Portland General Electric Company
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February 02, 2015

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Commission Filing Center
Public Utility Commission of Oregon
PO Box 1088
Salem, OR 97308-1088

Re: **UE 283 PGE Lead Lag study for 2015 Test Year**

In the first Partial Stipulation (Commission Order No. 14-422), PGE agreed that an independent third party would be hired to perform an adequately funded lead/lag study. In addition, PGE agreed that the study would thoroughly evaluate the existence and amount of any double counting between working capital and inclusion of materials and supplies in rate base.

PGE hired Expergy, an independent third party consultant, to conduct the lead/lag study. The study thoroughly evaluated the existence of any double counting between working capital and inclusion of materials and supplies in rate base and concluded that there is no double counting (see Description of the Study in Attachment A, page 10). PGE met with parties and discussed the study. Parties raised questions during this workshop and PGE expects to respond to these questions by February 06, 2015.

The study itself, as well as work papers used in the study, are included in Attachments B and C. Work papers included with the independent study that contain confidential information are Attachment C and are subject to Protective Order No. 14-043. Materials provided to Staff during earlier discussions are subject to the same protective order.

The same stipulation also required PGE to apply the results from this lead-lag study to the stipulated forecast for 2015 Test Year. We expect this report to be filed before February 13, 2015.

If you have any questions, please contact me (503) 464-7580 or Irina Phillips at (503) 464-7957.

Sincerely,

Patrick G. Hager
Manager, Regulatory Affairs

Encls.

cc: UE 283 Service List without enclosures:
OPUC Staff, CUB, ICNU, Kroger with enclosures

UE 283

Attachment A

Lead Lag Study for 2015 Test Year

PORTLAND GENERAL ELECTRIC COMPANY
DESCRIPTION OF LEAD-LAG STUDY

I. INTRODUCTION

To determine the cash working capital ("CWC") requirements for Portland General Electric Company ("PGE" or "Company"), a detailed revenue and expense lead-lag study has been performed. This analytical study reflects costs associated with the test year period of January 1, 2013 through December 31, 2013 ("Test Year"). The analysis provides a basis for quantifying the leads associated with the receipt of goods and services prior to payment and the lags associated with the delay in the receipt of funds for electric service. The measurement of these leads and lags is expressed in days for various categories of expenses and revenues. The lag for revenue collection is netted against the various expense leads, and the resulting "net" lead or lag can be multiplied by pro forma daily revenue requirements for various cost of service categories. The net sum of these mathematical products, together with working funds and other sources, provides the net CWC allowance.

The lead-lag study excludes the amortization of those expenses that the Company classifies as "prepaid expenses" for ratemaking purposes. As necessary, random samples of data were used to develop net lead or lag days based on reasonable and unbiased sampling methods.

In the following sections, a description of the methods used in the calculation of the lag days for revenue collection and the lead days for expense payment are detailed. Adjusting Items are also discussed.

II. REVENUE ANALYSIS

Revenue Lag days represent the amount of time between the midpoint of the delivery of service to customers and the receipt of the related revenues for such service. Revenue Lag days consist of four components, (1) the service lag measured from the middle of the month for which service is billed, (2) the billing lag that reflects the time required to process and record bills, (3) the collection lag that identifies the time delay between the recording of bills and the receipt of the billed revenues, and (4) the receipt of funds lag that is measured as the delay in the bank's clearance of deposited check payments. The total number of days produced by the four components represents the amount of time between the delivery of service to

customers and the receipt of the related revenues for such service.

The first of these four components, the "service period," measures the time span over which services are provided. The traditional approach, which is followed in the CWC study, is to use the mid-point of the service period. For purposes of the study, it is assumed that electricity is delivered evenly over the service period and that the appropriate point of measuring the service is the middle of the period. PGE provided the 2013 Monthly Meter Read Schedules. Actual billing days over the test year provided an average of 30.46 days per billing cycle. Accordingly, the service period component is one half of the 30.46 days, or 15.23 days.

The second component is the time consumed in the billing process, or the "billing lag." The billing lag days are calculated based on the Company's bill processing schedule. Billing occurs one business day following the meter reading, resulting in the processing and mailing of the bill on average 1.43 days after the customer's meter is read.

The third component, the collection lag, reflects the time between billing for the services rendered and the receipt from customers of the revenues billed. The collection lag for was determined from a random sample of 100 customer invoices for the residential class, 110 customer invoices for the commercial and industrial class, and 50 customer invoices for the large commercial and industrial class during the Test Year by measuring the time between the billing date and actual payment receipt date for each invoice. The collection lags for the three customer groups were 25.72, 16.64, and 18.21 days respectively.

The fourth component of the revenue recovery lag, the receipt of funds lag, represents the time between the receipt of funds from customers until the funds clear the banks and are available to the Company. The lag associated with each individual payment type was computed according to the Company's information. Approximately 24% of funds were available on the same day. Others were available between 1.0 and 4.2 days later. Overall cash receipts float is 0.83 days.

Each of these revenue lag components was totaled to arrive at the total revenue lag days of 38.89 days for the Test Year.

III. EXPENSE ANALYSIS

A. Fuel

Two main types of fuel were purchased during the Test Year—coal and natural gas. Oil purchases were minimal during the Test Year and therefore not considered in this study.

1. Coal

All payments for coal were provided. PGE operates Boardman and has an 80% ownership interest, which, on December 31, 2013, increased from 65%. The Company also has a 20% ownership interest in Colstrip Units 3 and 4 coal-fired generating plant (Colstrip), which is operated by a third party. Where appropriate, only the PGE share of expenses was considered. The service period for each coal payment was determined by the delivery month. The midpoint of the service period was compared to the subsequent payment date. The resulting lead days were dollar-weighted to arrive at 26.67 lead days.

2. Natural Gas

Most payments for natural gas are made on the 25th of the month, or the following business day. Total monthly amounts paid for natural gas were provided along with the payment information for any exceptions. The exceptions were subtracted from the monthly totals. OANDA historical exchange rates were used to account for payments made in Canadian dollars. The service period for each coal payment was determined by the delivery month. The midpoint of the service period was compared to the subsequent payment date. The resulting lead days were dollar-weighted to arrive at 40.32 lead days.

B. Purchased Power

All purchased power expenses were provided by month. Purchased power invoices are due by the 20th of each month. The service periods for the purchased power invoices in the Test Year were compared to the subsequent payment date of the 20th of each month. The resulting lead days were dollar-weighted by month to arrive at 34.47 lead days.

C. Other Operation & Maintenance Expenses

The measure of lead days for Other Third-party Transaction expenses was based upon a random sampling of the expenses recorded during the test year period. The random sample consisted of 195 vouchers. Each of the sample items was carefully examined to determine the service period. Lead days were calculated from the midpoint of the service period (if available) until the actual payment cleared date. If no information was available on the service period of a particular invoice, the invoice date was used as the assumed midpoint of the service period. Individual invoices were removed from the sampling if the invoice pertained to another study category such as fuels or purchased power. Other invoices were removed for unclear service dates or no clearing date for the payment. After these items were removed, 182 samples remained. The lead day amount for each invoice was dollar-weighted and totaled to determine the overall lead days.

After removing the effects of the amortization of prepaid expenses, the lead days for Other O&M expenses were combined to arrive at 40.23 lead days.

D. Payroll

1. Regular Payroll

The lead days for regular payroll were based upon the Company's wage payment process that employs bi-weekly pay periods. This calculation produces the number of total days between the midpoint of the period for which employees' costs were incurred and the disbursement of the payments. The lead days for payroll were calculated by determining the 7-day midpoint of the service period (14-day service period divided by 2) and the days between the end of the service period ending on Sunday and the payment made to employees on the following Friday. This calculation produces a total of the days between the midpoint of the service period and the normal disbursement of these costs. If the Friday pay day falls on a bank holiday or a Company-paid holiday, employees are paid on the immediately preceding business day.

Several adjustments were incorporated into the calculation of payroll lead days. First, the payment of employee-withheld benefits and other deductions were considered. Actual

funding dates for each deduction were dollar-weighted. Next, a check float was applied to paper check payments. The majority of employee wages are paid by direct deposit, with the remainder being paid by paper check. Direct deposit payments clear on payday and thus, have no check float. Paper payroll check clearing times were established based on a random sample; a check float was added to paper check payments based on the results of this sample.

2. Incentive Pay

The Company's incentive program is paid in March of the following year. During the Test Year, the incentives were paid on March 8, 2013, for eligible employees. These incentives were based on calendar year 2012 performance. The lead days were based on the days between the midpoint of the service period and the date the incentives were paid.

E. Current Federal Income Tax Expense

The lead days for federal income taxes were calculated by measuring the days between the midpoints of the annual calendar year service periods (as the tax is incurred throughout the year) and the actual payment dates. Payment of at least 100% of the estimated tax for the year must be made in quarterly payments on April 15th, June 15th, September 15th, and December 15th. If the scheduled payment date falls on a weekend or holiday, the quarterly payment is made on the first workday after the indicated date.

F. Current State and Local Income Tax Expense

1. Oregon

The lead days for current Oregon state income taxes were calculated by measuring the days between the midpoints of the annual calendar year service periods (as the tax is incurred throughout the year) and the actual payment dates. Payment of at least 100% of the estimated tax for the year must be made in quarterly payments on April 15th, June 15th, September 15th, and December 15th. If the scheduled payment date falls on a weekend or holiday, the quarterly payment is made on the first workday after the indicated date.

2. Montana

The lead days for current Montana state income taxes were calculated by measuring the days between the midpoints of the annual calendar year service periods (as the tax is incurred throughout the year) and the actual payment dates. Payment of at least 100% of the estimated tax for the year must be made in quarterly payments on April 15th, June 15th, September 15th, and December 15th. If the scheduled payment date falls on a weekend or holiday, the quarterly payment is made on the first workday after the indicated date.

3. California

The lead days for current California state income taxes were calculated by measuring the days between the midpoints of the annual calendar year service periods (as the tax is incurred throughout the year) and the actual payment dates. Payment of at least 30% of the estimated tax for the year must be made on April 15th. Payment of at least 40% of the estimated tax for the year must be made on June 15th. No specified payment is required on September 15th. And a final payment of at least 30% of the estimated tax for the year must be made on December 15th. If the scheduled payment date falls on a weekend or holiday, the quarterly payment is made on the first workday after the indicated date. The lead day amount for each required payment was percent-weighted and totaled to determine the overall lead days.

4. Local

The lead days for current local income taxes were calculated by measuring the days between the midpoints of the annual calendar year service periods (as the tax is incurred throughout the year) and the actual payment dates. Payment of at least 100% of the estimated tax for the year must be made in quarterly payments on April 15th, June 15th, September 15th, and December 15th. If the scheduled payment date falls on a weekend or holiday, the quarterly payment is made on the first workday after the indicated date.

G. Taxes Other than Income Taxes

This group of taxes consists of: (1) Payroll-related taxes (FICA, Federal Unemployment, and State Unemployment), (2) Local Franchise Taxes, (3) Public Utility Commission Taxes, and (4) Property taxes. The development of the lead or lag days for each of these taxes is described below:

1. Payroll Taxes

The payment lead for payroll taxes was calculated from the midpoint of the applicable work period to the payment date of the tax.

2. Local Franchise Taxes

To determine the average lead days for local franchise fees and privilege taxes, the study analyzes all payments made in the Test Year. The midpoint of the service period for each payment was compared to the subsequent payment date. The resulting lead-lag days were dollar-weighted to arrive at 18.62 lag days. The lag days result from many of the franchise fees requiring a prepayment.

3. Public Utility Commission Taxes

The payment lead days for PUC taxes were calculated from the midpoint of the year 2012 for which the tax was assessed to the payment date of March 29, 2013. This calculation resulted in 270.00 lead days.

4. Property Taxes

The lead days for ad valorem taxes are based on the Company's test year ad valorem tax payments. Lead days are measured from the midpoint of the applicable period to the payment date. The Company pays property taxes in three states, Oregon, Montana, and Washington. The lead-lag days are calculated as 46.00 lag days, 242.50 lead days, and 394.50 lead days respectively.

H. Interest on Customer Deposits

During the Test Year, the average daily interest expense on customer deposits was only $33. Due to the negligible effect on CWC, the lead days on interest on customer deposits is assumed to be zero.

I. Interest on Bonds

Interest on bonds is paid semi-annually. The Company provided data on all interest payments made in 2013. The midpoint of the service period was compared to the subsequent payment date. The resulting lead days were dollar-weighted to arrive at 91.00 lead days.

J. Depreciation, Deferred Income Tax Expense, Deferred Investment Tax Credit and Return on Equity

These are significant cost of service items that are necessarily included in determining comprehensive CWC allowances. Although these costs are sometimes referred to as "non-cash" items and excluded from the CWC determination because they do not require the current outlay of cash when the cost is recorded, this argument is misplaced. These items must be included since utility revenues and expenses are based on accrual accounting such that the revenue or expense is recorded before or after the actual cash receipt or disbursement. Very few, if any, revenue or expense items are recorded when the cash is received or disbursed. If this were the case, all revenues and expenses would reflect zero lead/lag days, and the utility balance sheet would include nothing but cash and investor capital accounts. Failure to recognize these Cost of Service components in determining CWC would result in the Company not recovering its full true revenue requirement.

IV. OTHER ADJUSTMENTS – WORKING FUNDS AND OTHER

The Other CWC components include Average Bank Balances and Employee Payroll Withholdings. These items represent levels of investor capital that are required to fund various assets not explicitly identified in the rate base, as well as deductions for non-investor sources of capital not explicitly deducted from rate base. They are not, however, directly measured in the analysis of revenue requirements and must be separately included in the

CWC measure.

A. Average Bank Balances

The CWC reflects check float on disbursements as an addition to expenses paid by check to reduce cash working capital. Because the Company cannot control when checks will clear the bank and because of other minimum balance requirements imposed by banks, the Company must maintain certain levels of available cash in their bank accounts. Therefore, the actual bank cash balances are included in CWC since these funds must be supplied by investors. The amount was determined from the actual daily average of cash balances.

B. Payroll Withholdings

Payroll checks to employees withhold certain federal and state taxes that are later remitted to the taxing authorities. These funds may be considered as a reduction to CWC during the period between payroll date and remittance. The amount was determined by calculating the difference and multiplying by the average daily amount of withholding.

V. CONCLUSION

This lead-lag study was performed to indicate the amount of working cash allowance the Company should be allowed to include in rate base. A revenue lag of 38.89 days was calculated, and lead days were calculated for all major revenue requirement items. When the leads and lags are applied to pro forma average daily expenses and adjustments are made for working funds and other, a CWC requirement is developed for the Company and is properly included in rate base.

VI. SPECIAL TOPIC – MATERIALS & SUPPLIES INVENTORY

In the Final Order in the Company's last Request for a General Rate Revision, Docket No. UE 283 before the Public Utility Commission of Oregon, the stipulating parties agreed that an independent third party would be hired to perform a lead/lag study and to evaluate

whether there are any double counting issues. Specifically, Staff had proposed to remove Materials & Supplies ("M&S") Inventory from rate base on concerns that PGE had double-counted M&S in the Company's working capital.

We have determined that it is appropriate to include M&S in the Company's rate base and that there is no double-counting of M&S in both rate base and working capital. The bases for this conclusion are explained below.

The lead/lag study was developed based on data from calendar year 2013, and the same period was used to study the potential double-counting issue related to M&S. As a point of reference, the M&S balances in 2013 are shown below:

	12/31/12	12/31/13
Plant Materials & Supplies	$33,002,643	$34,505,820
Stores Expense Undistributed	4,817,251	4,765,622
Total	$37,819,894	$39,271,442

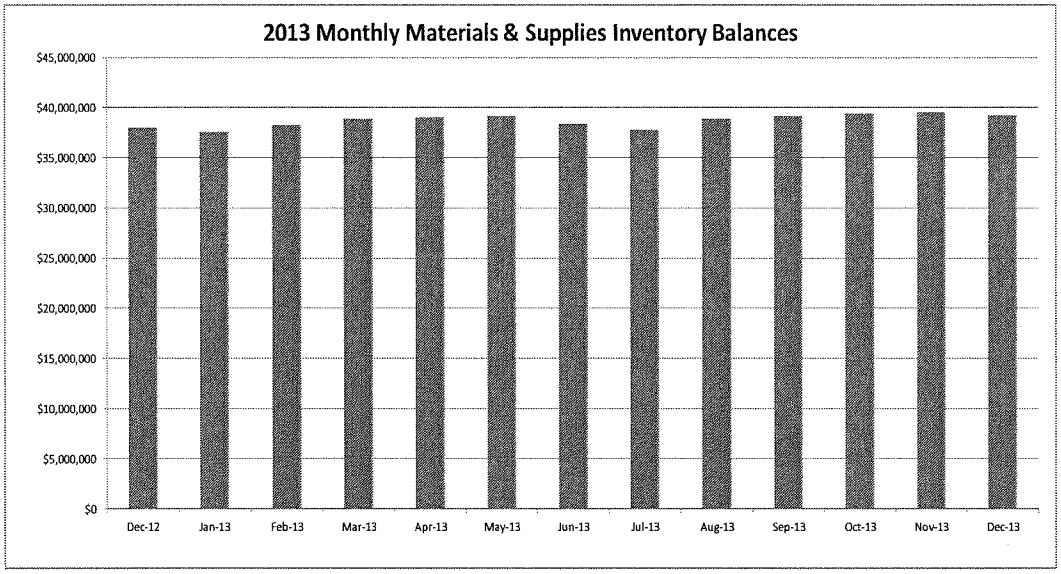
The increase in M&S inventory was approximately $1.5 million during the year, from a beginning balance of $37.8 million to an ending balance of $39.3 million. The activity in the M&S account is as follows:

Beginning Balance 12/31/12	$38	million
Purchases	+29	
Storeroom Operations	+ 7	
Less Issuances net of Returns (CWIP/RWIP)	(20)	
Less Issuances net of Returns (Expense)	(8)	
Less Materials Overhead Loading (CWIP/RWIP)	(6)	
Less Materials Overhead Loading (Expense)	(1)	
Ending Balance 12/31/13	$39	million

During 2013, approximately $26 million of M&S inventory was capitalized to CWIP/RWIP, and approximately $9 million was expensed:

	CWIP/RWIP ($millions)	Expense ($millions)
M&S Issuances	$20	$8
Allocation of Storeroom Costs	6	1
Total	$26	$9

Also, the monthly fluctuation in M&S inventory is minimal:



Based on this data, the following can be observed:

- There are minimal fluctuations in M&S inventory
- Approximately 25% of M&S issuances are expensed
- Approximately 75% of M&S issuances are capitalized
- Inventory turnover is approximately one time (1x) per year
- Approximately $100,000 per day is issued from M&S inventory ($25,000 expense + $75,000 capital)

A simple example illustrates the lack of double-counting. Purchases remain in M&S inventory on average for approximately one year. Assuming that M&S inventory is fungible and managed on a FIFO-basis, an item placed into M&S inventory on January 1,

2013 would be taken from inventory on January 1, 2014. The expense lead of approximately 40.23 days is recognized on January 1, 2013, and the revenue lag of 38.89 days is recognized on January 1, 2014. From the time the item is in M&S inventory on January 1, 2013 to January 1, 2014, the item is included in rate base.

Other than the one year holding period when the item is in M&S inventory and in rate base, the CWC effect is identical to that of an item purchased and expensed all on January 1, 2014. Thus the only incremental addition to rate base is for the period that the item is actually in M&S inventory; therefore, there is no double-counting.

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Attachment B

Provided in Electronic Format (CD) only

Lead Lag Study – Non-Confidential

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Attachment C CONF

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Confidential and subject to Protective Order No. 14-043