Using PTR:
Commercial & Industrial New Construction Lighting

Utility Brown Bag Session

September 29, 2006

Steps to report each lighting project Using the PTR system

- Go to PTR web site and download calculator
- Save calculator to your computer. Take care naming each project as a separate file. For example: **LCN-CarverWinery-06-V1.xls**
- Perform calculations & fill out site audit page
- Don't forget, save calculator as a separate file (as named above)
- After final inspection of project:
  - go into calculator for true-up,
  - re-save final version of file, then
  - upload calculator into project shopping cart

Finally, create invoice to claim funds

PTR Web Site – Step 1

Planning, Tracking, and Reporting System - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites

Address https://www.ptr.nwcouncil.org/apps/home.asp Go

Links BPA Phone Book CIRS Upgrades CIRS Google Organization Locator BPA Library Home - Christian Values Resource Group

REGIONAL TECHNICAL FORUM

Planning, Tracking, and Reporting System
Version 1.0

shopping cart your account help center

Funding Source :
Conservation Acquisition Agreement

iod:
September 30, 2007

Click on the "Commercial" link at left

Search By Measure Names & Ref #'s

All

Keyword: Search

Or, try Advanced Search

Efficiency Measures

Commercial
Residential
Industrial
Agricultural
Utility System
Other

Low-Income

Weatherization
Contributions

Renewable Measures

Renewable Measures

Third Party Contracts

BPA
State: OR

If you're someone else, please logoff.

Reporting Period

Period: Fiscal Year 2007: October 1, 2006 to September 30, 2007

To file a report for a fiscal year other than the above, please change the fiscal year.

Utility Climate Zones

Heating: All Zones
Cooling: All Zones
Solar: All Zones

To change to a climate zone other than the above, please change the climate zone.

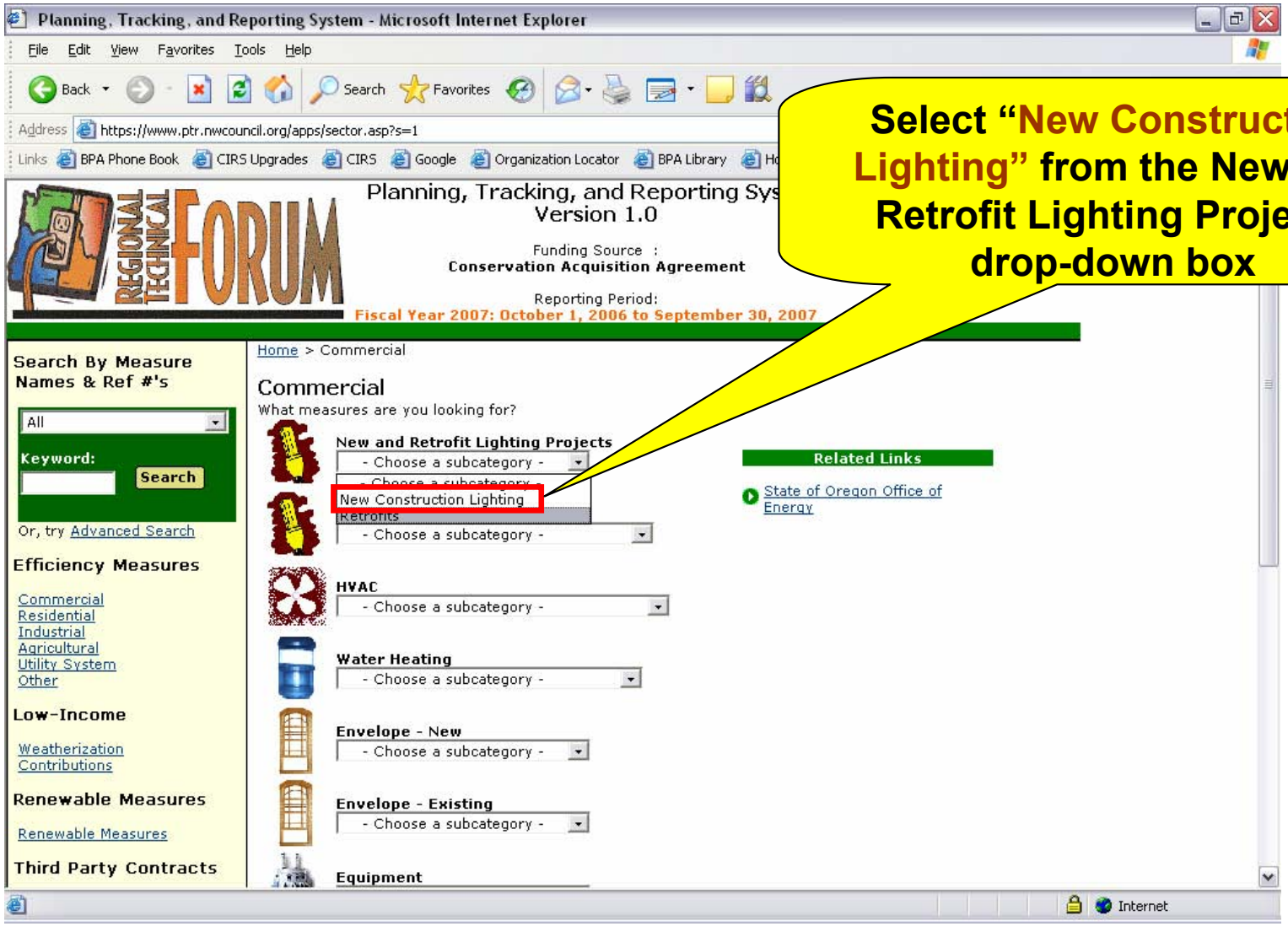
What's New!

The latest notes and updates about the C&RD System...

Date	Topic
06/18/2006	**CRD and PTR Now Open**

Internet

PTR Web Site – Step 2



Select "New Construction Lighting" from the New and Retrofit Lighting Projects drop-down box

Project-Level Commercial & Industrial New Construction Lighting Calculator

This worksheet calculates the annual energy savings and Conservation Rate Credit or Conservation Acquisition Agreement reimbursement resulting from the installation of an energy efficient lighting system. The project-level economics; including savings after HVAC interaction, busbar savings, O&M costs or savings, and periodic lamp replacement costs or savings, PV Life Cycle Cost and TRC B/C ratio are also calculated.

No data on this sheet may be edited.
Enter all data on the Savings Worksheet tab. Inputs here reflect data entered on that tab. Results are shown on lines 12 - 33.

Calculator Last Revised>	9/12/2006	Version 1.1	Todays Date>>>	9/18/2006
Project & Facility Name>	Northwest Industrial Plant		Carver Machinery & Tool Manufacturing	
Facility Street Address>	123 West Main Street		Building>	Main Facility
Facility City, State, Zip>	Carver		Oregon	97045
Utility Invoice # & Name	20051103	NW Public Power Utility	Account #	A-12456

Line No.	INPUTS FROM SITE AUDIT TAB	
1	Total Floor Area Affected by Project	27,189 sf
2	Project/Measure Change in Cleaning/Other O&M Cost (Savings -$ or Increases +$)	-$10.88
3	Dominant Building Type	Industrial Plant with Two Shifts
4	Primary Space Heat Fuel Source	Unconditioned
5	Total Existing Watts of Area Affected by Retrofit	47,792 Watts
6	Total Proposed Watts of Area Affected by Retrofit	18,332 Watts
7	Total Estimated Annual kWh Site Savings (unadjusted)	135,668 kWh
8	Incremental Project Cost	$12,280.00
9	Project-Level Net PV of Periodic Lamp Replacement Cost (Savings -$ or Increases +$)	-$108.84
10	Default Hours of Lighting Operation for Building Type	4,500 hours
11	RESULTS FOR ADDING PROJECT TO CART	
12	Measure Life	12 years
13	Inferred Weighted Average Hours of Operation	2,876 hours
14	Lighting Savings Yield (HVAC Interaction Adjustment for Building & Space Heat Type)	100%
15	Annual Site Energy Savings Adjusted for HVAC Interaction (kWh)	135,668 kWh
16	Annual Busbar Energy Savings Adjusted for HVAC Interaction (kWh)	146,012 kWh
17	Wattage Reduction (%)	62%
18	Customer Retail Rate	$0.063 /kWh
19	Annual Energy Cost Savings	$8,479
20	Simple Payback	1.3 years
21	Site Unit Energy Savings (kWh/sf)	5.0
22	Site Lighting Power Density (lpd) Reduction (W/sf)	1.08 Watts/sf
23	Unit Value of Electric Savings (NPV/kWh)	$0.48 /kWh
24	Present Value Energy Savings	$69,817
25	Present Value of Energy Costs	$25,209
26	Unit Value of Gas Heat Interaction (NPV/kWh saved)	$0.0000
27	Present Value of Change in Cleaning/Other O&M Cost (Savings -$ or Increases +$)	-$102
28	Present Value of Change in Gas Heating Cost (Savings -$ or Increases +$)	$0
29	Present Value Life Cycle Lamp Replacement Cost (Savings -$ or Increases +$)	-$109
30	Present Value Project/Measure Change in O&M Cost (Savings -$ or Increases +$)	-$211
31	Project Life Cycle Cost	$37,278
32	Project Benefit/Cost Ratio	5.7
33	Total BPA Credit/ Reimbursement	$5,240

Project Summary

(full view)

Savings Worksheet *(partial view)*

IMPORTANT NOTE: Input/select information into cells that have a blue color font. Leave cells with black or red color fonts alone.

Commercial & Industrial New Construction Lighting Spreadsheet Tool - Updated September 12, 2006

Project Name:	Northwest Industrial Plant		Utility Invoice Number:	20051103	
Dominant Building Type:	Industrial Plant with Two Shifts		Serving Utility:	NW Public Power Utility	
Space Heat Fuel Source:	Unconditioned		Utility Contact Name:	Manic Hats	
Customer Name	Carver Machinery & Tool Manufacturing		Utility Phone Number:	530-456-9876	
Contact Name:	Bob Smith		Energy Rate & estimated savings/yr:	$0.063 /kWh	$8,479
Facility Street Address:	123 West Main Street		Demand Rate & estimated savings/yr:	2.22 kw	$785
Facility City:	Carver		Audit Prepared By:	Craig Cirenny	
Facility State & Zip:	Oregon	97045	Auditor Phone Number(s):	503-230-5865 Office	
Building Name/Account Number:	Main Facility	A-12456	Date & Time (fills in automatically):	9/18/06 10:06 AM	

Summary Table >>	Estimated Installed kiloWatt-hour usage of the Lighting	Estimated Annual kWh Site Savings (unadjusted)	Installed Lighting Power Density LPD = (watts / square foot)	Operating Hours (Weighted Average)	Total kWh Site Savings (adjusted for HVAC)	Simple Payback (years
	52,721	135,668	0.67	2,876	135,668	1.3 years
	Baseline Project Cost =	$9,760	Installed Project Cost =	$22,040	Reimbursement/Credit Amount =	$5,240.00

Location	Baseline Condition					Installed Lamp/Ballast Combination							Estimated Savings & Light Levels			Measure Info		
For instance; building and room name	Annual Operat	Space Type	Floor Area (sq. ft.)	Code Watts/sq. ft.	Estimated $/unit (optional)	Annual Operat	Installed Lamp/Ballast	Q'ty	Watts Each	Mean Lumens Each	Installed Watts/SF	Estimated $/unit (optional)	Annual kWh Savings	Percent Reduction from code	Estimated Foot-candles	Code	Incentive per unit	Total Incentive Amount
Open Office Area	***	Office-open plan	1,000	1.10	$70	***	New T8HP Fixture 4', 2-F32T8, 3100+lumen, 1-RLO Sylvania Quicktronic QHE/UNV ISL-SC	16	48	4,594	0.77	$85	1,062	30%	51	A1	$10	$160
Individual Offices	***	Office-enclosed	500	1.10	$70	***	New T8HP Fixture 4', 2-F32T8, 3100+lumen, 1-RLO Sylvania Quicktronic QHE/UNV ISL-SC	8	48	4,594	0.77	$85	992	30%	51	A1	$10	$80
Occupancy Sensors for above fixtures							Occupancy Sensor or Timer controlling 120 watts or more (see above)	2				$65				C1	$30	$60
Warehouse Areas	***	Warehouse - Medium/Bulky Material Storage	2,000	0.90	$100	***	New T8HP Fixture 4', 4-F32T8, 3100+lumen, 1-HLO GE-432-Ultramax-H	8	147	13,547	0.59	$150	4,584	35%	38	A1	$10	$80
Occupancy Sensors for above fixtures							Occupancy Sensor or Timer controlling 120 watts or more (see above)	8				$45				C1	$30	$240
Hallway into production area	***	Corridor/Transition	250	0.50	$70	***	New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-RLO GE-132-Ultramax-L	4	25	2,268	0.40	$75	100	20%	25	A1	$10	$40

Effective Date: 10/01/2006

NW Public Power Utility

Commercial & Industrial New Construction Lighting Program*

Program Offer of Incentive Levels

Code	New Fixture/Sensor Description	Incentive Per Unit**
A.	**High-Performance T8 Fluorescent Lamps and Electronic Ballast in a New Fixture**	
	The fixture shall include a High Performance 48" T8 lamp and ballast system listed on the CEE qualifying products list. Refer to this link: http://www.cee1.org/com/com-lt/com-lt-prod.pdf	
1	Upgrade any fluorescent fixture to High Performance	**$10**
B.	**High-Bay T8 or T5 Fluorescent Fixture**	
	T5 fixture must have 3 or more lamps, T8 fixture must have 4 or more lamps. Fixture must be installed in a high bay area with a minimum mounting height of 15'.	
1	T8 or T5 New "High Bay" Fixture	**$50**
C.	**Sensor or Timer Control of Fluorescent**	
	Sensors required by code are not eligible.	
1	Controls a minimum of 120 watt connected load.	**$30**
D.	**Stairwell Fluorescent Fixture**	
	Fixture must be specifically designed for stairwell lighting.	
1	Bi-level fixture with occupancy sensor control	**$50**
E.	**Ceramic Metal Halide (hard-wired)**	
	Hard-wired new recessed can or track heads (cans). Incentive is per lamp, i.e. per track head.	
1	20 to 100 Watts (Nominal Lamp Watts)	**$40**
2	101 to 400 Watts (Nominal Lamp Watts)	**$50**

* Note: Applies to lighting systems in Commercial, Industrial & Agricultural New Construction facilities.
For instance; all commercial & industrial facilities. Plus; wineries; potato storage sheds, pump houses, office space, and other on-farm facilities.

** Note: More than one measure can be claimed per fixture.
For example; a high-bay T8 fixture could receive a high-performance, high-bay and sensor incentive for each fixture.

Program Offering

(full view)

9/18/2006 8:06

NW Public Power Utility
Commercial & Industrial New Construction Lighting Program
Project Proposal Incentive Summary

	Northwest Industrial Plant	<<Project Name		
	NW Public Power Utility	<<Utility Name		
Code	New Fixture/Sensor Description	Incentive Per Unit*	Qty	Incentive Per Measure*
A.	**High-Performance T8 Fluorescent Lamps and Electronic Ballast in a New Fixture**			
	The fixture shall include a High-Performance 48" T8 lamp and ballast system listed on the CEE qualifying products list. Refer to this link: http://www.cee1.org/com/com-lt/com-lt-prod.pdf			
1	Upgrade any fluorescent fixture to High Performance	$10	36	$360
B.	**High-Bay T8 or T5 Fluorescent Fixture**			
	T5 fixture must have 3 or more lamps, T8 fixture must have 4 or more lamps. Fixture must be installed in a high bay area with a minimum mounting height of 15'.			
1	T8 or T5 New "High Bay" Fixture	$50	67	$3,350
C.	**Sensor or Timer Control of Fluorescent**			
	Sensors required by code are not eligible.			
1	Controls a minimum of 120 watt connected load.	$30	44	$1,320
D.	**Stairwell Fluorescent Fixture**			
	Fixture must be specifically designed for stairwell lighting.			
1	Bi-level fixture with occupancy sensor control	$50	1	$50
E.	**Ceramic Metal Halide (hard-wired)**			
	Hard-wired new recessed can or track heads (cans). Incentive is per lamp, i.e. per track head.			
1	20 to 100 Watts (Nominal Lamp Watts)	$40	4	$160
2	101 to 400 Watts (Nominal Lamp Watts)	$50	0	$0
	Total Credit or Reimbursement for the Project>>>			**$5,240**

* Note: More than one measure can be claimed per fixture.
For example; a high-bay T8 fixture could receive a high-performance, high-bay and sensor incentive for each fixture.

Project Proposal
(full view)

Updated September 12, 2006. This list is not meant to be complete, you can add space types to this list.

Description of Baseline Space	Watts / Sqft	Notes
Oregon Code Grouped by Space Type		
Active Storage	0.8	
Active Storage - Hospitals	0.9	
Air/Train/Bus – Baggage Area	1.0	
Airport - Concourse	0.6	
Atrium-each additional floors	0.2	
Atrium-first three floors	0.6	
Audience/Seating Area	0.9	
Audience/Seating Area - Convention Center	0.7	
Audience/Seating Area - Exercise Center	0.3	
Audience/Seating Area - Gymnasium	0.4	
Audience/Seating Area - Motion Picture Theater	1.2	
Audience/Seating Area -Performing Arts Theater	2.6	
Audience/Seating Area -Religious Buildings	1.7	
Audience/Seating Area -Sports Arenas	0.4	
Audience/Seating Area -Transportation	0.5	
Automotive – Service/Repair	0.7	
Bank/Office – Banking Activity Area	1.5	
Canopies 15 feet and over in height	2.0	
Canopies Under 15 feel in height	1.5	
Classroom/Lecture/Training	1.4	
Conference/Meeting/Multipurpose	1.3	
Convention Center – Exhibit Space	1.3	
Corridor/Transition	0.5	
Corridor/Transition - Hospital	1.0	
Corridor/Transition - Manufacturing Facility	0.5	
Courthouse/Police Station - Courtroom	1.9	
Courthouse/Police Station - Judges Chambers	1.3	
Dining Area - Bar Lounge/Leisure Dining	1.4	
Dining Area - Family Dining	2.1	
Dining Area - Hotel/Motel	1.3	
Dressing/Locker/Fitting Room	0.6	
Electrical/Mechanical	1.5	
Fire Station - Engine Room	0.8	
Fire Stations - Sleeping Quarters	0.3	
Food Preparation	1.2	

Baseline Code

(partial view)

Data Installed *(partial view)*

Updated August 21, 2006. This list is not meant to be complete, you can add qualifying equipment to this list.

Description of Installed Lamp/Ballast Combination	Input Watts	Mean System Lumens	Measure Category	Incentive Amount	Estimated Incremental cost	Notes / Alternate Suggestions
Add qualifying measure(s) here.				$0		<<Input a wattage and mean system lumens
----------						
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-RLO Sylvania Quicktronic QHE/UNV ISL-SC	25	2297	A1	$10	$15	High-Efficiency, Universal-Voltage, Instant-Start, Low-THD
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-RLO Universal Triad Ultim8 B132IUNVEL-A	25	2268	A1	$10	$15	Universal-Voltage, Instant-Start, Reduced Output
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-RLO GE-132-Ultramax-L	25	2268	A1	$10	$15	Universal-Voltage, Instant-Start, Low-Output
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-RLO Advance Optanium IOP-2P32-LW-SC	25	2268	A1	$10	$15	High Efficiency, Intellivolt, Instant-Start
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-NLO Sylvania Quicktronic QHE/UNV ISN-SC	28	2592	A1	$10	$15	High-Efficiency, Universal-Voltage, Instant-Start, Low-THD
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-NLO Universal Triad Ultim8 B132IUNVHE-A	28	2562	A1	$10	$15	Universal-Voltage, Instant-Start, Normal-Output
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-NLO GE-132/232-Ultramax-N	28	2562	A1	$10	$15	Universal-Voltage, Instant-Start, Normal-Output
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-NLO Advance Optanium IOP/ROP/VOP-2P32-SC	28	2562	A1	$10	$15	Intellivolt or Dedicated-Voltage, Instant-Start, Normal-Output
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-NLO Advance Optanium RCN/VCN-132-MC	29	2886	A1	$10	$15	Dedicated-Voltage, Optanium, Centium, Micro Can
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-NLO Advance Optanium IOP-2S32-SC	29	2651	A1	$10	$15	Intellivolt, Optanium 2-lamp Program-Start operating 1 lamp
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-HLO Universal B232PUNVHP-A	32	2945	A1	$10	$15	Universal-Voltage, 2-lamp Program-Start operating 1 lamp
New T8HP Fixture 4', 1-F32T8, 3100+lumen, 1-HLO Universal B232I120HE	33	3033	A1	$10	$15	120 Volt, High-Efficency 2-lamp Instant-Start operating 1 lamp
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New T8HP Fixture 4', 2-F32T8, 3100+lumen, 1-RLO Sylvania Extreme/UNV PSX-TC	46	4182	A1	$10	$15	Use Program-Rapid-Start on frequently switched circuits