. 83-724

The Commissioner reviewed the testimony and decided to allow the UE 6 rates to go into effect without suspension. The UE 6 rates went into effect on May 31, 1983, subject to refund. Order No. 83-299 (May 26, 1983). On August 9, 1983, the tariff schedules in UE 1 were suspended for an additional three-month period. Order No. 83-464.

The Commissioner consolidated UE 1 and UE 6 for hearing. The petitions to intervene were granted. OCEUR, CSP, and FOB did not present testimony or cross-examine witnesses.

In deciding this case, the Commissioner takes official notice of Portland General Electric Co. tariffs on file.

Hearings and Conferences

Prehearing conferences were held in this matter on June 6, 1983, and August 29, 1983, in Salem, Oregon. Hearings were held in Salem, Oregon, on September 19, 1983, and in Portland, Oregon, on September 28, 1983, and on October 3, 1983.

Appearances are listed in Appendix I.

STIPULATED ISSUES

Staff

The Commissioner's staff and PGE stipulated to all issues in the case except cost of equity. Appendix II shows the revenue impact of staff's and PGE's return on equity proposals. Appendix III shows the results of operations with the revenue effect of each stipulated adjustment.

City of Portland

PGE and the City of Portland reached an agreement on street lighting issues raised by the city in this proceeding. PGE agreed to redesign rates for 150 watt and lower High Pressure Sodium Vapor luminaires for street lighting to reflect service at 120 volts.

The city and PGE agreed to several studies to resolve factual disputes. The parties will monitor photocell operation to determine whether a more sophisticated analysis is required to determine the appropriate number of annual burning hours of street lights. The parties will jointly conduct a

ORDER NO. 83-724

study of street lighting outages and photocell failures. The costs of sampling the luminaires will be shared by the parties. The results of the study will be reflected in PGE's next general rate filing.

CONTESTED ISSUES

Sales for Resale

The DSI's contest PGE's removal of certain sales for resale from base power costs. They claim PGE's treatment increases the rates they must pay the Bonneville Power Administration (BPA) for power. The DSI's proposed an alternative treatment which would decrease PGE's average system cost. Under the provisions of the Regional Power Act, a lower average system cost results in lower rates for the DSI's.

At issue here is PGE's treatment of the revenue from an energy sales contract PGE holds with Pacific Gas and Electric Company (PG&E). The Commissioner takes official notice that on October 28, 1983, PG&E terminated its firm sales agreement with PGE, effective April 30, 1984.

When sales are made, PGE recognizes the sales in its power cost adjustment (PCA). When PGE sells energy under the contract, the net revenues are split 80 percent to the ratepayers and 20 percent to the company.

DSI's objections. The DSI's do not object to the concept of a power cost adjustment. However, they do object to PGE's proposed treatment of removing certain sales for resale from base power costs.

The DSI's claim the sales for resale are predictable and can be estimated with reasonable precision. Therefore, these revenues should be included in base power costs. The DSI's hold that the power cost adjustment should be used only to compensate for deviations from the expected level of sales.

The DSI's also claim PGE is receiving a fair return on its investment plus 20 percent of the net sales from the two contracts. The Boardman coal plant, which is a major source of power for the PG&E sale, is included in PGE's rate base. The company earns a return on its investment in the plant. In addition, the company receives a portion of the sales of the plant's output under the energy sales contract.

AGREEMENT OF ISSUES BETWEEN
THE CITY OF PORTLAND (CITY) AND
PORTLAND GENERAL ELECTRIC (PGE)

1. The City agrees not to contest the estimate of 4200 burning hours of streetlights. The City and PGE agree to monitor photocell operation using existing equipment to determine if a more sophisticated analysis is required.
2. The City and PGE agree to jointly conduct a study of streetlight outages and photocell failures. Such studies will consist of random samples designed to provide estimates within $\pm 3\%$ with a 95% confidence. The cost of sampling the luminaires will be shared equally between the City and PGE. All other costs incurred by the City and PGE in conducting the studies will not be shared. The burning hours agreed to above will be adjusted at PGE's next general rate filing following the completion of the study, to reflect the results of these studies. This will be done by subtracting the fraction of lights found not to be operating times the annual burning hours and adding the fraction of photocells found to be failed times the annual non-burning hours.
3. PGE agrees to redesign the rates of 150 watt and lower High Pressure Sodium Vapor luminaires to reflect service at 120 volts effective at the conclusion of this rate case.
4. The City agrees not to pursue the request for maintenance credits.

Appendix 3



December 15, 1983

Cynthia Kurtz
Streetlighting Manager
City of Portland
1120 SW 5th Ave
Portland OR 97204

Dear Cynthia:

Based on our discussion on Tuesday, we have revised the printout for the fieldwork part of our study to provide columns to verify pole numbers and to indicate the status of each light. I have enclosed a sample for your review. Also enclosed is a final copy of the sample size determination and decision rule on which we agreed.

We will generate the actual sample in the next few days and will then provide Dave with a list of plat numbers from which he will order the appropriate maps.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Randy', is written over a horizontal line.

R. J. Dahlgren
Manager, Rates

RJO/ljc
1887e.1283

c: Grieg Anderson
Dave Ford
Mark Magleby
Ken Kraus

CITY OF PORTLAND

and

P. G. E.

Analysis of Sampling
For Street Light Burning Hours

December 13, 1983

REQUIRED SAMPLE SIZE FOR 95 PERCENT RELIABILITY

<u>True Value of P</u>	<u>Statement With 95% Reliability</u>	<u>Required Value of N</u>	<u>Required Value of N + 5%</u>
.010	$.005 \leq P \leq .015$	1,525	1,597
.015	$.010 \leq P \leq .020$	2,270	2,384
.020	$.015 \leq P \leq .025$	3,011	3,162
.025	$.020 \leq P \leq .030$	3,745	3,932
.030	$.025 \leq P \leq .035$	4,471	4,694

Based on the City of Portland's estimate of 2.5 percent, sample size, including 5 percent over sampling allowance to allow for sampling error, is 3,932. Rounded, this equals 4,000.

STREETLIGHT SAMPLE DECISION RULES
FOR ALTERING STREETLIGHT BURNING HOURS

$$H_0: | P_{off} - P_{on} | = 0$$

$$H_1: | P_{off} - P_{on} | \neq 0$$

$$\text{Accept } H_0 \text{ if: } | P_{off} - P_{on} | \leq .005$$

Otherwise accept H_1 .

If H_0 , then no alteration to the burning hours will occur.
If H_1 , then the following formula will apply to altering streetlight burning hours.

$$\text{Burning hours} = 4,200 - (P_{off} * 4,200) + (P_{on} * 4,560)$$

P_{off} = percentage of lamps off during the night

P_{on} = percentage of lamp on during the day

STREET LIGHT MASTER --- NOV 18 1983 NOT REAL
 SAMPLE OPTION A OR B MERCURY VAPOR OR HPS LUMINAIRES

GROUP#39

'LAI_NUM	SEQ_NUM	POLE_NUM	POLE_CHK	DAY_OFF	DAY_ON	LOCATION	NITE_OFF	NITE_ON
100002630	0416	00000				110101-220000 S/H COR N SKIDMORE & WILLIAMS AVE		
100002630	0421	97407				110101-227407 S/S NE SKIDMORE 1 E/O WILLIAMS AVE		
100002630	0423	98402				110101-228402 NE CLEVELAND 1 N/O SKIDMORE		
100002630	0426	98460				110101-228460 S/E COR NE SKIDMORE & CLEVELAND		
100002630	0431	98403				110101-228403 NE SKIDMORE 1 N/O RODNEY		
100002630	0436	98461				110101-228461 S/E COR NE SKIDMORE & RODNEY		
100002630	0438	98404				110101-228404 NE RODNEY 2 SPS N/O SKIDMORE		
100002630	0441	98406				110101-228406 S/S NE SKIDMORE 1 SP E/O RODNEY		
100002630	0444	99309				110101-229309 NE MALLORY 2 SP S/O SKIDMORE		
100002630	0446	99460				110101-229460 S/E COR NE SKIDMORE & MALLORY		

Appendix 4

CONFIDENCES BETWEEN
PROPORTIONS FOR SAMPLES OF SIZE 4,000 LUMINAIRES

1. With an average P between .0000 and .0075, we have a 99% probability of not making a Type I error.
2. With an average P between .0075 and .0132, we have a 95% probability of not making a Type I error.
3. With an average P between .0132 and .0187, we have a 90% probability of not making a Type I error.
4. With an average P between .0187 and .0315, we have an 80% probability of not making a Type I error.

Average P: $(P_{on} + P_{off}) \div 2$

Type I error: Rejecting H_0 when it is actually true.

MM/1sm
1855e.1283

J between two hypotheses

$$e = \sigma \cdot z$$

$$J = \sqrt{p(1-p) \left(\frac{1}{n} + \frac{1}{n} \right)}$$

$$e = \sqrt{p(1-p) \left(\frac{2}{n} \right)} \cdot z$$

$$\left(\frac{e}{z} \right)^2 = p(1-p) \left(\frac{2}{n} \right)$$

$$p(1-p) = \frac{e^2 n}{2 z^2}$$

$$\frac{e^2}{z^2 p(1-p)} = \frac{2}{n}$$

$$n = \frac{2 z^2 p(1-p)}{e^2}$$

Samples of 4,000 upper limits for Ave P
for Confidence Interval

$$(P)(1-P) = \frac{n e^2}{z^2 z^2} \quad n = 4,000 \quad e = .005$$

~~80% conf
z = 1.28~~

$$\frac{4000 * (.005^2)}{z * (1.28^2)} = .0305$$
$$(.0315)(1 - .0315) = .0305$$
$$p = .0315$$

~~90% conf
z = 1.65~~

$$\frac{4000 * (.005^2)}{z * (1.65^2)} = .018365$$
$$(.0187)(1 - .0187) = .01835$$
$$p = .0187$$

~~95% conf
z = 1.96~~

$$\frac{4000 * (.005^2)}{z * (1.96^2)} = .013015$$
$$(.0132)(1 - .0132) = .013026$$
$$p = .0132$$

~~99% conf
z = 2.58~~

$$\frac{4000 * (.005^2)}{z * (2.58^2)} = .007512$$
$$(.00757)(1 - .00757) = .007513$$
$$p = .0075$$

Sample Sizes For each Sample
 Comparison between two Populations

with $\pm .005$ reliability $e = .005$

<u>Ave P</u>	<u>$Z = 2.58$ 99% Conf</u>	<u>$Z = 1.96$ 95% Conf</u>	<u>$Z = 1.65$ 90% Conf</u>	<u>$Z = 1.28$ 80 Conf</u>
.0050	2,649	1,529	1,084	652
.0075	3,964	2,288	1,621	976
.0100	5,272	3,042	2,156	1,298
.0125	6,573	3,793	2,688	1,618
.0150	7,868	4,540	3,218	1,937
.0175		5,284	3,745	2,254
.0200		6,022	4,268	2,569
.0250			5,308	3,195
.0300				3,814

$$n = \frac{Z^2 (P)(1-P)}{e^2}$$

Appendix 5



December 2, 1983

Cynthia Kurtz
Streetlighting Manager
City of Portland
1120 SW 5th Ave
Portland OR 97204

Dear Cynthia:

I think that we made good progress during our meeting on Wednesday regarding the streetlight lamp/photocell failure study. Based on my notes, we made the following tentative decisions:

1. The sample will consist of about 4,000 units sampled in clusters of ten. We are doing some additional statistical work to develop the exact number.
2. We will sample the entire PGE service territory.
3. Only Options A and B mercury vapor and high pressure sodium streetlights will be sampled.
4. The sample will be used for the comparison between the proportion of lamps off during the night and the proportion of lamps on during the day.
5. Half of the field work will be done by PGE employees and half by contractors hired by the City. We will consider this to be an equal sharing of costs.
6. PGE will develop the computer programming to select the sample. We will have an example by our next meeting.
7. The City will develop a draft of instructions/training material for the field work.
8. We will attempt to do the field work in February 1984.

Cynthia Kurtz
December 2, 1983
Page 2

Our next meeting is scheduled for 1:30 on December 13 in your office. I
look forward to seeing you then.

Sincerely,

Randy

R. J. Dahlgren
Manager of Rates

RJD/1dn
1842a.1183

c: Grieg Anderson
Dave Ford
Mark Magleby ✓
Ken Kraus

Appendix 6

Street Light Sample Selection

Universe: 79,187 mv and HPS, option A or B Luminaires
Sample Size: 4,000 Luminaires
Sample Characteristics: 400 groups of 10 Luminaires,
each group to be relatively close proximity.

Sample Selection

1. Sort the Universe by Plat # and Sequence #
2. Selection is as follows: The first group starts with the seed number and choosing the next 10 luminaires. From the seed number we move down the universe by the spacing number and select the next 10 luminaires for group 2. This format continues until all 400 groups have been obtained.
 - A. The spacing number: $(\text{Universe} - \text{group size}) / \# \text{ groups}$
This allows all luminaires a chance to be selected as part of the sample
 $(79,187 - 10) / 400 = 197.9425$
 - B. Seed number: starting point for sample group 1 selection. From Random number table A-15 Applied statistics Neter and Wasserman started row 108 - column 11 went right until found a number between 1 and 198 [176]

TABLE A-15

Table of Random Digits

Line	(1)-(5)	(6)-(10)	(11)-(15)	(16) (20)	(21)-(25)	(26)-(30)	(31)-(35)
101	13284	16834	74151	92027	24670	36665	00770
102	21224	00370	30420	03883	94648	89128	41583
103	99052	47887	81085	64933	66279	80432	65793
104	00199	70993	98603	38452	87890	94634	69721
105	60578	06483	28733	37867	07936	98710	98539
106	91240	18312	17441	01929	18163	69201	31211
107	97458	14229	12063	59611	32249	90466	33216
108	15249	38646	14475	72417	60514	69257	12489
109	38980	46600	11759	11900	46743	27360	77940
110	10750	52745	38749	37365	58959	53731	89295
111	36247	27850	73958	20673	37800	63835	71051
112	70994	66986	99744	72438	01174	42159	11392
113	99638	94702	11463	18148	81386	80431	90628
114	72055	15774	43857	99805	10419	76939	25993
115	24038	65541	35788	55835	38835	59399	13790
116	74976	14631	35908	28221	39470	91548	12854
117	35553	71623	70139	26436	63407	91178	90348
118	35676	12797	51434	82976	42010	26344	92920
119	74815	67523	72985	23183	02446	63594	98924
120	45246	88048	65173	50989	91060	89894	36036
121	76509	47069	86378	41797	11910	49672	38575
122	19689	90332	04315	21358	97248	11188	39062
123	42751	35318	97313	61537	54955	08159	00337
124	11946	22681	45045	13964	57517	59419	58045
125	96518	48688	20996	11090	48396	57177	83867
126	35726	58643	76869	84622	39098	36083	72505
127	59737	42750	48968	70336	34864	64952	38404
128	97025	66492	56177	04049	80312	48028	26408
129	62814	08075	09788	56350	76787	51591	54509
130	25578	22950	15227	83291	41737	59599	96191
131	68763	69576	88991	49662	46704	63362	56625
132	17900	00813	64361	60725	88974	61005	99709
133	71944	60227	63551	71109	05624	43836	58254
134	54684	93691	85132	64399	29182	44324	14491
135	25946	27623	11258	65204	52832	50880	22273
136	01353	39318	44961	44972	91766	90262	56073
137	99083	88191	27662	99113	57174	35571	90884
138	52021	45406	37945	75234	24327	86978	22644
139	78755	47744	43776	33098	03225	14281	83637
140	25232	69106	59130	16257	22810	43609	12224
141	11959	94202	02743	86847	79725	51811	12998
142	11644	13792	98190	01424	30078	28197	55583
143	06307	97912	68110	59812	95448	43244	31262
144	76285	75714	39585	99296	52640	46518	55486
145	55322	07598	39600	60866	63007	20007	66819
146	78017	90928	90220	92503	83375	26986	74399
147	44768	43342	20696	26331	43140	69744	82928
148	25100	19336	14605	86603	51680	97678	24261
149	83612	46623	62376	85197	07824	91392	58317
150	41347	81666	82961	60413	71020	83658	02415

Source: Table of 105,000 Random Digits, Interstate Commerce Commission, Bureau of Transport Economics and Statistics, 1949.

Appendix 7

COP/COG/LOC/258
Gray-Harris-Fogue-Heberling-Peters/45

PHOTOCELL OPERATION FIELD SURVEY
PROCEDURES

- I. Welcome
- II. Survey Goal: ?
(Maybe a general statement: To establish a uniform methodology of tracking Street Lighting rates and charges.)
- III. Survey Objective: To field check individual street lights to determine if they are off or on during the day -- and if those same street lights are off or on during the night.
 - A. Individual Lights
Chosen by computer random sample using PGE system-wide street light inventory (boundaries: Portland to Salem; Mt. Hood to the Pacific.)
 - B. Numbering System
 1. Geographic areas divided by PLAT NUMBER
 2. Each light has a POLE NUMBER
 3. Each light has a SEQUENCE NUMBER"Computer was asked to choose one sequence number in each plat number area, then print the next 9 sequence numbers that followed. These 10 street lights per plat number (geographic area) are what we need to look at."
- IV. Handouts and Explanations
 - A. Sample: City-wide PLAT MAP (showing how plat #'s are arranged)
 - B. Sample: Computer listing (10 lights in a row on one street)
 - C. Sample: Corresponding plat map
 - D. Sample: Computer listing (10 lights spread out : 2 - 3 close streets)
 - E. Sample. Corresponding plat map
 - F. Sample: Computer listing (10 lights spread out on 2 plat maps)
 - G. Sample: Corresponding plat maps
 - a. Metal Pole Tags
- V. MAPS
Each map will have lights to be checked circled in red. On the map borders, cross streets will be boldly marked. Larger maps for further location information, easy route access, problems, etc., are available at City. (PGE ?)

Attached are locations of street lights to be field checked. The field check information will be used in an analysis of the number of burning ("off-on") hours as reflected in the street light rate tariff.

Each location given has ten (10) separate street lights. They all have separate pole and sequence numbers, which are written on a tag on each street light pole.

You will be checking these lights twice -- 1) during the daylight hours of 8am - 2pm, and 2) during the night time hours of 10pm - 5am. The daylight check will be made first to ensure you are at the correct location and can provide the pole tag number (located on the pole itself). The night time check is to be done at 10pm or later the same day, while you are still familiar with the specific street light locations.

You will be checking to see whether each light circled on the maps is:

1. "on" (burning), or
2. "off" (not burning)

INSTRUCTIONS

1. The individual poles and lights are circled on attached maps. Proceed to the first light shown at either end on the grouping of 10 lights.
2. Check the pole tag number (located about 6' high on the pole itself). Write these numbers next to the light on the map.
3. Note on the map whether the light is "on" or "off"
4. Proceed to the next 8 lights on the map and write the status of each on the map next to each light.
5. At the last (10th) light, again check the pole tag number. Write these numbers on the map next to the light circled, and indicate on the map if the light is "on" or "off".
6. Complete each grouping of 10 lights before going on the next map grouping.

STREET LIGHT MASTER NOV 18 1983
SAMPLE OPTION A OR B MERCURY VAPOR OR MPS LUMINAIRES

GROUP=213

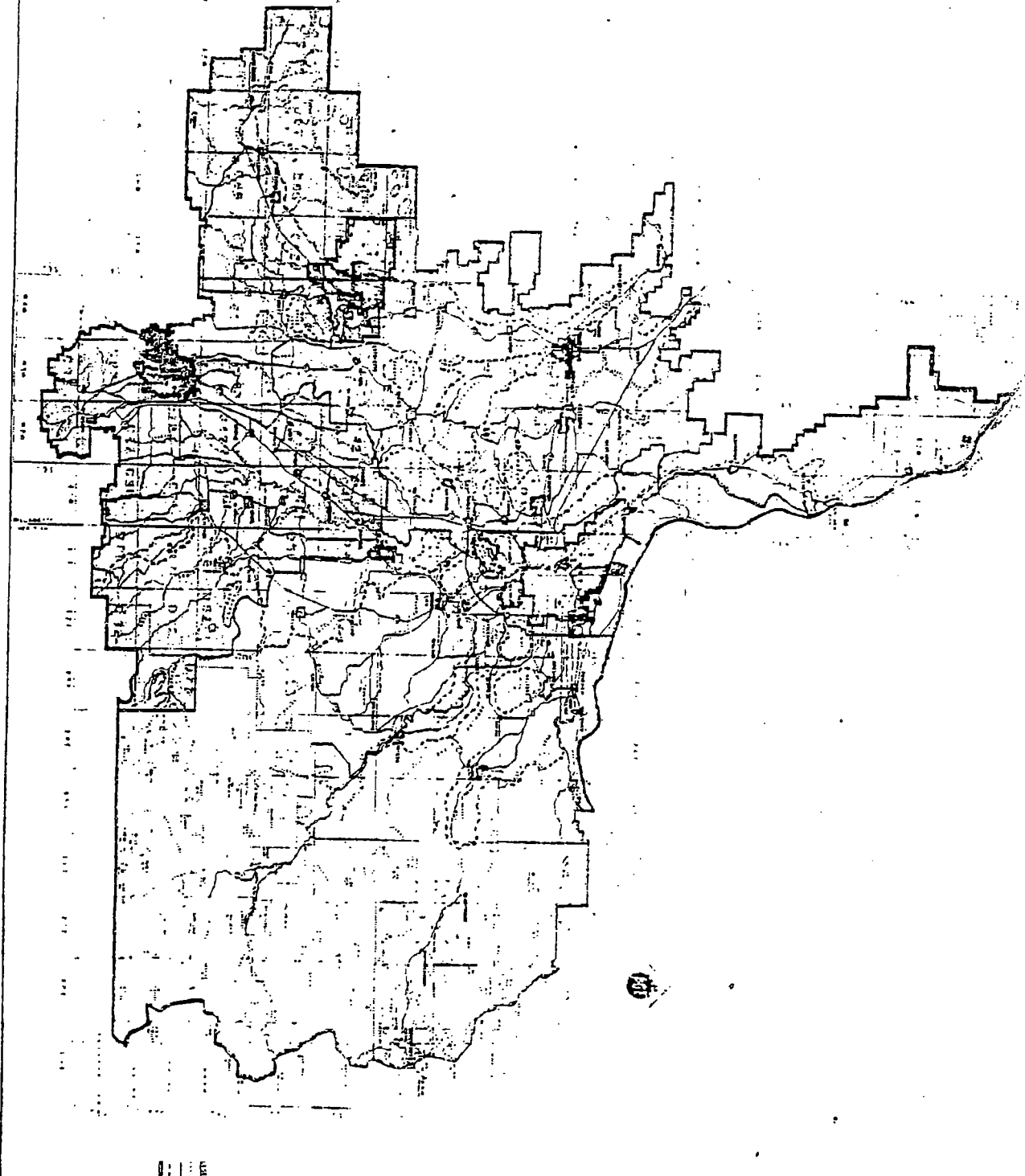
PLAT_NUM	SEQ_NUM	POLE_NUM	POLE_CHK	DAY_OFF	DAY_ON	LOCATION	NITE_OFF	NITE_ON
301010144	1020	04919				ARROWHOOD LN 450 FT S/O JAMIESON		
301010144	1030	04920				ARROWHOOD LN 700 FT S/O JAMIESON		
301010144	1040	04921				ARROWHOOD LN 925 FT S/O JAMIEISON		
301010144	1050	04922				ARROWHOOD LN 1175 S/O JAMIESON		
301010144	1060	05329				ARROWHOOD LN 1400 FT S/O JAMIESON		
301010144	1070	05330				ARROWHOOD LN 1600 FT S/O JAMIESON		
301010144	1080	05331				ARROWHOOD 1750 FT S/O JAMIESON		
301010144	1100	07170				JAMIESON RD & SN 88TH		
301010144	1110	07171				SH 88TH 50FT N/O ROSEHOOD MAY		
301010144	1120	07172				ROSEHOOD MAY 100 W/O 88TH		

Gray-Harris-Fo COP/COG/LOC/258
e-Heberling-Peters/47

DATE

DATE

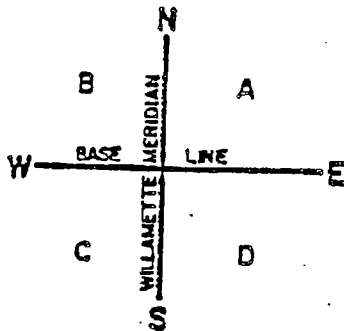
SIGNATURE UPON COMPLETION



CITY OF COLUMBIA
PLANNING DEPARTMENT
OUTLINE OF EXISTING
DIVISIONS & DISTRICTS
DATE: 11/15/98
BY: [Signature]

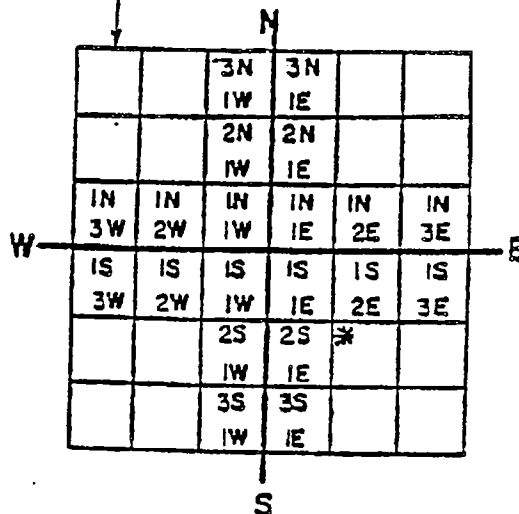
LEGEND
--- Existing District Boundary
--- Existing Division Boundary
--- Major Street
--- Minor Street
--- Waterway

A township is made up of 36 sections.
 A section is an area one mile square.
 Township refers to 36 sections north or south of the baseline.
 Range refers to 36 sections east or west of the Willamette meridian.



Northeast area = A
 Northwest area = B
 Southwest area = C
 Southeast area = D

Each square represents 36 sections.



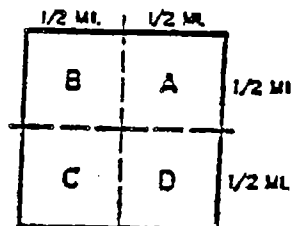
*Township 2 south, range 2 east, section 6.
 PGE's plat map designation: D22-6

SECTION NUMBERS

	31	32	33	34	35	36	
1	6	5	4	3	2	1	6
12	7	8	9	10	11	12	7
13	18	17	16	15	14	13	18
24	19	20	21	22	23	24	19
25	30	29	28	27	26	25	30
31	31	32	33	34	35	36	31
	6	5	4	3	2	1	

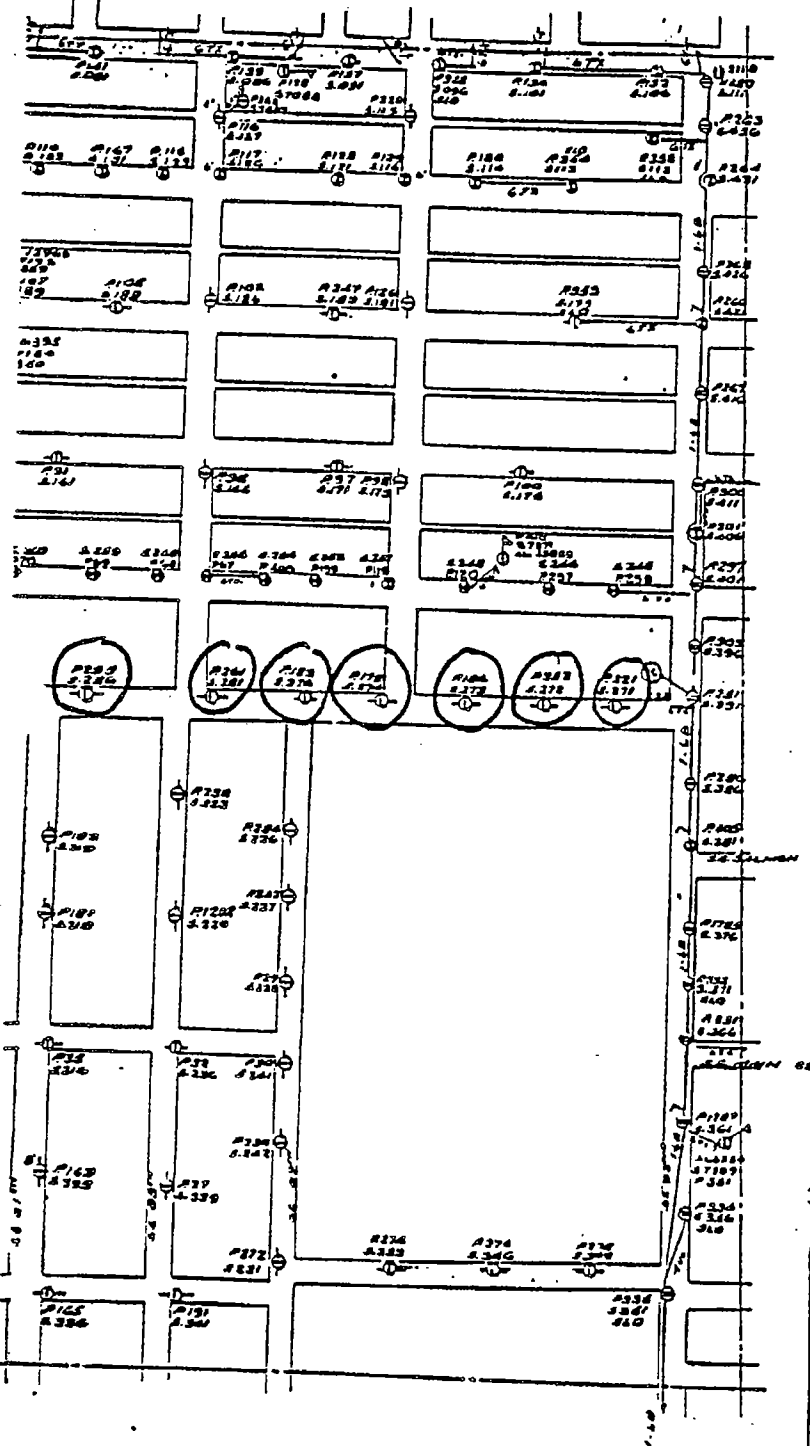
Adjoining Sections

QUARTER SECTIONS



City of Portland
 Quarter Section Number System

3031	3032	3033	3034	3035	3036
3131	3132	3133	3134	3135	3136
3231	3232	3233	3234	3235	3236
3331	3332	3333	3334	3335	3336



BILLING CODE 14172

- 7000 L MV SENT LT
- 20000 L MV SENT LT
- 55000 L MV SENT LT

BILLING CODE 14001

OPTION B

- 21000 LMV
- 55000 LMV

OPTION A

- 10,000 LU. MV.
- 21,000 LU. MV.
- 7,000 LU. MV.

STREET LIGHT ONLY POLES

0187-11
 18885
 3418-103
 3385-164
 3387-16
 11334

PRINTS	
R	3
CFS	2
DL	1
CS	1
CS	1
TOTAL 8	

DATE OF LAST REVISION

2-16-79

PORTLAND ST. LGT.

PORTLAND GENERAL ELECTRIC CO.
PORTLAND, OREGON

JOB NO. _____

SCALE: 1" = 200'

DRAWN BY: B. N. _____ CHECKED BY: _____

DATE: 7-27-56

APPROVED BY: *Walter M. King*
SUPERVISOR OF DESIGN

STREET LIGHT MASTER ---- NOV 18 1983
 SAMPLE OPTION A OR B MERCURY VAPOR OR MPS LUMINAIRES

GROUP-271

OB S	A C C Y N U M	P L A T N U M	S E Q N U M	P O L E N U M	P O L E T Y P E	Y E A R	I N S T L D T	R E L H P D T	L A P O C A L I T Y	L O C A T I O N	P A A I M P T Y R	S C H E M E	U N D E R P R O J E C T I O N S	S T A R T	O R G U B S	T E S T	C O U N T		
2701	23176	306010102	0075	03887	11	1980	101780	101780	S-CULDESAC OF MARION CT	5-CULDESAC OF MARION CT	33	91	A	01	176	53621	0.525	1	2701
2702	23176	306010102	0080	03885	00	1980	101780	101780	MARION ST & RAILWAY AVE	E/O FIR ST-N/O MAY ST	33	91	A	01	176	53622	1.525	2	2702
2703	23176	306010102	0085	03866	01	1980	051980	51980	HIGHWAY #214 AT GARFIELD ST	GARFIELD ST 520 S OF CHURCH ST	36	91	A	00	176	53623	2.525	3	2703
2704	23176	306010102	0090	03101	00	1974	091174	21181	GARFIELD ST 140 S OF CHURCH ST	GARFIELD & CHURCH	23	91	A	00	176	53624	3.525	4	2704
2705	23176	306010102	0100	00577	00	1975	091275	21181	CHURCH & CLEVELAND	CHURCH & CLEVELAND	23	91	A	01	176	53625	4.525	5	2705
2706	23176	306010102	0120	00574	00	1975	091275	21181	CLEVELAND 390 S OF CHURCH	SHERIDAN 385 S OF CHURCH	23	91	A	01	176	53626	5.525	6	2706
2707	23176	306010102	0130	00571	00	1983	091583	91583			39	91	A	01	176	53627	6.525	7	2707
2708	23176	306010102	0150	00580	00	1982	062182	62182			39	91	A	01	176	53628	7.525	8	2708
2709	23176	306010102	0160	00585	00	1967	102467	21181			21	91	A	00	176	53629	8.525	9	2709
2710	23176	306010102	0200	00593	00	1967	102467	80577			21	91	A	00	176	53630	9.525	10	2710

Appendix 8

Assumptions

- Probability a single light malfunctioning is 1%
- All lights operate independently.
- IF INSPECTOR guesses they guess that all the lights operate correctly.

Calculation

Probably one or more lights out in a set of 10

$$P_1 = 1 - (1 - .01)^{10} = .096$$

IF a fraction P_2 of the sets of 10 lights are guessed then the probability of observing a faulty guess with a sample of 1 is

$$\begin{aligned} & (\text{Prob of a guess}) (\text{Prob. guess incorrect}) \\ & = (P_2) (.096). \end{aligned}$$

IF n sets of 10 lights are reinspected the probability of finding one or more guesses (OR errors or changes in operation status) is

$$P_3 = 1 - (1 - .096 P_2)^n$$

A table of P_3 as a function of P_2 is included

$\alpha = .05$ $\beta_1 = .18$

COP/COG/LOC/258
Gray-Harris-Fogue-Heberling-Peters/56

Reinspection size

θ_0 guessed	10	20	40	80
5%	9	17	31	52
10	17	31	52	77
20	31	53	77	95
30	43	68	90	99
40	53	78	95	100
50	62	85	98	100
100	87	98	100	100

3301 100 SHEETS & NUMBER
3302 100 SHEETS & NUMBER
3303 100 SHEETS & NUMBER
3304 100 SHEETS & NUMBER
3305 100 SHEETS & NUMBER
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3309 100 SHEETS & NUMBER
3310 100 SHEETS & NUMBER
3311 100 SHEETS & NUMBER
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3321 100 SHEETS & NUMBER
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3333 100 SHEETS & NUMBER
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3398 100 SHEETS & NUMBER
3399 100 SHEETS & NUMBER
3400 100 SHEETS & NUMBER

1, = .26

No gessed	Reinspection size			
	10	20	40	80
5%	12	23	41	65
10	23	41	66	88
20	42	66	88	99
30	56	81	96	100
40	67	89	99	100
50	76	94	100	100
100			100	100

RESEARCH
AND
DEVELOPMENT
CORPORATION

490

$\rho = .34$

Reinspection size

ρ guessed	10	20	40	80
5%	16	29	49	74
10	29	49	74	93
20	50	75	94	100
30	65	88	99	100
40	76	94	100	100
50	84	97	100	100
100	98	100	100	100

RESEARCH & ANALYTICAL
SERVICES
1000
NATIONAL

TABLE A-15

Table of Random Digits

Line	(1)-(5)	(6)-(10)	(11)-(15)	(16)-(20)	(21)-(25)	(26)-(30)	(31)-(35)
101	13284	16834	74151	92027	24670	36665	00770
102	21224	03370	30420	03883	94648	89428	41583
103	99052	47887	81085	64933	66279	80432	65793
104	00199	50993	98603	38452	87890	94624	69721
105	60578	06483	28733	37867	07936	98710	98539
106	91240	18312	17441	01929	18163	69201	31211
107	97458	14229	12063	59611	32249	90466	33216
108	35249	38646	34475	72417	60514	69257	12489
109	38930	46600	11759	11900	46743	27860	77940
110	10730	5745	38749	87365	58959	53731	89295
111	36147	27850	73958	20673	37800	63835	71051
112	70994	66986	99744	72438	01174	42159	11392
113	99638	94702	11463	18148	81386	80431	90628
114	72055	15774	43857	99805	10419	76939	25993
115	24038	65541	85788	55835	38835	59399	13790
116	74976	14631	35908	28221	39470	91548	12854
117	35153	71628	70189	26436	63407	91178	90348
118	35676	12797	51434	82976	42010	26344	92920
119	74815	67523	72985	23183	02446	63594	98924
120	45146	88048	65173	50989	91060	89894	36036
121	76809	47069	86378	41797	11910	49672	88575
122	19689	90332	04315	21358	97248	11188	39062
123	42751	35318	97513	61537	54955	08159	00337
124	11946	22681	45045	13964	57517	59419	58045
125	96118	48688	20996	11090	48396	57177	83867
126	35726	58643	76869	84622	39098	36083	72505
127	39737	42750	48968	70536	84864	64952	38404
128	97025	66492	56177	04049	80312	48028	26408
129	62014	08075	09788	56350	76787	51591	54509
130	25578	22950	15227	83291	41737	59599	96191
131	68763	69576	88991	49662	46704	63362	56625
132	17900	00813	64361	60725	88974	61005	99709
133	71944	60227	63551	71109	05624	43836	58254
134	54684	93691	85132	64399	29182	44324	14491
135	25946	27623	11258	65204	52832	50880	22273
136	01353	39318	44961	44972	91766	90262	56073
137	99083	88191	27662	99113	57174	35571	99884
138	52021	45406	37945	75234	24327	86978	22644
139	78755	47744	43776	83098	03225	14281	83637
140	25282	69106	59180	16257	22810	43609	12224
141	11959	94202	02743	86847	79725	51811	12998
142	11644	13792	98190	01424	30078	28197	55583
143	06107	97912	68110	59812	95448	43244	31262
144	76285	75714	89585	99296	52640	46518	55486
145	55322	07598	39600	60866	63007	20007	66819
146	78017	90928	90220	92503	83375	26986	74399
147	44768	43342	20696	26331	43140	69744	82928
148	25100	19336	14605	86603	51680	97678	24261
149	83612	46623	62876	85197	07824	91392	58317
150	41147	81666	82961	60413	71020	83658	02415

Source: Table of 103,000 Random Decimal Digits, Interstate Commerce Commission, Bureau of Transport Economics and Statistics, 1949.

Appendix 9



June 4, 1984

Cynthia Kurtz
Streetlight Manager
City of Portland
1120 SW 5th Ave
Portland OR 97204

Dear Cynthia:

As we have discussed, the results of the streetlight field work are now being finalized with the following results:

	<u>Results</u>	<u>Fraction of Those Found</u>
Total sample	4,000	
Not found	42	
Off at night	60	.0151592
On during day	13	.0032845

Based on our previous agreement, the resultant burning hours are as follows:

$$\begin{aligned} \text{Annual burning hours} &= 4,200 - (4,200 \times .0151592) \\ &+ (4,560 \times .0032845) = 4,151 \text{ annual burning hours} \end{aligned}$$

which I suggest we round to 4,150 hours. Our next general filing will include these revised annual burning hours. We are in the process of drafting a report on the study which we will forward to you for comment. I anticipate that it will be issued jointly.

Finally, we recently discussed the issue of the potential errors in streetlight inventory. We are willing to continue these discussions to ensure an equitable solution.

Sincerely,

A handwritten signature in cursive script that reads 'Randy'.

R. J. Dahlgren
Manager of Rates

RJD/MM/lasc
2533e33.584

c: Dave Ford
Mark Magleby

PORTLAND SAMPLE RESULTS

PAGE=20

COP/COG/LOC/258
 Gray-Harris-Fogue-Heberling-Peters/62

GROUP	NOT_FOND	DAY_OFF	DAY_ON	NITE_OFF	NITE_ON
381		16			10
382		10			10
383		16			10
384		10			9
385		16		1	10
386		16			10
387		10			10
388		16			10
389		16			10
390		10		1	9
391		10		1	9
392		10			10
393		16			10
394		16			10
395		10			10
396		10			10
397		10			10
398		10			10
399		16			10
400		10			10
TOTAL	0	706	0	3	197
GRAND TOTAL	42	3,145	13	60	3,898

.0032845

.0151592

$$e = \sqrt{\frac{z^2(p)(1-p)}{n}}$$

$$p = .0032845$$

$$e = \sqrt{\frac{1.96^2(.0032845)(1-.0032845)}{3558}} = .001783$$

$$.0032845 + .0017825 = .0050670$$

$$.0032845 - .0017825 = .0015020$$

$$p = .0151592$$

$$e = \sqrt{\frac{1.96^2(.0151592)(1-.0151592)}{2958}} = .003807$$

$$.0151592 + .003807 = .0189658$$

$$.0151592 - .003807 = .0113526$$

Calculating Z Score For Street Light Survey

$$Z = \frac{P_{ON} - P_{OFF}}{S_{P_{ON} - P_{OFF}}} = \frac{.0118747}{.00214454} = 5.53 \quad \underline{\underline{99.9\%}}$$

$$P_{ON} - P_{OFF} = .0151592 - .0032845 = .0118747$$

$$S_{P_{ON} - P_{OFF}} = \sqrt{\frac{Pq}{n} + \frac{Pq}{n}} = \sqrt{\frac{(.0151592)(1-.0151592)}{3,958} + \frac{(.0032845)(1-.0032845)}{3,958}}$$

$$= \sqrt{\frac{.014929 + .003274}{3,958}} = \sqrt{.0000046} = .00214454$$

September 21, 2006

TO: Benjamin Walters
Office of City Attorney

FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UE 180
PGE Response to City of Portland Data Request
Dated September 14, 2006
Question No. 071**

Request:

PGE/2200/18, lines 11-12. Please identify the reasons why Puget Sound Energy adopted the prohibition on new un-metered customer-owned street lighting installations in 1999. Please identify any other utilities with such prohibitions (to PGE's knowledge).

Response:

PGE is not aware of all of the reasons why Puget Sound Energy made its decision. It is PGE's understanding that an audit was done to compare actual load with expected load on un-metered customer-owned lighting systems. The result of that audit was a basis for their decision to prohibit new service or additions to existing un-metered lighting systems. PGE does not have a copy of the Puget Sound Energy audit.

Due to the limited time for a response we were not able to obtain additional information from other utilities.

September 21, 2006

TO: Benjamin Walters
Office of City Attorney

FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UE 180
PGE Response to City of Portland Data Request
Dated September 14, 2006
Question No. 070**

Request:

PGE/2200/17, lines 9-12. Please provide all field personnel reports used to reach the conclusion that energy diversion is occurring or has occurred on Option C lighting installations. Please provide any documentation for the amount of energy so diverted. For each instance where diversion was allegedly discovered, please state how PGE addressed the situation so that diversion was eliminated. Please explain how the current rules prohibiting diversion of energy are inadequate to address this issue. Please explain how metering of new Option C lights would address the potential for diversion from existing Option C lights.

Response:

PGE's testimony cited examples of service diversion so as to illustrate how diversion is a reality. The various examples in testimony were gathered from field personnel based on their time and work experience. Field personnel are not required to keep detailed records that explicitly relate to customer-owned and maintained lighting systems. Metering Option C service mitigates the risk that other customer classes will have to subsidize service diverted through these unmetered accounts. In addition, metering these circuits would give customers additional flexibility to add or remove additional equipment, change photocell specifications from that of the PGE standard or to change to another type of switching device without having to notify PGE of any of these changes.

September 28, 2006

TO: Benjamin Walters
Office of City Attorney

FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UE 180
PGE First Supplemental Response to City of Portland Data Request
Dated September 14, 2006
Question No. 075**

Request:

PGE/2200/20, lines 19-23. Please provide a complete copy of the most recent contract for maintenance of streetlights by non-PGE personnel. Does PGE have any streetlight maintenance contracts that permit subcontracting? If so, how does PGE enforce the quality of work by such subcontractors? Does PGE supervise the work of such subcontractors?

Response (September 21, 2006):

Attachment 075-A contains a copy of the most recent contract for group relamping maintenance of streetlights by non-PGE personnel. Attachment 075-A is confidential and subject to Protective Order No. 06-111.

PGE does not have any maintenance contracts that allow contractors to subcontract to other contractors. All contractors who perform streetlight maintenance are supervised by PGE personnel. Contractors receive their work assignments from PGE personnel, use PGE laptop computers with appropriate PGE software, and are tracked and monitored in the field. In order to ensure safety and system reliability, regional dispatchers are constantly aware of where these PGE-supervised contract crews are performing streetlight maintenance. PGE believes that all of these measures are necessary to ensure safety and reliability for not only streetlights, but also the entire distribution system.

PGE's First Supplemental Response to COP Data Request No. 075
September 28, 2006
Page 2

First Supplemental Response (September 28, 2006):

The September 21, 2006 response included the Attachment 075-A, which contained a copy of the most recent contract for group relamping maintenance of streetlights by non-PGE personnel and was deemed confidential. Only the first page of Attachment 075-A is confidential and subject to Protective Order No. 06-111.

Attachment 075-A Supp 1 contains a copy of the blanket contract for group relamping maintenance of streetlights by non-PGE personnel, which is not confidential.

UE 180
Attachment 075-A Supp 1

Group Relamping Maintenance of Streetlights

COP/COG/LOC/261A
Gray-Harris-Fogue-Heberling-Peters/1

UE 180
Attachment 075-A Supp 1

Group Relamping Maintenance of Streetlights

**PORTLAND GENERAL ELECTRIC COMPANY
SUPPLEMENTAL TERMS AND CONDITIONS**

Contract Labor

1. Applicability, Definitions

These Supplemental Terms and Conditions apply to and are a part of the Portland General Electric Company ("PGE") purchase order that references them (the "Purchase Order"). "Contractor" means the person or entity to which the Purchase Order is addressed. "Work" means all the goods, property and services ordered pursuant to the Purchase Order or necessary to furnish same and includes, without limitation, furnishing all personnel, labor, supervision, technical, professional and other services, materials, supplies, equipment, goods and other property, transportation, information, drawings, plans, specifications, designs, data and other items necessary to the satisfactory completion of Contractor's obligations.

2. Complete Agreement and Order of Precedence

The Purchase Order, these Supplemental Terms and Conditions, and any schedules, exhibits, amendments, supplements or other documents referenced in and attached to the Purchase Order constitute the complete agreement between PGE and Contractor ("Agreement") and supersede all prior negotiations, representations or agreements, whether oral or written, related to the subject matter of this Agreement. No other terms, conditions or provisions shall be part of this Agreement or be binding on PGE unless specifically accepted by PGE in writing. The Purchase Order is expressly conditional on Contractor's assent to all terms and conditions contained in the Agreement. Any term or condition contained in any quotation, proposal or other documentation supplied by Contractor that is different from, in addition to, or inconsistent with any term or condition specified in the Agreement is hereby objected to and rejected, and PGE shall not be bound by any such term. In the event of any conflict between the terms of any documents constituting this Agreement, the following order of precedence shall apply: (a) the Purchase Order, (b) these Supplemental Terms and Conditions; (c) all other documents incorporated into the Purchase Order by reference, with documents of more recent date taking precedence over prior documents.

3. Changes

PGE may, by a proposed written Purchase Order Supplement, order changes to the quantity and/or the specifications of Work, and the parties will undertake to negotiate an appropriate adjustment in price and terms where Contractor's direct costs or the time for performance are materially affected by PGE's proposed changes. Within ten (10) days of receiving notification of a proposed change, Contractor shall submit to PGE a detailed written proposal for accomplishing the changes and setting forth any proposed adjustments to the purchase price or other terms (and the bases for each adjustment) if Contractor intends to assert a claim for adjustment. If the parties reach agreement as to the appropriate adjustments, PGE shall issue its final Purchase Order Supplement amending this Agreement accordingly. If PGE and Contractor are unable to agree on the appropriate adjustments, PGE may terminate this Agreement pursuant to Section 22A below, or may issue its Purchase Order Supplement requiring such changes, in which event the equitable adjustment shall be limited to the actual out-of-pocket cost incurred by Contractor in

performance of the Agreement as modified plus a reasonable sum as profit on the Work, which shall constitute full compensation to Contractor for the change.

No change shall be binding upon PGE until a Purchase Order Supplement is executed by an authorized representative of PGE that expressly states that it constitutes a supplement to this Agreement. THE ISSUANCE OF INFORMATION, ADVICE, APPROVALS OR INSTRUCTIONS BY ANYONE OTHER THAN THE AUTHORIZED REPRESENTATIVE OF PGE SHALL NOT CONSTITUTE AN AUTHORIZED CHANGE TO THIS AGREEMENT.

Nothing contained in this section shall excuse Contractor from proceeding with the prosecution of the Work in accordance with this Agreement.

4. Price and Payment

The price stated in this Agreement is the total purchase price to be paid by PGE for the Work and includes all taxes, duties, interest, service and charges of any kind whatsoever. Without limiting the foregoing, Contractor shall be exclusively liable for payment to the appropriate governmental authority of all payroll and other employees' contributions and taxes required in respect of Contractor's work and that of its employees, including, but not limited to, taxes imposed under the provisions of any unemployment insurance, Social Security or pension plan. Prior to final payment, Contractor shall, if requested, provide the estimated cost breakdown of scope of taxes, insurance, transportation and items of equipment in accordance with a code of accounts provided by PGE.

All invoices shall contain the number of the Purchase Order and, when required, copies of supporting documentation and proof of expenditures. Invoices shall be addressed as indicated on the Purchase Order. INVOICES THAT DO NOT CONTAIN THE REQUIRED INFORMATION, OR ARE NOT ADDRESSED AS INDICATED ON THE PURCHASE ORDER MAY RESULT IN PAYMENT DELAY.

Payment(s) shall be made by PGE within thirty (30) days of the later of receipt and approval of a proper invoice, or PGE's acceptance of the Work invoiced.

Without limiting any other rights or remedies PGE may have, PGE may set off any loss, damage, liability or claim that PGE may have against Contractor against any performance or payment due to Contractor under this or any other contract between the parties. PGE may also retain from any payments due under this Agreement sufficient funds to discharge any delinquent accounts of Contractor for which liens on PGE's property have been or could be filed, and PGE may apply the funds at any time to pay for Contractor's account any amounts admittedly due, including any sums due under any federal or state law.

5. Reports

Contractor shall prepare and submit progress reports to PGE on a regular basis as agreed by both parties during the period of performance of the Work. Each progress report shall be in sufficient detail to describe all work accomplished and results achieved during the calendar month(s) immediately preceding the month in which the report is submitted. The calendar month(s) and year reported on shall be indicated on each progress report. If requested by PGE, Contractor shall also submit to PGE a report of all studies, surveys, evaluations, analyses, calculations, drawings, and documentation made in planning or

preparing for performance of the Work. PGE or its representatives may visit Contractor's place of business at reasonable times to determine status of ongoing activities required by this Agreement.

6. Independent Contractor

Contractor is acting solely as an independent contractor of PGE and nothing in this Agreement is intended to create a partnership, joint venture, or any relationship of principal-agent, employer-employee, franchiser-franchisee, or master-servant between Contractor and PGE.

7. Amendment; Assignment; Subcontracts

No change, amendment or modification of any provisions of this Agreement shall be valid unless set forth in a written instrument signed by authorized representatives of PGE and Contractor, except as set forth in Section 3 (Changes). Contractor may not assign or transfer this Agreement and the rights and responsibilities under this Agreement, in whole or in part, and may not subcontract any portion of this Agreement or the Work without PGE's prior written consent.

8. Time for Performance

The timely performance of the Work and of Contractor's obligations under this Agreement are material terms of this Agreement.

9. Performance Standard

Contractor and its affiliates and their respective officers, employees, agents, and subcontractors that perform any portion of the Work shall be fully experienced and properly qualified, licensed, and equipped to perform such Work and their obligations under this Agreement. In performing services under this Agreement, such persons shall meet at least the standards of professional skill, care, and judgment normally exercised by a professional in the performance of services similar to those contemplated by this Agreement. Contractor shall be responsible for all methods, means and procedures necessary to properly complete and safeguard the Work. When on PGE premises and work site, the conduct of Contractor and its affiliates and their respective employees, agents, affiliates, and subcontractors shall conform to generally applicable PGE rules and standards, including but not limited to those related to environmental protection, loss control, dust control, safety and security.

10. Contractor's Personnel/Hiring of Convicted Felons/Drugs Alcohol and Firearms

A. Definitions

The following terms shall have the meanings set forth below: (i) "chemical substance" or "drug" means any chemical substance producing physical, mental, emotional or behavioral change in a person; (ii) "illegal drug" means any drug listed in Schedules I through V of the federal Controlled Substances Act, as amended, that is not obtained and used in accordance with the law including, but not limited to opiates, hallucinogens, depressants,

stimulants and narcotics; and (iii) "under the influence" means exhibiting evidence of alcohol or drugs in the urine, blood or breath, or the impairment of mental or physical abilities to any perceptible degree.

B. PGE's Premises or Job Site

Contractor shall see that it and its agents and subcontractors of any tier, and all of their respective employees (individually and collectively, "Personnel") do not engage in any of the following while on PGE's premises or job site in connection with the Purchase Order:

- Be under the influence or use alcohol, illegal drugs or chemical substances.
- Sell, offer to sell or buy, possess, use, or transfer any illegal drug.
- Fail to use lawfully prescribed or over-the-counter medication in accordance with the directions or as instructed by the prescribing physician.
- Fail to notify a supervisor that Personnel is taking prescription or over-the-counter medication, which from previous use or warning/instruction from the prescribing physician or container label could impair or adversely affect all or any portion of his or her job performance.
- Refuse or fail to provide any sample or to cooperate with alcohol and drug testing as required by the Purchase Order.
- Provide an adulterated or substituted urine sample or diluted urine sample with the intent to change the test results.
- Refuse to submit to a search or to cooperate with a search related to any investigation where there is reasonable suspicion to believe any Personnel is in possession of alcohol or any illegal drugs.
- Operate any vehicle while under the influence of alcohol or illegal drugs.
- Possess any firearm, weapon or explosive of any kind without PGE's prior express written approval (this also applies to Personnel who have a permit for a concealed weapon).
- Act or fail to act with the intent to facilitate or assist anyone to do any of the above.

C. Generally

Contractor shall see that only properly qualified Personnel are employed in performing the Work and that strict discipline and good order among Personnel is enforced at all times. Contractor shall see that any Personnel who have been convicted of a felony involving violence, alcohol and/or drugs within seven (7) years of the date of the Purchase Order are not assigned to perform any of the Work without the prior written consent of PGE. If, at any

time, it is discovered by PGE or Contractor that any Personnel (i) has failed to comply with any of the above prohibitions; (ii) is incompetent, insubordinate, careless, or disorderly, or (iii) while previously employed by PGE violated any PGE policies, the Personnel shall be immediately removed from the Work and not assigned to perform any part of the Work.

11. Safety, Health, and Environment

Contractor shall comply with all safety standards and accident prevention regulations promulgated by federal, state or local authorities having jurisdiction and will take or cause to be taken such additional measures as reasonably necessary to protect the life and health of all persons engaged in the performance of the Work. Failure of Contractor to comply with any said standards or regulations shall be deemed just cause for the suspension of the Work until such hazardous or unsafe conditions are eliminated. In the event of such suspension, no claim for additional compensation or extension of time by Contractor will be considered by PGE. None of the above provisions will act in any way to relieve Contractor of its responsibility, under law, for any injury or damage caused by or arising out of the performance of the Work.

12. Hazardous Substances

Contractor shall notify PGE, in advance in writing, of the use of any hazardous substance in performing the Work by providing PGE a list of such hazardous substances and their Material Safety Data Sheets. PGE reserves the right to approve or disapprove the use of any hazardous substance in the performance of the Work including work plans on the use, storage, transportation and disposal of hazardous substances. Contractor shall comply with all applicable federal, state or local statutes, regulations, ordinances, and judicial or governmental orders pertaining to the use of hazardous substances at the job site. Upon completion or termination of the Work, Contractor shall be responsible for removing and properly disposing of all hazardous substances from the job site in connection with Contractor's activities. Contractor shall also be responsible for cleanup and disposal of spilled and contaminated materials. "Hazardous substance" shall mean any hazardous, toxic, infectious or radioactive substance, waste and material as defined by any applicable law or order.

13. Labor Relations

Contractor shall be aware of, and familiar with, all collective bargaining agreements which do or may pertain to or affect the Work or other work at the job site. Contractor shall plan and conduct its operations so that its employees will work harmoniously with other workers employed on the same or related projects to assure that there will be no delays, endangerment, work stoppages, excessive labor costs or other labor difficulties.

14. Right to Audit

Contractor shall keep accurate and complete accounting records in support of all cost billings to PGE in accordance with generally recognized accounting principles and practices. PGE, or its audit representatives, shall have the right at any reasonable time or times to examine, audit and reproduce such records, vouchers and their source documents. Such records shall be available for examination, audit and reproduction for three (3) years after the completion or termination of this Agreement.

15. Ownership of Work

All materials prepared or developed pursuant to or in connection with this Agreement by Contractor and its affiliates and their respective employees, directors, officers, subcontractors, or agents, including, but not limited to, improvements, ideas, formulas, processes, inventions, programs, documents, calculations, maps, sketches, designs, tracings, notes, reports, data, computer programs, models, plans and samples, shall become the property of PGE when prepared, whether delivered to PGE or not, and shall, together with any materials furnished Contractor and its affiliates by PGE pursuant to this Agreement, be delivered to PGE upon request, and, in any event, upon termination or final acceptance of the Work. All Work prepared by Contractor and its affiliates and their respective employees, directors, officers, agents or subcontractors pursuant to or in connection with this Agreement that is subject to protection under copyright laws constitutes "work made for hire," all copyrights to which belong to PGE. In any event, Contractor assigns to PGE all intellectual property rights in such work whether by way of copyright, trade secret, patent or otherwise, and whether or not subject to protection by patent, trademark or copyright laws and agrees to execute all documents that PGE reasonably determines to be necessary or convenient for use in applying for, perfecting or enforcing intellectual property rights, including, but not limited to, the execution of any assignments and patent, trademark or copyright applications.

16. Infringement

Contractor shall at its sole expense defend any action brought or threatened against PGE that is based on a claim that any of the Work (i) infringes a copyright enforceable in the United States, (ii) infringes any patent or (iii) constitutes misappropriation or unlawful disclosure or use of another's trade secret.

In addition to any other indemnification stated in this Agreement, Contractor shall indemnify, defend and hold harmless PGE, its parent and affiliated companies and their directors, officers, employees and agents against, and from all claims, losses, costs, suits, judgments, damages and expenses, including but not limited to required royalties or license fees and attorneys' fees, whether or not suit is commenced and on trial and appeal, of any kind or nature whatsoever, on account of infringement, misappropriation, or unlawful disclosure of any patent, copyrighted or uncopied work, secret process, trade secret, unpatented invention, article, appliance or otherwise, including claims thereof pertaining to, or arising from Contractor's performance of Work under this Agreement.

If Contractor's equipment, material or processes are likely to become or do become the subject of a claim of infringement or misappropriation of a U.S. patent, copyright, trade secret or other proprietary right, Contractor, upon PGE's prior written consent, may either: (i) promptly replace the equipment, material or processes with a substantially compatible and functionally equivalent non-infringing product, (ii) promptly modify the equipment, material or processes to make it non-infringing and functionally equivalent, (iii) promptly procure the right of PGE to continue using the equipment, material or processes; or (iv) if none of the first three options is commercially feasible, refund all amounts already paid by PGE to Contractor.

17. Liens

Contractor shall ensure that no liens of any kind are fixed upon or against the real or personal property of PGE by Supplier, Supplier's employees, subcontractors of any tier or materialmen, or by subcontractor's employees.

18. Indemnification

In addition to any other indemnification provided for under this Agreement, Contractor shall indemnify, defend and hold harmless PGE, its parent and affiliated companies and their directors, officers, employees and agents (hereinafter collectively "Indemnitees") from any and all claims, demands, suits, losses, costs, expenses, liens, encumbrances, liabilities, governmental fines and penalties and damages of every kind and description, including attorneys' fees, whether or not suit is commenced and on trial and appeal, brought or made against or incurred by any of the Indemnitees resulting from, arising out of, or in any way connected with any act, omission, fault or negligence of Contractor and its affiliates and their respective employees, agents, representatives or subcontractors in the performance or nonperformance of Contractor's obligations under this Agreement or in any way related to this Agreement. The indemnity obligations under this section shall include without limitation (i) loss of or damage to any property of PGE, Contractor or any third party; (ii) injury, bodily or personal, disease, occupational sickness, or death of any person(s), including without limitation, PGE, Contractor and its affiliates and their respective employees, agents, representatives or subcontractors; and (iii) claims arising out of workers' compensation, unemployment compensation or other laws or obligations applicable to Contractor or its affiliates and their respective employees, agents, representatives or subcontractors. CONTRACTOR'S INDEMNITY OBLIGATION UNDER THIS SECTION SHALL NOT EXTEND TO ANY LIABILITY CAUSED BY THE SOLE NEGLIGENCE OF ANY OF THE INDEMNITEES.

19. Protection of Workers

Contractor and its affiliates and their respective employees, agents, and subcontractors shall comply with all applicable workers' compensation acts, including but not limited to the Federal Longshoremen's and Harbor Workers' Act and Jones Act, continuously carry worker's compensation insurance, accept exclusive liability as an employer in the states having jurisdiction, and shall furnish proof thereof satisfactory to PGE prior to commencing Work.

20. Liability Insurance

Prior to starting any Work, Contractor and subcontractors of any tier shall secure and continuously carry and supply evidence thereof, with insurers acceptable to PGE, the following insurance policies:

- Employers Liability insurance with a minimum limit of \$2,000,000.

- **Commercial General Liability** insurance with a minimum combined single limit of \$2,000,000 per occurrence, with coverage for:
 - Bodily Injury, personal injury and property damage
 - Contractual liability
 - Products and Completed Operations to extend for a minimum of five (5) years past acceptance or termination of the Work
 - Explosion, Collapse and Underground (XCU) Hazards (where applicable)
 - Sudden and Accidental Pollution liability
- **Business Automobile Liability** insurance with a minimum combined single limit of \$2,000,000 per accident for bodily injury and property damage with respect to Contractor's vehicles whether owned, hired or non-owned, assigned to or used in the performance of the Work.
- **PRIOR TO USING AN AIRCRAFT OF ANY KIND IN PERFORMING THE WORK UNDER THIS AGREEMENT, CONSULTANT SHALL NOTIFY PGE AND OBTAIN ITS PRIOR WRITTEN CONSENT.** If an aircraft is to be used in performing the Work under this Agreement, Aircraft Liability insurance covering fixed wing and rotocraft aircraft whether owned, hired or non-owned with a minimum single limit for bodily injury and property damage of \$10,000,000 including passenger liability coverage (where applicable) is required.
- **Required limits may be met through any combination of primary and excess liability policies.** The policies required herein shall include (i) provisions or endorsements naming PGE, its directors, officers and employees as additional insureds, and (ii) a cross-liability and severability of interest clause.

All policies required by this Agreement shall include provisions that such insurance is primary insurance with respect to the interests of PGE and that any other insurance or self-insurance maintained by PGE is excess and not contributory with the insurance required hereunder, and provisions that such policies shall not be canceled or their limits of liability reduced without thirty (30) days prior written notice to PGE. A certificate in a form satisfactory to PGE certifying to the issuance of such insurance, including required endorsements, shall be furnished to PGE.

21. Controlling Law

THIS AGREEMENT SHALL BE INTERPRETED IN ACCORDANCE WITH AND GOVERNED BY THE SUBSTANTIVE AND PROCEDURAL LAWS OF THE STATE OF OREGON WITHOUT REGARD TO CHOICE-OF-LAW PRINCIPLES. CONTRACTOR IRREVOCABLY CONSENTS TO THE JURISDICTION OF THE COURTS OF THE STATE OF OREGON OR OF THE U.S. DISTRICT COURT FOR THE DISTRICT OF OREGON FOR ANY ACTION, SUIT, OR PROCEEDING IN CONNECTION WITH THIS AGREEMENT AND WAIVES ANY OBJECTION THAT CONTRACTOR MAY NOW OR HEREAFTER HAVE REGARDING CHOICE OF FORUM.

22. Termination

A. For Convenience

PGE may, by a written notice to Contractor, terminate this Agreement at any time without cause prior to the completion of the Work. Upon termination for convenience, PGE's sole obligation shall be to pay Contractor, in full satisfaction and discharge of all liabilities and obligations owed to Contractor, an equitable amount for all Work satisfactorily performed by Contractor as of the date of termination, excluding damages or anticipated profits on Work not yet performed.

B. For Cause

In the event of any breach of this Agreement by Contractor (including but not limited to Contractor's failing or refusing to prosecute the Work or any part thereof with the diligence required to ensure its completion within the time specified in this Agreement, or failing to complete the Work within such time) that Contractor fails to cure within five (5) days after receiving written notice from PGE, in addition to any other rights or remedies PGE may have at law or in equity, PGE may, by written notice to Contractor, terminate this Agreement or terminate Contractor's right to proceed with any portion of the Work as to which there has been a breach. In such event, PGE may, but shall not be obligated to, take over the Work and prosecute the same to completion, by contract with others or otherwise, and Contractor shall cooperate fully with PGE's effort including by allowing PGE to take possession of and utilize in completing the Work any portions thereof as PGE deems necessary. Contractor shall be liable to PGE for any excess costs and damages occasioned by Contractor's breach.

23. Notice

Any notice that either party hereto desires to give the other shall be in writing and shall be deemed delivered upon deposit thereof in the United States mail by certified mail return receipt requested, with postage thereon fully prepaid, addressed as follows:

To PGE: Portland General Electric Company
 Attn: Sourcing & Contracts Department
 121 SW Salmon Street
 Portland OR 97204

To Contractor: To the address shown on the Purchase Order form

24. Remedies and Nonwaiver

The remedies specified in this Agreement shall be cumulative and in addition to any other remedies available at law or in equity. No waiver of the nonperformance or violation of any term or condition of this Agreement or any default under this Agreement shall be construed to be or operate as a waiver of any subsequent nonperformance, violation, or default.

25. Governmental Requirements

Contractor shall at all times comply with all applicable laws, statutes, rules, regulations and ordinances, including without limitation those governing wages, hours, desegregation, employment discrimination, health and safety. Contractor shall comply with equal opportunity laws and regulations to the extent that they are applicable, including without limitation, the following:

- Executive Order No. 11246 and 41 CFR, Section 60-1.4 (Employment Discrimination)
- Executive Order No. 11701 and 41 CFR, Section 60-250.4 (Employment of Veterans)
- Executive Order Nos. 11625 and 12138 and 41 CFR, Part 1-1 (Utilization of Minority and Women-Owned Businesses)
- Executive Order No. 11758 and 41 CFR, Section 60-741.43 (Employment of Handicapped Individuals)
- Executive Order No. 12928 (Promoting Procurement with Small Businesses Owned and Controlled by Socially and Economically Disadvantaged Individuals)
- Age Discrimination in Employment Act of 1967, as amended
- Immigration Reform and Control Act of 1986, as amended

26. Confidentiality

A. Definition of "Confidential Information"

As used in this Agreement, the term "Confidential Information" means: 1) proprietary information of PGE; 2) information marked or designated by PGE as confidential; 3) information, whether or not in written form and whether or not designated as confidential, that is known by Contractor to be treated by PGE as confidential; 4) information provided to PGE by third parties that PGE is obligated to keep confidential; and 5) information developed by Contractor in connection with performance of this Agreement.

B. Exclusions

Confidential information shall not include: 1) information that is publicly available at the time of disclosure by PGE to Contractor or its Representatives (as defined below); 2) information that becomes publicly available other than through actions of Contractor or any of its Representatives (as defined below) in violation of this Agreement; 3) information already known to Contractor as documented by written records that predate this Agreement; or 4) information rightfully obtained from third parties and not subject to any obligation of confidentiality.

C. Nondisclosure

Contractor agrees that it will not disclose Confidential Information to any third party, directly or indirectly, during the term of this Agreement or any time thereafter, under any circumstances or by any means, without PGE's prior written consent. Any question regarding use of information or its confidential nature should be directed to the PGE Contract Administrator or the PGE buyer identified in this Agreement.

D. Nonuse

Contractor further agrees that it will not use Confidential Information except as may be necessary to perform the Work required in this Agreement.

E. Protection

Notwithstanding anything contained in this Agreement to the contrary, Contractor may disclose Confidential Information to its employees, representatives and other agents ("Representatives"), but only on a "need to know" basis and only after notifying such Representatives of the confidential nature of the information, the terms of this Section 26, and that such terms apply to them. Contractor and its affiliates and their respective employees, agents, representatives and subcontractors agree to take all reasonable precautions to protect the confidentiality of Confidential Information and, upon request by PGE, to return to PGE any documents that contain or reflect Confidential Information. Any unpermitted disclosure by any Representative of Contractor shall be deemed made by Contractor.

F. Injunctive Relief

Contractor acknowledges that a breach of any obligation under this Section 26 will result in irreparable injury to the business of PGE and that its remedy at law for such a breach will be inadequate. Accordingly, Contractor agrees that, in addition to other remedies available at law and in equity, PGE will be entitled to both preliminary and permanent injunctions to prevent and/or halt a breach or threatened breach of any obligation under this Section 26.

G. Disclosure for Tax Purposes

Notwithstanding anything to the contrary contained in this Agreement, or any other express or implied agreement, arrangement or understanding, the parties and their respective affiliates and Representatives may disclose to any and all persons the tax structure and any of the tax aspects of the transaction(s) contemplated by this Agreement that are necessary to describe or support any United States federal income tax benefits that may result therefrom or any materials relating thereto, except where confidentiality is reasonably necessary to comply with United States federal or state securities laws. For the purposes of this provision, "tax structure" is limited to facts relevant to the U.S. federal income tax treatment of the transaction(s) and does not include information relating to the identity of the parties, their affiliates, agents, or advisors.

H. Compelled Disclosure

If Contractor becomes legally compelled (by deposition, interrogatory, request for documents, subpoena, civil investigative demand or similar process, or applicable law or regulation) to disclose any Confidential Information, Contractor shall give PGE prompt written notice of the requirement before releasing the information so that PGE may seek a protective order or other appropriate remedy and/or waive compliance with the terms of this Agreement. Contractor shall cooperate with PGE to obtain a protective order. If a protective order or other remedy is not obtained, or PGE waives compliance with the terms of this Section 26, Contractor shall provide only that limited portion of the Confidential Information that is legally required and shall exercise best efforts to obtain assurance that confidential treatment will be accorded the information. Upon request of PGE, Contractor shall provide an opinion of counsel to PGE to the effect that Contractor is legally compelled to disclose the information.

27. Restriction on Publications

No publication or advertisement concerning this Agreement or the subject matter of this Agreement shall be made at any time by Contractor or its subcontractors without prior written authorization from PGE, which authorization shall not be unreasonably withheld.

28. Warranties

In addition to its obligations under Section 8, Contractor warrants that the work performed under this Agreement shall be free from defects in design, material, workmanship and title, shall conform in all respects to the terms of this Agreement, and shall be suitable for the use intended. Contractor further warrants that materials supplied pursuant to this Agreement shall be new, shall be of the quality specified or of the best grade if no quality is specified and shall conform to the work specified, and other descriptions set forth in this Agreement. These warranties shall remain in effect for the period specified or for a period of one (1) year following acceptance or initial operation, whichever is later. In the event of nonconformity of these warranties, Contractor shall, upon notice from PGE of the breach, promptly repair or replace the nonconforming item or otherwise remedy the nonconformity at Contractor's sole cost. Contractor warrants that any repairs or replaced material will meet the warranty requirements of this section for a period of one (1) year following PGE's acceptance of the repair or replacement, or until the expiration of the original warranty period, whichever is later. Contractor's liability shall extend to all damages caused by the nonconformity of these warranties or by Contractor's efforts to correct defects. Nothing in this Section 28 shall relieve Contractor of its obligations to correct latent defects that become apparent only after expiration of the warranty period, and any corrections of the latent defects will extend the warranty requirements of this Section 28 for a period of one (1) year following PGE's acceptance of the corrections.

29. Survival

The terms, provisions, representations, and warranties contained in this Agreement shall survive the completion of the Work.

30. Conflicts, Errors, Omissions, or Discrepancies

Contractor shall advise PGE in writing of all conflicts, errors, omissions, or discrepancies in or among the various documents comprising this Agreement immediately upon discovery and prior to Contractor's performing the affected Work. PGE shall promptly resolve the conflicts and PGE's resolution shall be final.

31. Severability

Any provisions of this Agreement prohibited or rendered unenforceable by any law shall be ineffective only to the extent of the prohibition or unenforceability without invalidating the remaining provisions of this Agreement.

32. Attorney Fees

In the event of any legal action to enforce any of the terms of this Agreement, the prevailing party shall be entitled to its reasonable attorney fees, including attorney fees at trial and on appeal.

33. Examination of Work

PGE and its representatives shall have the right to inspect the Work and witness tests or perform audits of Contractor at any time. The making or failure to make any inspection of, payment for, or acceptance of the Work shall in no way impair PGE's right to reject nonconforming Work or to avail itself of any other remedies to which PGE may be entitled, notwithstanding PGE's knowledge of the nonconformity, its substantiality, or the ease of its discovery.

34. Preservation of Public/Private Access

Contractor shall conduct its operations so as not to damage, close or obstruct any highway, road or other public or private easement until permits therefor have been obtained and then only to the extent allowed by such permits. If such facilities are closed, obstructed, damaged or rendered unsafe by Contractor's operations, Contractor shall, at its sole expense, make such repair in a manner acceptable to PGE and shall also provide such temporary guards, lights and other signals as necessary or required for safety or as reasonably requested by PGE.

35. Cleanup

Contractor shall at all times keep the work area, including storage areas used by it, free from accumulation of waste materials or rubbish, and prior to completion of the Work, remove any rubbish from and about the premises as well as all tools, equipment and materials not property of PGE. Upon completion of the Work, Contractor shall leave the premises in a condition satisfactory to PGE. In the event of Contractor's failure within a reasonable time to comply with any of the foregoing in a workmanlike manner, PGE may, after written notice to Contractor of such failure, perform the cleanup and removal at the expense of Contractor.

36. Time for Performance

The timely performance of the Work and of Contractor's obligations under this Agreement are material terms of this Agreement.

37. Force Majeure

Neither party shall be liable for delays due to an unforeseeable cause beyond the control and without the fault or negligence of the party incurring the delay, including, to the extent it satisfies the above description, any fire, unusual weather conditions, riot, act of God, act of the public enemy, or other similar event. However, both parties agree to seek to mitigate the potential impact of any such delay. The party incurring the delay shall within five (5) calendar days from the beginning of the delay, notify the other party in writing of the causes of the delay and its probable extent. The notification of delay shall not be the basis for a request for additional compensation. In the event of any such delay, the required completion date may be extended by a reasonable period not exceeding the time actually lost by reason of the delay.

38. Disputes

Except as otherwise provided in this Agreement, PGE shall decide any dispute arising under this Agreement that is not disposed of by agreement, and shall mail or otherwise furnish its written decision to Contractor. PGE's decision shall be final unless Contractor, within thirty (30) days after notice of PGE's decision, files with PGE a written protest, stating clearly and in detail the basis for Contractor's protest. Contractor shall continue its performance under this Agreement pending the resolution of any dispute.

39. Authorized Representative

Before starting the Work, Contractor shall designate a qualified individual to represent Contractor, shall inform PGE in writing of the name and address of the representative together with a clear definition of the scope of his/her authority to represent Contractor, and shall specify any limitations on the authority. All communications made to the authorized representative shall be binding upon Contractor.

40. No Third Party Beneficiaries

This Agreement is intended solely for the benefit of the parties hereto. Except as expressly set forth in this Agreement, nothing in this Agreement shall be construed to create any liability to or any benefit for any person not a party to this Agreement.

41. Successors and Assigns

This Agreement shall be binding on the parties' successors, and insofar as assignable, on the parties' assignees.

September 21, 2006

TO: Benjamin Walters
Office of City Attorney

FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UE 180
PGE Response to City of Portland Data Request
Dated September 14, 2006
Question No. 073**

Request:

PGE/2200/20, lines 6-13. Please identify the “many electric utilities” referenced in this section of the testimony, and provide documentation for the conclusion that these utilities require customers to provide their own poles for lighting fixtures that the customers wish to own and maintain.

Response:

Attachment 073-A contains two lists of Investor Owned Utilities. The first list contains thirteen Investor Owned Utilities that require their customers to own their own poles for lighting fixtures owned and maintained by the customer and the second list contains nine Investor Owned Utilities where customer ownership of poles was implied or preferred as a condition for customer owned and maintained lighting fixtures.

PGE has not performed a comprehensive survey of this issue.

COP/COG/LOC/262
Gray-Harris-Fogue-Heberling-Peters/2

UE 180
Attachment 073-A

Investor Owned Utilities

Utility companies requiring customers to provide their own poles for customer-owned lighting fixtures.

#	Utility Name	Schedule
1	Georgia Power	Schedule : OLG-3
2	Gulf Power	Rate Schedule OS-III Street, Roadway and General Area Lighting
3	Interstate Power & Light (Alliant Energy, Iowa)	Street & Area Lighting Service Rate Codes: 270, 280, 620, 630
4	Wisconsin Power & Light (Alliant Energy, Wisconsin)	Schedule MS-1 Amendment 4811 Sheet No 8.00
5	South Beloit Water, Gas & Electric (Alliant, Illinois)	Street Lighting Services ILL. C.C. No. 7
6	Central Maine Power Company	Rate SL, Street Lighting Service
7	Aquila Networks - WPC Pueblo Colorado	Rate SSL-1 Street/Security Lighting Electric
8	Oklahoma Gas and Electric Company (Arkansas Service Area)	Schedule LM-1 Municipal Roadway and Area Lighting
9	Cleco Power LLC. (central Louisiana)	Rate Schedule OLS Effective 5/1/2006
10	Idaho Power Company	Schedule 41: Street Lighting Service
11	Oklahoma Gas and Electric Co (Oklahoma Service Territory)	Schedule: LM-1 Municipal Roadway and Area Lighting
12	Pacific Gas and Electric Co.	Schedule LS-2 Customer Owned Street and Highway Lighting
13	Alabama Power	Rate SLM Public Street and Highway Lighting

Utility companies with tariffs where customer ownership of poles is implied or preferred for customer-owned and maintained lighting fixtures.

#	Utility Name	Schedule
1	Interstate Power & Light (Illinois Alliant Co)	Street Lighting Schedule 680, 710, 220, 230
2	Central Illinois Light Co.	Street Lighting Service Rate 29
3	Arizona Public Service Co. (APS)	Rate Schedule E-47
4	The Detroit Edison Co.	Rate Schedule No. E1
5	Southern California Edison, Rosemead CA	Schedule LS-2
6	Ohio Power Company (AEP)	Schedule SL
7	Public Service Electric and Gas Company (New Jersey)	Rate Schedule BPL-POF
8	Public Service Company of New Mexico	Integrated System Streetlighting and Floodlighting Service 8th Revised Rate No. 20
9	The Dayton Power and Light Company	Street Lighting PUCO No. 17

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Gray-Harris-Fogue-Heberling-Peters/2

Electric Utility Streetlight Tariffs
URLs Accessed on October 1, 2006

Arizona Public Service: Rate Schedule E-47

http://www.aps.com/aps_services/business/rateplans/busrateplans_9.html

Central Illinois Light Company: Rate 29

<https://www2.ameren.com/business/rates/ratesBundledElecFullSrvAMCILCO.aspx>

Dayton Power and Light Company: P.U.C.O. No. 17, Sheet D25

<http://www.waytogo.com/cs/csrt.phtml>

Detroit Edison: Rate Schedule No. E1

<http://my.dteenergy.com/myAccount/electricRateBook.html>

Interstate Power and Light Company: Rate Code 230 and Rate Codes 270, 280, 620, 630

http://www.alliantenergy.com/docs/groups/public/documents/pub/p019474.hcsp#P29_457

Public Service Electric and Gas Company: Rate Schedule BPL-POF

<http://www.pseg.com/companies/pseandg/schedules/tariffs.jsp>

Public Service Company of New Mexico: 8th Revised Rate No. 20

<http://www.pnm.com/regulatory/electricity.htm>

Southern California Edison: Schedule LS-2

<http://www.sce.com/AboutSCE/Regulatory/tariffbooks/ratespricing/streetandoutdoorrates.htm>



SCHEDULE LS-2—CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING

APPLICABILITY: This schedule is applicable service to lighting installations which illuminate streets, highways, and other publicly-dedicated outdoor ways and places where the Customer usually owns the lighting fixtures, poles and interconnecting circuits. The Customer's facilities must be of good construction acceptable to PG&E and in satisfactory condition to qualify for Class B or C rates. Class B and C are closed to new installations and additional lamps in existing accounts.

TERRITORY: The entire territory served.

RATES: Total bundled service charges are calculated using the total rates shown below. Direct Access (DA) and Community Choice Aggregation (CCA) charges shall be calculated in accordance with the paragraph in this rate schedule titled Billing.

Lamp rates include a Base Charge for the actual cost of operating and maintaining the various lamp sizes and types and an energy charge. The energy charge is included in the per lamp charges listed below. The Base Charge is assigned to distribution, and equals the difference between the total charge per lamp per month and the product of the energy charge per kWh and the kWh per month listed below.

CLASS:		A	B	C		
		PG&E supplies energy and service only.	PG&E supplies the energy and maintenance service for lamps and glassware.	PG&E supplies the energy and maintenance service as described in Special Condition 8		
Nominal Lamp Rating:		Per Lamp Per Month				
LAMP WATTS	kWh PER MONTH	AVERAGE INITIAL LUMENS*	Class A All-Night	Class B*** All-Night	Class C*** All-Night	A, B, and C Half-Hour Adjustment
INCANDESCENT LAMPS:						
58	20	600	\$2.682 (I)	-	-	\$0.113 (I)
92	31	1,000	4.053	\$5.253 (I)	\$5.553 (I)	0.176
189	65	2,500	8.290	9.489	9.789	0.368
295	101	4,000 **	12.776	13.975	14.275	0.572
405	139	6,000 **	17.511	18.711	19.010	0.787
620	212	10,000 **	26.607	27.807	28.107 (I)	1.201
860	294	15,000 **	36.825 (I)	38.025 (I)	-	1.665 (I)
MERCURY VAPOR LAMPS:						
40	18	1,300	\$2.433 (I)	-	-	\$0.102 (I)
50	22	1,650	2.931	-	-	0.125
100	40	3,500	5.174	\$6.374 (I)	\$6.674 (I)	0.227
175	68	7,500	8.663	9.863	10.163	0.385
250	97	11,000	12.277	13.477	13.777	0.549
400	152	21,000	19.131	20.330	20.630	0.861
700	266	37,000	33.336	34.536	34.836	1.507
1,000	377	57,000	47.168 (I)	48.368 (I)	48.668 (I)	2.135 (I)
LIGHT EMITTING DIODE (LED) LAMPS: 120 VOLTS						
42	14	837	\$1.935 (I)	-	-	\$0.079 (I)

* Latest published information should be consulted on best available lumens.
 ** Service for incandescent lamps over 2,500 lumens will be closed to new installations after September 11, 1978.
 *** Closed to new installations and new lamps on existing circuits, see condition 8A.

(Continued)

Advice Letter No. 2820-E-A
Decision No. 06-07-027,06-07-030

Issued by
Brian K. Cherry
Vice President
Regulatory Relations

Date Filed August 31, 2006
Effective September 1, 2006
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104695

COP/COG/LOC/264
Gray-Harris-Fogue-Heberling-Peters/1



SCHEDULE LS-2—CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING
(Continued)

RATES:
(Cont'd.)

CLASS:		A	B***	C***		
		PG&E supplies the energy and service only.	PG&E supplies the energy and maintenance service for lamps and glassware.	PG&E supplies the energy and maintenance service as described in Special Condition 8.		
Nominal Lamp Rating:			Per Lamp Per Month			
LAMP WATTS	kWh PER MONTH	AVERAGE INITIAL LUMENS*	Class A All-Night	Class B All-Night	Class C All-Night	A, B, and C Half-Hour Adjustment
HIGH PRESSURE SODIUM VAPOR LAMPS AT:						
120 VOLTS						
35	15	2,150	\$2.059 (I)	-	-	\$0.085 (I)
50	21	3,800	2.807	-	-	0.119
70	29	5,800	3.804	\$5.003 (I)	\$5.303 (I)	0.164
100	41	9,500	5.299	6.499	6.799	0.232
150	60	16,000	7.667	8.866 (I)	9.166 (I)	0.340
200	80	22,000	10.159 (I)	-	-	0.453 (I)
HIGH PRESSURE SODIUM VAPOR LAMPS AT:						
240 VOLTS						
50	24	3,800	\$3.181 (I)	-	-	\$0.136 (I)
70	34	5,800	4.427	\$5.626 (I)	\$5.926 (I)	0.193
100	47	9,500	6.047	7.246	7.546	0.266
150	69	16,000	8.788	9.988	10.288	0.391
200	81	22,000	10.283	11.483	11.783	0.459
250	100	25,500	12.651	13.851 (I)	14.151 (I)	0.566
310	119	37,000	15.019	-	-	0.674
360	144	45,000	18.134	-	-	0.816
400	154	46,000	19.380 (I)	20.580 (I)	20.880 (I)	0.872 (I)
LOW PRESSURE SODIUM VAPOR LAMPS:						
35	21	4,800	\$2.807 (I)	-	-	\$0.119 (I)
55	29	8,000	3.804	-	-	0.164
90	45	13,500	5.797	-	-	0.255
135	62	21,500	7.916	-	-	0.351
180	78	33,000	9.910 (I)	-	-	0.442 (I)

* Latest published information should be consulted on best available lumens.
*** Closed to new installations and new lamps on existing circuits, see condition 8A.

(Continued)

Advice Letter No. 2820-E-A
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Gray-Harris-Fogue-Heberling-Peters/2



SCHEDULE LS-2—CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING
(Continued)

RATES:
(Cont'd.)

LAMP WATTS	kWh PER MONTH	AVERAGE INITIAL LUMENS*	Per Lamp Per Month			A, B, and C Half-Hour Adjustment
			Class A All-Night	Class B All-Night	Class C All-Night	
METAL HALIDE LAMPS:						
70	30	5,500	\$3.928 (I)	—	—	\$0.170 (I)
100	41	8,500	5.299	—	—	0.232
150	63	13,500	8.040	—	—	0.357
175	72	14,000	9.162	—	—	0.408
250	105	20,500	13.274	—	—	0.595
400	162	30,000	20.377	—	—	0.918
1,000	387	90,000	48.414 (I)	—	—	2.192 (I)
INDUCTION LAMPS:						
55	19	3,000	\$2.558 (I)	—	—	\$0.108 (I)
85	30	4,800	3.928	—	—	0.170
165	58	12,000	7.417 (I)	—	—	0.329 (I)

* Latest published information should be consulted on best available lumens.
*** Closed to new installations and new lamps on existing circuits, see condition 8A.

(Continued)

Advice Letter No. 2820-E-A
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Gray-Harris-Fogue-Heberling-Peters/3



SCHEDULE LS-2-CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING
(Continued)

RATES:
(Cont'd.)

TOTAL ENERGY RATES

Total Energy Charge Rate (\$ per kWh) \$0.12461 (I)

UNBUNDLING OF TOTAL ENERGY CHARGES

The total energy charge is unbundled according to the component rates shown below.

Energy Rate by Components (\$ per kWh)		
Generation	\$0.05684	(I)
Distribution	\$0.04662	(I)
Transmission*	\$0.00434	(R)
Transmission Rate Adjustments*	(\$0.00031)	
Reliability Services*	\$0.00156	
Public Purpose Programs	\$0.00534	
Nuclear Decommissioning	\$0.00038	
Competition Transition Charge	\$0.00062	
Energy Cost Recovery Amount	\$0.00437	
DWR Bond	\$0.00485	

* Transmission, Transmission Rate Adjustments, and Reliability Service charges are combined for presentation on customer bills.

(Continued)



SCHEDULE LS-2—CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING
(Continued)

**SPECIAL
CONDITIONS:**

1. **TYPE OF SERVICE:** This schedule is applicable to multiple lighting systems to which PG&E will deliver current at secondary voltage. Multiple current will normally be supplied at 120/240 Volt, single-phase. In certain localities PG&E may supply service from 120/208 Volt, wye-systems, polyphase lines in place of 240 Volt service. Unless otherwise agreed, existing series current will be delivered at 6.6 amperes. Single-phase service from 480 Volt sources and series circuits will be available in certain areas at the option of PG&E when this type of service is practical from PG&E's engineering standpoint. All currents and voltages stated herein are nominal, reasonable variations being permitted. (T)

New lights will normally be supplied as multiple systems. Series service to new lights will be made only when it is practical from PG&E's engineering standpoint to supply them from existing series systems.

2. **SERVICE REQUIREMENTS:** (N)

a) **PHOTO CONTROLS**

This rate schedule is predicated on an electronic type photo controls meeting ANSI standard C136.10, with a turn on value of 1.0 foot-candles and a turn off value of 1.5 foot-candles. Electro-mechanical or thermal type photo controls are not acceptable for this rate schedule.

b) **LIGHT or POLE NUMBERING**

As agreed upon by the parties, pole number sequencing and coding for single lights or multiple lights on a single pole, shall be provided by either party and must conform to PG&E's billing system. Customer will provide physical numbering on lights or poles for LS-2 installations in order to facilitate accurate billing and inventory reporting. Numbering is required prior to energizing facilities. Numbering must be legible from the ground.

c) **SERVICE REQUESTS**

Service request shall include form 72-1007 for installation and energizing, and form 72-1008 for removing or de-energizing Customer's facilities. (N)

(L)

(Continued)

Advice Letter No. 2791-E
Decision No.

Issued by
Thomas E. Bottorff
Senior Vice President
Regulatory Relations

Date Filed February 24, 2006
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Resolution No.

102509

COP/COG/LOC/264
Gray-Harris-Fogue-Heberling-Peters/5



SCHEDULE LS-2—CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING
(Continued)

SPECIAL
CONDITIONS:
(Cont'd.)

3. **SERVICE INSTALLATION**

(N)

PG&E will establish service delivery points within close proximity to its distribution system.

- a) **Overhead:** In an overhead area, a single drop will be installed. For an overhead to underground system, service will be established in a PG&E box at the base of the riser pole or other agreed upon location within close proximity. PG&E will connect Customer's conductors at the service delivery point.
- b) **Underground:** In an underground area, service will be established at the nearest existing secondary box. Where no secondary facilities exist, a new service, transformer and secondary splice box, as required, will be installed in the shortest most practical configuration from the connection on the distribution line source. Customer shall install and own all facilities from the service delivery point on PG&E's system.
- c) **Customer Installation Responsibility:** Customer shall install, own and maintain all facilities beyond the service delivery point. For PG&E's serving facilities, Customer or Applicant, at its expense, shall perform all necessary trenching, backfill and paving, and shall furnish and install all necessary conduit and substructures (including substructures for transformer installations, if necessary, for street lights only) in accordance with PG&E's specifications. Riser material shall be installed by PG&E at the Customer's expense. Upon acceptance by PG&E, ownership of the conduit and substructures shall vest in PG&E. Customer shall provide rights of way as provided in electric Rule 16.
- d) **PG&E Installation Responsibility:** PG&E shall furnish and install the underground or overhead service conductor, transformers and necessary facilities to complete the service to the distribution line source, subject to the payment provisions of Special Condition 4. Only duly authorized employees of PG&E shall connect Customer's loads to, or disconnect the same from, PG&E's electrical distribution facilities.
- e) **Rearrangements:** Customer or Applicant shall pay, in advance, PG&E's estimated cost for any relocation, or rearrangement of PG&E's existing street light or service facilities requested by Customer or Applicant and agreed to by PG&E.
- f) **Non-conforming Load:** Applicant or Customer must be a governmental agency. Only sprinkler control type loads or telecommunications type loads may be connected to LS-2 lamps or circuits, total load must not exceed 50 watts, and the installation must meet all GO 95 clearance requirements. All other non conforming load connected to unmetered LS-2 facilities beyond PG&E's service delivery point, requires metering of the Customer's system at PG&E's service delivery point and conversion to an applicable rate schedule absent any other Commission approved agreement.

(N)

(Continued)

Advice Letter No. 2791-E
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102510

COP/COG/LOC/264
Gray-Harris-Fogue-Heberling-Peters/6



SCHEDULE LS-2—CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING
(Continued)

SPECIAL
CONDITIONS:
(Cont'd.)

4. **NON REFUNDABLE PAYMENT FOR SERVICE INSTALLATION:** (N)
- a) Customer or Applicant shall pay in advance the estimated installed cost necessary to establish a service delivery point. A one-time revenue allowance will be provided based on Customer's kWh usage and the distribution component of the energy rate posted in the Rate Schedule for the lamps installed. The total allowance shall be determined by taking the annual equivalent kWh times the Distribution component of this rate divided by the cost of service factor shown in Electric Rule 15.C.
 - b) The allowance will only be provided where PG&E must install capital assets to connect load. No allowance will be provided where a simple connection is required. Only lights on a minimum 11 hour All Night (AN) schedule for permanent service shall be granted an allowance. Where Applicant received allowances based upon 11 hour AN operation, no billing adjustments, as otherwise provided for in Special Condition 7, shall be made for the first three (3) years following commencement of service.
- Line or service extensions in excess of the above shall be installed under special condition 9.
5. **TEMPORARY SERVICE:** Temporary services will be installed under electric Rule 13.
6. **ANNUAL OPERATING SCHEDULES:** The above rates for AN service assume 11 hours operation per night and apply to lamps which will be turned on and off once each night in accordance with a regular operating schedule selected by the Customer but not exceeding 4,100 hours per year. (N)

(Continued)

Advice Letter No. 2791-E
Decision No.

102511

Issued by
Thomas E. Bottorff
Senior Vice President
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COP/COG/LOC/264
Gray-Harris-Fogue-Heberling-Peters/7



SCHEDULE LS-2--CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING
(Continued)

SPECIAL
CONDITIONS:
(Cont'd.)

7. **OPERATING SCHEDULES OTHER THAN ALL-NIGHT:** Rates for regular operating schedules other than full all-night will be the AN rate, plus or minus, respectively, the half-hour adjustment for each half-hour more or less than an average of 11 hours per night. This adjustment will apply only to lamps on regular operating schedules of not less than 1,095 hours per year, or 3 hours per night, nor more than 4,500 hours per year. Photo control devices used for more or less than AN must be approved by PG&E prior to adjustments in billing. (T) (L)
(T)
(N)
(N)
(D)
(D)
8. **MAINTENANCE, ACCESS, CLEARANCES:** (T)
(D)
- a) Maintenance (T)
- The Class B and C rates include all labor and material necessary for the inspection, cleaning, or replacement by PG&E of lamps and glassware. Replacement is limited to certain glassware such as is commonly used and manufactured in reasonably large quantities. A commensurate extra charge will be made for maintenance of glassware of a type entailing unusual expense. The Class C rate also includes all labor and material necessary for replacement by PG&E of photoelectric controls. Class B and C rates are closed to new installations and to additional lamps in existing accounts as of March 1, 2006. (T)
(N)
(N)
- b) Under the grand fathered Class B and C rates, the following shall apply: (T)
- 1) At Customer's request, where PG&E's resources permit, PG&E will paint poles for Customer on a time and material basis. This service will only be offered for poles that have been designed to be painted. (N)
(N)
- 2) PG&E will isolate any trouble in the Customer's system which has resulted in an outage or diminished light output. (T)
- 3) PG&E will make necessary repairs which do not require wiring replacement on accessible wiring between poles and on equipment and wiring in and on poles to keep the system in operating condition. (T)
(T)
- 4) PG&E will provide labor for the replacement of material such as ballasts, relays, fixtures, individual cable runs between poles where such runs are in conduit, and other individual parts of the system that are not capital items. (T)
- 5) Customer shall compensate PG&E for any material furnished by PG&E not included in 8.A. above. The exception for Class B is that photo control replacement is not included in the rate. Customer must have been on Class C for this service. (T) (L)
- 6) PG&E shall not be responsible for excavation or any major replacement of circuits, conduits, poles, or fixtures owned by the Customer. (N)
(N)
- 7) Tree trimming is the responsibility of the Customer for installation of new lights or for maintaining lighting patterns of existing lights. (N)

(Continued)



SCHEDULE LS-2—CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING
(Continued)

SPECIAL
CONDITIONS:
(Cont'd.)

8. **MAINTENANCE, ACCESS, CLEARANCES** (Cont'd.):

(T)

c) Access

(N)

Customer will maintain adequate access for PG&E's standard equipment used in maintaining facilities and for installation of its facilities. PG&E reserves the right to collect additional maintenance costs due to obstructed access or other conditions preventing PG&E from maintaining its equipment with standard operating procedures. Applicant or Customer shall be responsible for rearrangement charges as provided for in Special Condition 3.e.

d) Clearances

Customer applicant shall, at its expense, correct all access or clearance infractions, or pay PG&E its total estimated cost for PG&E to relocate facilities to a new location which is acceptable to PG&E. Failure to comply with corrective measures within a reasonable time may result in discontinuance of service in accordance with electric Rule 11. Applicant or Customer shall be responsible for tree trimming to maintain lighting patterns of existing lights.

(N)

(D)

(D)

(Continued)

Advice Letter No. 2791-E
Decision No.

Issued by
Thomas E. Bottorff
Senior Vice President
Regulatory Relations

Date Filed February 24, 2006
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102513

COP/COG/LOC/264

Gray-Harris-Fogue-Heberling-Peters/9



SCHEDULE LS-2—CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING
(Continued)

SPECIAL
CONDITIONS:
(Cont'd.)

- | | | |
|-----|---|---------------------------|
| 9. | LINE EXTENSIONS: Where PG&E extends its electric lines to serve Customer's street lighting system, an Agreement for Installation or Allocation of Special Facilities, form 79-255, will be required. Should PG&E utilize the line to serve other metered load, an equitable adjustment will be made as provided in the Agreement. | (T)

(T) |
| 10. | STREET LIGHT LAMPS - STANDARD AND NONSTANDARD RATINGS: The rates under Classes B and C are applicable to both standard and group replacement street lamps. Standard and group replacement street lamps have reference only to street lamps having wattage and operating life ratings within three percent of those specified in the EEI-NEMA Standards for Filament Lamps Used in Street Lighting. Where Class A service is supplied to lamps of other ratings than those specified in EEI-NEMA Standards an adjustment will be made in the lamp rates proportionate to the difference between the wattage of the lamps and the standard lamps of the same lumen rating. | (T) |
| 11. | CONTRACT: Except as otherwise provided in this rate schedule, or where lighting service is installed in conjunction with facilities installed under the provisions of Rules 15 or 16, standard form contract 62-4527, Agreement to Perform Tariff Schedule Related Work shall be used for installations, rearrangements or relocations. | (N)

(N) |
| 12. | POLE CONTACT AGREEMENT: Where Customer requests to have a portion or all Customer owned street lighting facilities in contact with PG&E's distribution poles, a Customer-Owned Streetlights PG&E Pole Contact Agreement (Form 79 938) will be required. | (T)

(T) |

(Continued)

Advice Letter No. 2791-E
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Thomas E. Bottorff
Senior Vice President
Regulatory Relations

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102514

COP/COG/LOC/264
Gray-Harris-Fogue-Heberling-Peters/10



SCHEDULE LS-2—CUSTOMER-OWNED STREET AND HIGHWAY LIGHTING
(Continued)

SPECIAL
CONDITIONS:
(Cont'd.)

13. **BILLING:** This Rate Schedule is subject to PG&E's other rules governing billing issues, as may be applicable. Customer of record will provide, at a minimum an annual inventory and, if requested, maintenance record information to Company's billing department to reconcile streetlight billing similarly to how Company's Group Lamp Replacement program reconciles Company maintained lighting. Company reserves the right to audit customer facilities where information is not provided or is insufficient in nature to properly audit billing records. Company reserves the right to collect the cost of such audit from the customer.

Bundled Service Customers receive supply and delivery service solely from PG&E. The Customer's bill is based on the Total Rate set forth above.

Transitional Bundled Service Customers take transitional bundled service as prescribed in Rules 22.1 and 23.1, or take bundled service prior to the end of the six (6) month advance notice period required to elect bundled portfolio service as prescribed in Rules 22.1 and 23.1. These customers shall pay charges for transmission, transmission rate adjustments, reliability services, distribution, nuclear decommissioning, public purpose programs, the FTA (where applicable), the RRBMA (where applicable), the applicable Cost Responsibility Surcharge (CRS) pursuant to Schedule DA CRS or Schedule CCA CRS, and short-term commodity prices as set forth in Schedule TBCC.

Direct Access (DA) and Community Choice Aggregation (CCA) Customers purchase energy from their non-utility provider and continue receiving delivery services from PG&E. Bills are equal to the sum of charges for transmission, transmission rate adjustments, reliability services, distribution, public purpose programs, nuclear decommissioning, the FTA (where applicable), the RRBMA (where applicable), the franchise fee surcharge, and the applicable CRS. The CRS is equal to the sum of the individual charges set forth below. Exemptions to the CRS are set forth in Schedules DA CRS and CCA CRS.

	DA CRS	CCA CRS	
Energy Cost Recovery Amount Charge (per kWh)	\$0.00437	\$0.00437	
Power Charge Indifference Adjustment (per kWh)	(\$0.00058) (R)	\$0.01938	(T)
DWR Bond Charge (per kWh)	\$0.00485	\$0.00485	
CTC Charge (per kWh)	\$0.00062	\$0.00062	
Total CRS (per kWh)	\$0.00926 (R)	\$0.02922	

14. **DWR BOND CHARGE:** The Department of Water Resources (DWR) Bond Charge was imposed by California Public Utilities Commission Decision 02-10-063, as modified by Decision 02-12-082, and is property of DWR for all purposes under California law. The Bond Charge applies to all retail sales, excluding CARE and Medical Baseline sales. The DWR Bond Charge (where applicable) is included in customers' total billed amounts.

Advice Letter No. 2871-E
Decision No. 06-07-030

Issued by
Brian K. Cherry
Vice President
Regulatory Relations

Date Filed August 4, 2006
Effective September 1, 2006
Resolution No.

104100

COP/COG/LOC/264
Gray-Harris-Fogue-Heberling-Peters/11



SCHEDULE LS-2

Sheet 1

LIGHTING - STREET AND HIGHWAY - CUSTOMER-OWNED INSTALLATIONS

APPLICABILITY

Applicable for service to governmental agencies and lighting districts for the lighting of streets, highways and other thoroughfares, and to other corporate agencies for the lighting of non-dedicated streets which are accessible to the public, where the customer owns the entire installation, including underground lines from a central point of connection with utility facilities.

TERRITORY

Within the entire territory served by the Utility.

RATES

Description	Transm	Distr	PPP	ND	FTA	CTC	RS	2006 RDS	UDC Total
<u>Mercury Vapor*</u>									
<u>Rate A</u>									
175 7000	0.43	I	2.12	0.39	0.03		0.62		3.59 I
250 10000	0.60	I	2.95	0.54	0.05		0.86		5.00 I
400 20000	0.94	I	4.65	0.86	0.07		1.36		7.88 I
700 35000	1.60	I	7.88	1.45	0.12		2.31		13.36 I
1000 55000	2.26	I	11.13	2.05	0.18		3.26		18.88 I
<u>Rate B</u>									
175 7000	0.43	I	3.58	0.39	0.03		0.62		5.05 I
250 10000	0.60	I	4.41	0.54	0.05		0.86		6.46 I
400 20000	0.94	I	6.10	0.86	0.07		1.36		9.33 I
<u>Surcharge for Series Service</u>									
175 7000			0.41						0.41
250 10000			0.53						0.53
400 20000			0.74						0.74
700 35000			1.35						1.35
<u>HPSV</u>									
<u>Rate A</u>									
50 4000	0.12	I	0.59	0.11	0.01		0.17		1.00 I
70 5800	0.21	I	1.02	0.19	0.02		0.30		1.74 I
100 9500	0.29	I	1.42	0.26	0.02		0.42		2.41 I
150 16000	0.40	I	1.95	0.36	0.03		0.57		3.31 I
200 22000	0.50	I	2.48	0.46	0.04		0.73		4.21 I
250 30000	0.64	I	3.16	0.58	0.05		0.93		5.36 I
310 37000	0.79	I	3.87	0.71	0.06		1.13		6.56 I
400 50000	0.98	I	4.81	0.89	0.08		1.41		8.17 I
1000 140000	2.26	I	11.13	2.05	0.18		3.26		18.88 I

*Closed to new installations as of June 10, 1979

(Continued)

1C8

Advice Ltr. No. 1822-E

Decision No. _____

Issued by
Lee Schavrien
Vice President
Regulatory Affairs

Date Filed Aug 18, 2006
Effective Sep 1, 2006

Resolution No. COP/COG/LOC/264A
Gray-Harris-Fogue-Heberling-Peters/1



San Diego Gas & Electric Company
San Diego, California

Revised Cal. P.U.C. Sheet No.

19558-E

Canceling Revised Cal. P.U.C. Sheet No.

19239-E

SCHEDULE LS-2

Sheet 2

LIGHTING - STREET AND HIGHWAY - CUSTOMER-OWNED INSTALLATIONS

RATES (Continued)

Description	Transm	Distr	PPP	ND	FTA	CTC	RS	2006 RDS	UDC Total
<u>HPSV</u>									
<u>Rate B</u>									
50 4000	0.12	I 2.04	0.11	0.01			0.17		2.45 I
70 5800	0.21	I 2.48	0.19	0.02			0.30		3.20 I
100 9500	0.29	I 2.88	0.26	0.02			0.42		3.87 I
150 16000	0.40	I 3.41	0.36	0.03			0.57		4.77 I
200 22000	0.50	I 3.94	0.46	0.04			0.73		5.67 I
250 30000	0.64	I 4.62	0.58	0.05			0.93		6.82 I
310 37000	0.79	I 5.33	0.71	0.06			1.13		8.02 I
400 50000	0.98	I 6.27	0.89	0.08			1.41		9.63 I
1000 140000	2.26	I 12.59	2.05	0.18			3.26		20.34 I
<u>Reduction for 120-Volt Reactor</u>									
50 4000		(0.13)							(0.13)
70 5800		(0.28)							(0.28)
100 9500		(0.38)							(0.38)
150 16000		(0.34)							(0.34)
<u>Surcharge for Series Service</u>									
50 4000		0.47							0.47
70 5800									
100 9500									
150 16000		0.02							0.02
200 22000		0.49							0.49
250 30000									
<u>LPSV</u>									
<u>Rate A</u>									
35 4800	0.14	I 0.68	0.12	0.01			0.20		1.15 I
55 8000	0.18	I 0.89	0.16	0.01			0.26		1.50 I
90 13500	0.30	I 1.46	0.27	0.02			0.43		2.48 I
135 22500	0.42	I 2.08	0.38	0.03			0.61		3.52 I
180 33000	0.48	I 2.37	0.44	0.04			0.70		4.03 I
<u>Surcharge for Series Service</u>									
35 4800									
55 8000									
90 13500		0.47							0.47
135 22500		0.82							0.82
180 33000		0.54							0.54
<u>Incandescent</u>									
<u>Rate A (energy)</u>									
1000	0.15	I 0.74	0.14	0.01			0.22		1.26 I
2500	0.33	I 1.64	0.30	0.03			0.48		2.78 I
4000	0.61	I 2.98	0.55	0.05			0.87		5.06 I
6000	0.83	I 4.09	0.75	0.06			1.20		6.93 I
10000	1.25	I 6.14	1.13	0.10			1.80		10.42 I

(Continued)

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Advice Ltr. No. 1822-E

Decision No. _____

Issued by
Lee Schavrin
Vice President
Regulatory Affairs

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Effective Sep 1, 2006

Resolution No. COP/COG/LOC/264 A
Gray-Harris-Fogue-Heberling-Peters/2



San Diego Gas & Electric Company
San Diego, California

Revised Cal. P.U.C. Sheet No. _____

19559-E

Cancelling Revised Cal. P.U.C. Sheet No. _____

19240-E

SCHEDULE LS-2

Sheet 3

LIGHTING - STREET AND HIGHWAY - CUSTOMER-OWNED INSTALLATIONS

RATES (Continued)

Description	Transm	Distr	PPP	ND	FTA	CTC	RS	2006 RDS	UDC Total
<u>Incandescent</u>									
Rate B	0.83	I	5.55	0.75	0.06		1.20		8.39 I
6000									
<u>Metal Halide</u>									
Rate A									
100 8500	0.27	I	1.33	0.25	0.02		0.39		2.26 I
175 12000	0.42	I	2.09	0.39	0.03		0.61		3.54 I
250 18000	0.59	I	2.91	0.54	0.05		0.85		4.94 I
400 32000	0.91	I	4.48	0.83	0.07		1.31		7.60 I
Rate B									
100 8500	0.27	I	2.79	0.25	0.02		0.39		3.72 I
175 12000	0.42	I	3.55	0.39	0.03		0.61		5.00 I
250 18000	0.59	I	4.37	0.54	0.05		0.85		6.40 I
400 32000	0.91	I	5.94	0.83	0.07		1.31		9.06 I
<u>Induction</u>									
Rate A									
55 3500	0.56	I	2.78	0.51	0.04		0.81		4.70 I
57 6000	0.89	I	4.39	0.81	0.07		1.29		7.45 I

Notes: Transmission Energy charges include the Transmission Revenue Balancing Account Adjustment (TRBAA) of (\$.00037) per kWh and the Transmission Access Charge Balancing Account Adjustment (TACBAA) of (\$.00036) per kWh. PPP rate is composed of: Low Income PPP rate (LI-PPP) \$.00000/kWh, Non-low Income PPP rate (Non-LI-PPP) \$.00379/kWh (pursuant to PU Code Section 399.8, the Non-LI-PPP rate may not exceed January 1, 2000 levels), and Procurement Energy Efficiency Surcharge Rate of \$.00158/kWh.

Rate Components

The Utility Distribution Company Total Rates (UDC Total) shown above are comprised of the following components (if applicable): (1) Transmission (Trans) Charges, (2) Distribution (Distr) Charges, (3) Public Purpose Program (PPP) Charges, (4) Nuclear Decommissioning (ND) Charge, (5) Trust Transfer Amount (TTA), sometimes referred to as Fixed Transition Amount (FTA), (6) Ongoing Competition Transition Charges (CTC), (7) Reliability Services (RMR), and (8) 2006 Rate Design Settlement (2006 RDS).

Utility Distribution Company (UDC) Total Rate shown above excludes any applicable commodity charges associated with Schedule EECC and Schedule DWR-BC (Department of Water Resources Bond Charge).

Certain Direct Access customers are exempt from the 2006 RDS component, as defined in Rule 1 - Definitions.

(Continued)

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Advice Ltr. No. 1822-E

Decision No. _____

Issued by
Lee Schavrien
Vice President
Regulatory Affairs

Date Filed Aug 18, 2006
Effective Sep 1, 2006

Resolution No. COP/COG/LOC/264 A
Gray-Harris-Fogue-Heberling-Peters/3



San Diego Gas & Electric Company
San Diego, California

Revised Cal. P.U.C. Sheet No. 15923-E

Canceling Revised Cal. P.U.C. Sheet No. 12633-E

SCHEDULE LS-2

Sheet 4

LIGHTING - STREET AND HIGHWAY - CUSTOMER-OWNED INSTALLATIONS

RATES (Continued)

Franchise Fee Differential

A Franchise Fee Differential of 5.78% will be applied to the monthly billings calculated under this schedule for all customers within the corporate limits of the City of San Diego. Such Franchise Fee Differential shall be so indicated and added as a separate item to bills rendered to such customers.

SPECIAL CONDITIONS

1. Limited Maintenance Service. Limited Maintenance shall include the following:
 - a. Renewal of lamps after original installation by customer.
 - b. Replacement of glassware and luminaire equipment, which will be billed to the customer at the manufacturers' currently published suggested retail prices plus applicable taxes.
 - c. Cleaning of glassware at the time of lamp replacement.

Incandescent lamp maintenance service is limited to those incandescent lamps maintained by the utility prior to June 10, 1979.

Maintenance service will not be furnished where, in the opinion of the utility, an undue hazard or expense would result because of location, mounting height, or other reasons.

Customer shall furnish, install, own and maintain all equipment beyond the central point of connection except for such limited maintenance as provided above.

2. Customer Installation on Utility Pole. Service to street lights owned by governmental agencies will be allowed on utility-owned poles, served from overhead secondary service, wherein the governmental agency owns all street lights within its jurisdiction and has entered into a Pole Attachment Agreement with the utility. Installation of all new street lights will be performed by the governmental agency or its contractor.
3. Type of Service. Service to multiple lamps will be supplied at the available secondary voltage or, at the option of the utility, 480 volts. Service to series lamps will be supplied only from existing series circuits.
4. Hours of Burning. Service will be from dusk to daylight which, in accordance with the utility's switching schedule, results in approximately 4,165 burning hours per year.
5. Relocation of Facilities. Relocation of Utility's Facilities at the customer's request or because of governmental requirements will be made providing the customer pays the actual costs incurred by the utility for such relocation.

(Continued)

4C10

Advice Ltr. No. 1460-E

Decision No. _____

Issued by
Lee Schavrien
Vice President
Regulatory Affairs

Date Filed Dec 23, 2002
Effective Jan 1, 2003

Resolution No. COP/COG/LOG/264 A
E 3788
Gray-Harris-Fogue-Heberling-Peters/4



San Diego Gas & Electric Company
San Diego, California

Revised Cal. P.U.C. Sheet No. 12634-E
Revised 10902-E
Canceling Revised Cal. P.U.C. Sheet No. 10449-E

SCHEDULE LS-2

Sheet 5

LIGHTING - STREET AND HIGHWAY - CUSTOMER-OWNED INSTALLATIONS

SPECIAL CONDITIONS (Continued)

- 6. Change in Rate. Where systems are taken over for service under this schedule, or changed from Rate A to Rate B hereunder, they must meet the approval of the utility as to construction and condition, and the utility may decline to grant these rates if the system is not up to the standard set for other systems operating under this schedule.
- 7. Contracts. A Contract for a period of not less than one year and not more than five years may be required for service under this schedule and will remain in effect from year to year thereafter until terminated.
- 8. Shut-off for Non-Payment. If a customer's street lights are shut off due to non-payment of the monthly energy bill, the customer will be subject to a turn-on fee of \$10.00 per light, with a minimum charge of \$50.00. This fee is in addition to the Service Re-Establishment Fee and normal credit deposits.
- 9. Timed Auxiliary Power Device Adapter. This service is available under the terms and conditions stated below for a monthly charge of \$0.81 per device plus an administrative charge of \$60.00 per account per contract period plus Energy Charges billed at the rates stated in Schedule A.
 - a. A Standard Installation shall consist of an individual timed auxiliary power device installed on a customer-owned ornamental street lighting pole.
 - b. This rate is only available to governmental agencies who are the customer of record for ornamental street lighting service. A written Service Application and Agreement is required for service in conjunction with customer-owned street lighting poles.
 - c. The customer will own and install the requested timed auxiliary power adapter and the installed timed auxiliary power adapter shall remain the sole property of the customer.
 - d. The installation of the applicant's lighting decorations shall be in accordance with utility's specifications.
 - e. The provisions of this service shall be in accordance with the utility's Rule 14.1, Prohibitions and Curtailment Provisions, Section B.1.a.
 - f. The applicant shall specify the number of timed auxiliary power adapters required. Billing will be based on the per-unit decoration wattage and hours of operation specified by the applicant in the Service Application and Agreement. The per-unit decoration wattage shall not exceed the manufacturers' 300-watt rating for each device.
 - g. At the time of installation of the timed auxiliary power adapter and monthly thereafter until such timed auxiliary power adapter has been removed, the customer will be required to pay the monthly charge.
 - h. In no case shall the granting of permission to install lighted decorations for use with a timed auxiliary power adapter device on the customer-owned poles give the applicant any additional rights.

(Continued)

5C1
Advice Ltr. No. 1174-E-A
Decision No. 99-05-051

Issued by
William L. Reed
Vice President
Chief Regulatory Officer

Date Filed Jun 29, 1999
Effective Jul 1, 1999

Resolution No. COP/COG/LOC/264A
Gray-Harris-Fogue-Heberling-Peters/5



San Diego Gas & Electric Company
San Diego, California

Revised Cal. P.U.C. Sheet No. 15681-E

Canceling Revised Cal. P.U.C. Sheet No. 14941-E

SCHEDULE LS-2

Sheet 6

LIGHTING - STREET AND HIGHWAY - CUSTOMER-OWNED INSTALLATIONS

SPECIAL CONDITIONS (Continued)

10. Billing: A customer's bill is first calculated according to the total rates and conditions listed above. The following adjustments are made depending on the option applicable to the customer:

- a. **UDC Bundled Service Customers** receive supply and delivery services solely from SDG&E. The customer's bill is based on the Total Rates set forth above. The EECC component is determined by multiplying the EECC price for this schedule during the last month by the customer's total usage.
- b. **Direct Access Customers** purchase energy from an energy service provider (ESP) and continue to receive delivery services from SDG&E. The bill for a Direct Access Customer will be calculated as if it were a UDC Bundled Service Customer, then crediting the bill by the amount of the EECC component, as determined for a UDC Bundled Customer.
- c. **Virtual Direct Access Customers** receive supply and delivery services solely from SDG&E. A customer taking Virtual Direct Access service must have a real-time meter installed at its premises to record hourly usage, since EECC change hourly. The bill for a Virtual Direct Access Customer will be calculated as if it were a UDC Bundled Service Customer, then crediting the bill by the amount of the EECC component, as determined for a UDC Bundled Customer, then adding the hourly EECC component, which is determined by multiplying the hourly energy used in the billing period by the hourly cost of energy.

Nothing in this service schedule prohibits a marketer or broker from negotiating with customers the method by which their customer will pay the CTC charge.

11. Other Applicable Tariffs: Rules 21, 23 and Schedule E-Depart apply to customers with generators.

N

6C12

Advice Ltr. No. 1440-E

Decision No. 02-09-034

Issued by
Lee Schavrien
Vice President
Regulatory Affairs

Date Filed Sep 24, 2002
Effective Oct 1, 2002

Resolution No. COP/COG/LOC/264A
Gray-Harris-Fogue-Heberling-Peters/6



Pacific Gas and Electric Company
San Francisco, California

Original
Cancelling

Cal. P.U.C. Sheet No. 11568-E
Cal. P.U.C. Sheet No.

PACIFIC GAS AND ELECTRIC COMPANY
CUSTOMER-OWNED STREETLIGHTS
PG&E POLE CONTACT AGREEMENT
FORM NO. 79-938
(ATTACHED)

(N)

(N)

Advice Letter No. 1335-E
Decision No.

Issued by
Gordon R. Smith
Vice President
Finance and Rates

Date Filed January 25, 1991
Effective March 6, 1991
Resolution No. _____



Pacific Gas and Electric Company
**Customer-Owned Streetlights
 PG&E Pole Contact Agreement**

DISTRIBUTION:
 DIVISION
 APPLICANT
 G.O. TARIFFS

REFERENCE:
 Job No. _____

_____ (Applicant),
 has elected to enter into this Agreement with **PACIFIC GAS AND ELECTRIC COMPANY**, a California corporation (PG&E).

PG&E owns, operates and maintains overhead electric distribution facilities located in geographic areas within the political jurisdiction of Applicant.

Applicant desires to enter into an agreement with PG&E that will (a) allow having that portion of the Applicant's existing streetlights to contact PG&E's distribution poles, and (b) specify conditions for future installation, operation, maintenance, use or removal of Applicant's streetlights. PG&E is willing to permit Applicant to have such pole contacts under the following terms and conditions:

1. POLE CONTACT PERMISSION.

- a. Existing Streetlights. PG&E hereby gives Applicant general permission under the terms and conditions herein stated to contact, replace, operate, maintain, and use existing luminaires, lamps, photocells, support arms and service wiring facilities (hereinafter Equipment) installed on poles owned by PG&E or jointly owned by PG&E and others. Such permission covers all existing lights owned by the Applicant that are mounted on PG&E-owned poles, based on the most current billing records as of the date of this Agreement. However, specific permission for such streetlights must be in the form of pole Contact Permits for specific locations.
- b. New Streetlights. Applicant or its contractor shall not install any new or additional equipment on PG&E's poles without first securing PG&E's written approval in the form of a Contact Permit for specific locations. Within (30) days of receipt of the application, PG&E will either grant the permit or deny the permit and specify why the action cannot be taken. Upon the receipt of each such approved Contact Permit, Applicant shall have the right to install, operate, maintain and use the additional equipment on the poles specified in such permit and under the terms and conditions specified in this Agreement, (hereafter included as Equipment), which shall be considered a part of each such permit without regard to whether this Agreement is referred to in each Contact Permit.

2. POLE CONTACT PERMITS. PG&E will provide Contact Permits in the form attached and marked Exhibit A to Applicant for the specific locations involved, and shall charge no pole contact fee for each electric distribution pole covered under this contact Agreement unless such a fee is permitted in the future under authorization by the California Public Utilities Commission (Commission).

3. PRIOR POLE CONTACT AGREEMENT. This Agreement shall supersede any previous pole contact agreement between PG&E and the Applicant insofar as it may pertain to street lighting.

4. PG&E REQUIREMENTS. Facilities installed under this Agreement shall be subject to all of the provisions of the General Orders of the Commission, and PG&E's applicable tariff schedules on file with and authorized by the Commission and further shall at all times be subject to such changes or modifications as the Commission may, from time to time, direct in the exercise of its jurisdiction.

Form 79-938
 Marketing Services
 Advice No.
 Decision No.

Effective
 COP/COG/LOC/204B

Gray-Harris-Fogue-Heberling-Peters/2

5. **SERVICE DELIVERY.** PG&E will supply electrical energy and service to streetlight equipment owned by Applicant in accordance with the provisions of rate Schedule LS-2 for customer-owned street and highway lighting.
6. **WORK ON POLES.** Any person working on applicant-owned Equipment mounted on PG&E-owned poles must be qualified to work on such Equipment in the vicinity of PG&E's energized conductors (i.e., Qualified Electrical Worker or performing work under the supervision of a Qualified Electrical Worker. See Title 8, Electrical Safety Orders, Section 2949). Any contractor used by Applicant to perform work on the Equipment contacting PG&E's distribution facilities shall be one previously approved by PG&E as qualified to perform such work, and shall meet the insurance requirements outlined in this Agreement. Upon request, PG&E will supply a list of approved contractors to Applicant.

All work on Applicant's Equipment installed on PG&E's poles shall be performed by Applicant's personnel or contractor operating from either a ladder or bucket truck. Direct climbing of PG&E-owned poles by Applicant's personnel or contractor is prohibited, unless access requires pole climbing by Applicant's authorized personnel qualified to climb.

7. **SAFETY PRECAUTIONS.** Applicant and PG&E shall perform all work in compliance with applicable federal, state and local laws, rules and regulations. Applicant shall inform all persons doing work on PG&E's facilities and insure that all work of non-PG&E employees is planned and conducted in a manner to safeguard persons and property from injury. Work performed in areas adjacent to PG&E's energized electric facilities also shall be performed in accordance with PG&E's established safety rules and practices, as shown on PG&E's Engineering Standard identified as Exhibit B attached, or as directed by PG&E. In no case shall Applicant have work performed above the height of the 120/240 volt secondary conductors on PG&E's facilities.
8. **INSURANCE REQUIREMENTS.** Applicant shall provide evidence to PG&E of insurance or self-insurance to secure the payment of Worker's Compensation in compliance with the Labor Code of California and, where applicable, shall secure payment of liability under any other similar applicable law. Upon request, Applicant shall provide PG&E evidence of insurance or self-insurance and shall cause any contractor performing work under this Agreement to procure and maintain in effect during the term of his work bodily injury liability insurance with limits of not less than \$2,000,000 combined single limit (including automobile) for bodily injury and property damage as a result of any one occurrence. Such contractor's insurance must be satisfactory to PG&E and shall guarantee Applicant's performance of the above indemnity obligation and shall also be endorsed to (a) include PG&E as an additional named insured insofar as this Agreement is concerned, (b) contain a cross-liability clause, and (c) provide that written notice shall be given to PG&E at least thirty (30) days prior to cancellation or material change in the form of such policies or endorsements. Upon request, Applicant will furnish PG&E with original copies of the policies and endorsements. PG&E shall have the right to inspect the original policies of such insurance.
9. **REARRANGEMENT FOR INSTALLATION.** If any rearrangement of or addition to PG&E's existing electric distribution facilities is required to permit Applicant to install Equipment on PG&E's poles, PG&E shall notify Applicant of the nature and PG&E's estimated cost of such work. If Applicant finds such cost acceptable, it shall notify PG&E by letter, including a purchase order number or equivalent authorization to reimburse PG&E for the cost of such work. PG&E shall, thereafter, complete the work within a reasonable time and bill Applicant.

10. **OTHER REARRANGEMENTS.** Should PG&E find it necessary to perform any work (removal, replacement or relocation) on its distribution poles on which Applicant maintains its Equipment, and such work is (a) requested by local governmental agencies, (b) requested by the State of California Department of Transportation (CalTrans), (c) needed to replace deteriorated poles, (d) caused by an emergency (storm damage, accidents, etc.), or (e) caused by the actions of a third party or parties outside of PG&E's control, Applicant shall, at its own expense, rearrange its Equipment as necessary, or remove, relocate, replace, or transfer its Equipment to substitute poles, if available, as designated by PG&E. PG&E will give Applicant thirty (30) days written notice for such necessary work, except in the case of an emergency, said notice may be delayed but for not more than (10) days after commencement of the emergency work. In the event that Applicant does not perform its work prior to PG&E's scheduled work, or in cases of emergency, PG&E may at the expense of Applicant perform such work or other associated work in connection with the Equipment that may be required for the operating needs of PG&E.
11. **SERVICE CONNECTION/DISCONNECTION.** Connection or disconnection of Applicant's service wires to PG&E's secondary conductors will be performed only by PG&E. This work shall be performed at Applicant's expense based on the flat cost table attached as Exhibit C. This table is subject to change and use by PG&E annually under this agreement, without formal amendment to this Agreement.
12. **EQUIPMENT REMOVAL.** Applicant or its contractor may remove its Equipment from any poles hereunder upon giving ten (10) days advance written notice to PG&E; provided, however, in case of an emergency, said notice may be delayed but for not more than (10) days after commencement of the emergency work. Such notice shall be given by executing a Notice of Contract Removal in the form attached hereto as Exhibit D.
13. **EQUIPMENT ABANDONMENT.** Abandonment of any Equipment under this Agreement, at a location by Applicant shall terminate all of its rights and privileges at that location. Abandonment shall be presumed if any Equipment is not used for a three (3) month period, unless Applicant notifies PG&E in writing of a specific temporary period of disuse of its Equipment. In such instances, the Equipment will not be considered abandoned until three months after the temporary disuse period has lapsed. After the expiration of such period, PG&E shall have the right to remove and retain possession of the Equipment, provided that at least thirty (30) days prior to such removal or possession, PG&E has mailed to Applicant written notice of its intention, and Applicant has neither responded nor commenced using the Equipment. PG&E has the right to collect from Applicant all expenses incurred for removal of such Equipment. Equipment shall not be considered in disuse for any period in which it is inoperable due to failure of electrical service to it, or failure of any component requiring repair or replacement until a reasonable opportunity has been given to Applicant to effect the repair or replacement. Nor shall Equipment be considered disused if it becomes inoperable and this condition is not made known to the Applicant in a timely manner.
14. **INDEMNIFICATION.** Applicant shall indemnify and hold harmless PG&E, its officers, agents and employees, against all loss, damage, expense and liability resulting from injury to or death of person, including but not limited to employees of PG&E, Applicant, or any third party, or any damage to property, including but not limited to, property of PG&E, Applicant, or any third party, arising out of or in any way connected with the performance of this Agreement and any and all construction activities however caused, except to the extent caused by the active negligence or willful misconduct of PG&E, its officers, agents and employees. Applicant will pay any cost that may be incurred by PG&E in enforcing this indemnity, including reasonable attorneys' fees.
15. **GENERAL WAIVER.** Should either party fail to enforce any specific provision of this Agreement, it shall not be deemed a general waiver or relinquishment by that party of any provision in this agreement.

16. **PAYMENT FOR WORK.** Any amount due from Applicant to PG&E for work performed under the provisions of this Agreement are payable in advance of PG&E commencing work, however, where prohibited by law, Applicant may pay the amount within a period of (30) days after the work is completed.
17. **TERM OF AGREEMENT.** Notwithstanding any other provisions hereof, this Agreement shall be and remain in effect for an initial period of ten (10) years from the date of this Agreement, and shall extend thereafter for successive terms of one (1) year each, unless otherwise terminated by either party on not less than twelve (12) months advance written notice to the other party at the expiration of the initial or any subsequent term.
18. **OBLIGATION AFTER TERMINATION.** Any termination of Applicant's rights and privileges under this Agreement shall not relieve Applicant of any obligations, whether of indemnity or otherwise, which has accrued prior to such termination or completion of removal of Applicant's equipment, whichever is later, or which arises out of an occurrence happening prior thereto.
19. **ASSIGNMENT.** Applicant may assign this Agreement, in whole or part, only if PG&E consents in writing and the party to whom the Agreement is assigned (Assignee) agrees in writing to perform the obligations of Applicant hereunder and to be bound by this Agreement in all respects. Assignment of this Agreement shall not release Applicant from any of the obligations under this Agreement unless such a release is specifically agreed to in writing this Agreement unless such a release is specifically agreed to in writing by PG&E and the Assignee. Such assignment, unless otherwise provided therein, shall be deemed to include Applicant's right to any refunds then unpaid or which may thereafter become payable.
20. **COMMISSION JURISDICTION.** This Agreement shall be subject to all of PG&E's tariff schedules on file with and authorized by the Commission and shall at all times be subject to such changes or modifications as the Commission may direct from time to time in the exercise of its jurisdiction. These may include, but are not limited to changes or modifications to monthly cost of ownership charges (higher or lower percentage rates), extension rules, and rate schedules.

Execution Date: _____, 19__

<p>_____ Applicant</p> <p>BY: _____ (Authorized Signature)</p> <p>_____ (Type or print name)</p> <p>TITLE: _____</p>	<p>PACIFIC GAS & ELECTRIC COMPANY</p> <p>BY: _____ (Authorized Signature)</p> <p>_____ (Type or print name)</p> <p>TITLE: _____</p> <p>Division: _____</p>
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Applicant's Mailing Address:

Attachments:

- Exhibits
- A. Contact Permit Form
 - B. Engineering Standards
 - C. Flat Cost Table
 - D. Notice of Contract Removal

PACIFIC GAS AND ELECTRIC COMPANY
CONTACT PERMIT

Number _____

To _____

Division _____

Date _____, 19____.

Permission is requested to place attachments on the poles designated below in accordance with the terms and conditions of the agreement between _____

_____ and Pacific Gas and Electric Company dated _____.

Date Checked _____

By _____

By _____

THE ABOVE PERMISSION IS HEREBY GRANTED

Date Checked _____

Date _____, 19____.

By _____

By _____

Number of poles contacted under this permit _____ Annual rental \$ _____ each or \$ _____ total.

2E1610

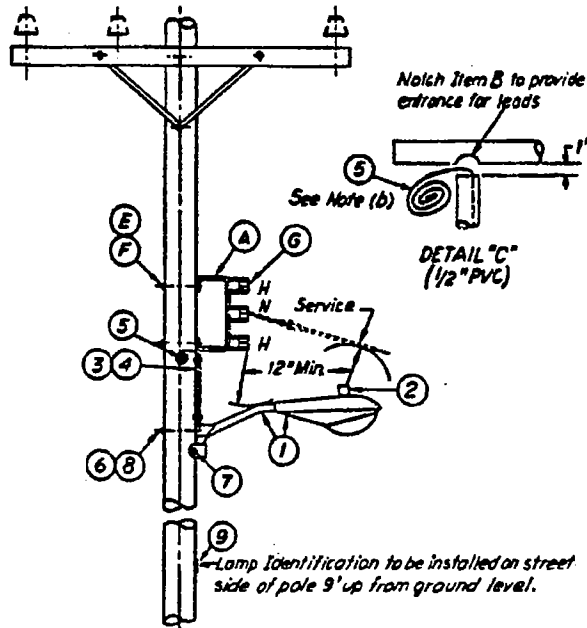


FIG. 4
Installation with Extended Rock Construction
with Service Drop Present

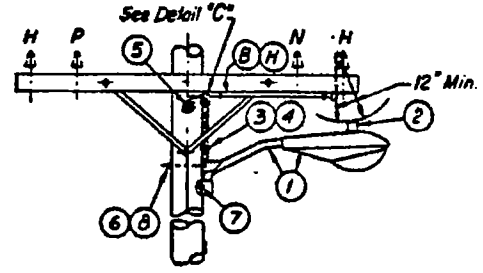


FIG. 5
Installation with No Service Drops Present
(See Note (a))

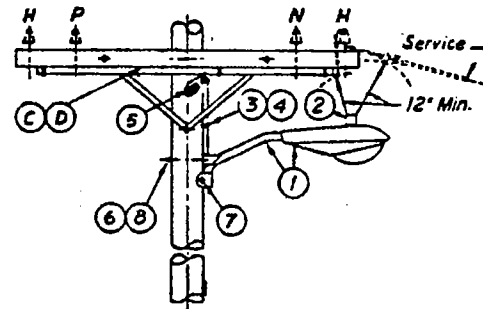


FIG. 6
Installation with Service Drops Present

MATERIAL: FURNISHED AND INSTALLED BY THE CUSTOMER

ITEM	DESCRIPTION
1	Luminaire and mounting bracket
2	Photoelectric Relay, Twist Lock Type
3	Conduit, 1/2", PVC, Schedule 80
4	Staple, Galvanized 2 1/4" x 25/32" x 3/16"
5	Wire, #10, Solid Copper, PVC, 600V.
6	Bolt, Mach. 5/8" x 10" Length
7	Log Screw, 1/2" x 4" Length
8	Washer, 2 1/4" Sq., 5/8" Bolt Size
9	Identification

MATERIAL: FURNISHED AND INSTALLED BY P. G. & E.

ITEM	DESCRIPTION	DRAWING Number Part	CODE
A	Rock, Extended, Secondary, 3-Spool	015187	1 31-6054
B	Conduit, 1/2", PVC, Schedule 40		36-0368
C	Conduit 2", PVC, .100" Wall Thickness	021924	36-0234
D	Plumbers Tape, Galvanized		17-6024
E	Bolt, Mach. 5/8" x Length as req'd.	058778	19-5286
F	Washer, 2 1/4" Sq., 5/8" Bolt Size		30-5842
G	Connector, Alum., H-Type Compression	041010	30-5843
	Connector, Alum., H-Type Compression		
	Connector, Cu, Split Bolt (For Cu Secondary to #10 Cu)	015020	
H	Staple, Galvanized	021924	19-7156

⊙ For 1/0 Aluminum or ACSR Secondary to #10 Cu.

▲ For Aluminum Secondary Larger than 4/0 to #10 Cu. Make up tail of #10 Cu. to 1/0 Aluminum with a Code 30-5842 connector and insert end of 1/0 Aluminum in appropriate PG Clamp taken from Dwg. 028852.

AUTHORIZED MUNICIPALLY OWNED INSTALLATIONS (120 VOLT OPERATION)

APPROVED BY	REV.	DATE	DESCRIPTION	SUPV.	DWN.	CHKD.	APVD.
J.P.K.	10	4-24-87	Revised Items A, C, D and H				
J.L.B.	9	11-23-82	Chad. Dwn No. Items E and F. Rev. Fig. 5 & 6 min clearance.				
W.B.	8	12-9-77	New Sheet. Former Sh. 4 made Sh. 5.				



DM	
SUPV.	F.F.Y.
DSBN.	
DWN.	K.L.
CHKD.	
S.E.	
DATE	SCALE
1-20-47	

STREET LIGHT INSTALLATIONS ON WOOD POLES

DEPARTMENT OF ENGINEERING
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

SUPERSEDED	
SUPERSEDED BY	
SHEET NO. 3 OF	SHEETS
DRAWING NUMBER	REL.
015132	10

COP/1100/1264B

FLAT COST TABLE
CUSTOMER-OWNED STREET LIGHTS ON PG&E-OWNED POLES
RATE SCHEDULE NO. LS-2

Description	Charge
1. New Service Connection (single trip) Load Less Than 2000 Watts	_____
2. Temporary Disconnect and Reconnect Service Wires (double trip)	
a. First light located within a single city or lighting district	_____
b. Each additional light located within a single city or lighting district worked at the same time	_____
3. Relocation (remove and reinstall street light fixture, support arm, wiring, etc.) on wood pole (single trip)	
a. First light located within a single city or lighting district	_____
b. Each additional light located within a single city or lighting district worked at the same time	_____
4. Permanent Disconnection: (single trip)	
a. Light installed 5 years or more	N/C
b. Light installed less than 5 years	
(1) First light located within a single city or lighting district	_____
(2) Each additional light located within a single city or lighting district worked at the same time	_____

NOTES: 1. All charges shown above are subject to change annually by PG&E.
2. For connection and other charges for customer-owned street lights NOT on PG&E-owned poles, refer to the special conditions of Schedule LS-2.

PACIFIC GAS AND ELECTRIC COMPANY

Number.....

NOTICE OF CONTACT REMOVAL

To..... Division.....

..... Date....., 19.....

The attachments on the poles designated below, as covered by Contact Permit No..... issued in accordance with the terms and conditions of the agreement between.....

..... and Pacific Gas and Electric Company, dated....., have been removed.

Date Checked.....

By..... By.....

TITLE

CONTACT REMOVAL ACKNOWLEDGED

Date Checked..... Date....., 19.....

By.....

By.....

Number of poles vacated under this removal notice..... Pay Free

Exchange Area.....

Note: Sketch to be drawn to suitable scale. Use reverse of this sheet if necessary.