



June 2, 2001

Oregon Public Utilities Commission  
550 Capitol Street NE #215  
PO Box 2148  
Salem, OR 97308-2148

**RE: Expedited Request for Approval of a Reservation via Waiver of OAR 860-084-0100  
Laakman Residence, 61644 Belmore Loop, Bend, OR 97702**

To Whom It May Concern:

This is an expedited request. The need for expedition is due to the nature of the installation during the construction of the house. We must install any roofing penetrations during the installation of the Structural Insulated Panel roof and concrete roof tiles. We ask that, in consideration of the construction timeline for this project, your review and process of this request is in the most expeditious manner possible. We extend our sincere gratitude to you for your time and consideration of this request.

Mr. Andy Laakman successfully applied for a 9.9 kW Feed-in-Tariff reservation, but was subsequently denied a secured reservation via a letter dated April 11, 2011, from the Pacific Power Oregon Solar Incentive Program (OSIP). The OSIP Program Manager stated that under OAR 860-084-0100, "a qualifying system cannot exceed 90 percent of the rolling average usage at the premises. The usage at the premises is so low a system of any size would fail to meet the 90 percent."

Mr. Laakman's residence is currently under construction, thus there is no accurate usage history in place. As you are well aware, the existing OAR rules are somewhat unclear/nonspecific regarding this matter. As currently interpreted by the OSIP, these rules can inadvertently exclude new construction from participating in the Solar Option program. However, the rules in place still allow for a usage calculation using a "similarly-situated customer" [OAR 860-084-0100 2(e)].

For your review and deliberation, we have enclosed an Earth Advantage model uses a similar program and method to the Energy Trust. This model predicts an annual usage of 38,209 kWh for the Laakman household which is well above the estimated solar production of 12,950kWh even with a large margin of error. It is our hope that you will find this model to be a satisfactory method of measurement and assessment for the OSIP in lieu of a "rolling average of three year's usage by a similarly-situated customer, as determined by the electric company" [OAR 860-084-0100 2(e)].

In conformance with OAR 860-084-000 (3), which states that "OPUC" commission may issue a waiver of any of the rules governing the SPO for good cause, we formally request a waiver to the OAR 860-084-0100 rules that will allow the approval of Mr. Laakman's OSIP application.

It is our sincere hope that this letter will not only help Mr. Laakman secure his reservation, but motivate further consideration in the upcoming rule making process toward the validity and acceptability of usage estimates in lieu of usage history in your assessment process. Hopefully, this will aid future utility customers who wish to participate in the OSIP.

Again, thank you in advanced for your time and consideration of this request. Please feel free to contact me @ 541-322-1910 (office) or 541-951-0802 (mobile) with any questions and/or concerns.

Sincerely,

/s/

Rob Doughtie, System Designer  
**Sunlight Solar Energy, Inc.**  
[rob.doughtie@sunlightsolar.com](mailto:rob.doughtie@sunlightsolar.com)

enclosures: Earth Advantage Model

RD:qc

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## FUEL SUMMARY

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Date:	May 18, 2011	Rating No.:	MD101222.1
Building Name:	MD101222.1	Rating Org.:	Earth Advantage
Owner's Name:		Phone No.:	541-550-8185
Property:	61644 Belmore	Rater's Name:	Matt Douglas
Address:	Bend, OR 97701	Rater's No.:	PNW13
Builder's Name:	Norman Building and Design		
Weather Site:	Redmond, OR	Rating Type:	Based On Plans
File Name:	MD101222.1 Preliminary.blg	Rating Date:	12-10-10

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### MD101222.1

**Annual Energy Cost (\$/yr)**

Electric	\$	2545
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**Annual End-Use Cost (\$/yr)**

Heating	\$	1585
Cooling	\$	289
Water Heating	\$	422
Lights & Appliances	\$	1547
Photovoltaics	\$	-1297
Service Charges	\$	108
Total	\$	2653

**Annual End-Use Consumption**

Heating (kWh)	15631
Cooling (kWh)	2928
Water Heating (kWh)	4207
Lights & Appliances (kWh)	15443
Photovoltaics (kWh)	-12950

**Annual Energy Demands (kW)**

Heating	28.1
Cooling	4.6
Water Heating (Winter Peak)	0.8
Water Heating (Summer Peak)	0.6
Lights & Appliances (Winter Peak)	1.2
Lights & Appliances (Summer Peak)	3.5
Total Winter Peak	30.0
Total Summer Peak	8.7

**Utility Rates:**

Electricity:	PPL \$0.088/kWh\$9/m
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**BUILDING FILE REPORT**

File Name: MD101222.1 Preliminary.blg

Date: June 03, 2011

<b>Property/Builder:</b>		<b>Rating</b>	
Building Name:	MD101222.1	Org. Name:	Earth Advantage
Owner's Name:		Address:	345 SW Century Dr
Property Address:	61644 Belmore	City, St, Zip:	Bend, OR 97702
City, St, Zip:	Bend, OR 97701	Phone No:	541-550-8185
Phone No:		Website:	www.earthadvantage.org
Builder's Name:	Norman Building and Design	Rater's Name:	Matt Douglas
Phone No:		Rater's Email:	mdouglas@earthadvantage.org
Email Address:		Rater's No.:	PNW13
Model:		Rating Date:	12-10-10
Development:	Broken Top	Rating Type:	Based On Plans
		Reason:	New Home
		Rating No.:	MD101222.1

<b>General Building Information</b>	
Area of Cond. Space(sq ft):	5732
Volume of Cond. Space:	59351
Year Built:	2011
Housing Type:	Single-family detached
Level Type(Apartments Only):	None
Floors on or Above-Grade:	2
Number of Bedrooms:	4
Foundation Type:	Enclosed crawl space
Enclosed Crawl Space Type:	Vented
Thermal Boundary Location:	REM Default

<b>Foundation Wall Info:</b>	<b>1</b>	<b>2</b>	
Name	ext	garage	
Library Type	R0,8 in	R0,8 in	
Length(ft)	467.0	40.0	
Total Height(ft)	3.0	3.0	
Depth Below Grade(ft)	2.0	2.0	
Height Above Grade(ft)	1.0	1.0	
Location	Enclsd crwl->amb/grnd	Enclsd crwl->garage/grnd	
Uo Value	0.405	0.405	

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**Foundation Wall: R0,8 in**

Type: Solid concrete or stone  
Thickness(in): 8.0  
Studs: None

Interior Insulation:

Continuous R-Value: 0.0  
Frame Cavity R-Value: 0.0  
Cavity Insulation Grade: 1.0  
Ins top: 0.0 ft from top of wall  
Ins Bottom: 0.0 ft from top of wall

Exterior Insulation:

R-Value: 0.0  
Ins top: 0.0 ft from top of wall  
Ins bottom: 0.0 ft from top of wall

Note: Uninsulated 8" foundation wall

Frame Floor Info:	1		
Name	above crawl		
Library Type	R38,FG1,12-16		
Area (sq ft)	4549		
Location	Btwn cond & enclsd crwl		
Uo Value	0.029		

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**Frame Floor: R38,FG1,12-16**

Information From Quick Fill Screen:

Continous Insulation R-Value	0.0
Cavity Insulation R-Value	38.0
Cavity Insulation Thickness (in.)	11.5
Cavity Insulation Grade	1.0
Joist Size (w x h, in)	1.5 x 11.5
Joist Spacing (in oc)	16.0
Framing Factor - (defined)	0.1500
Floor Covering	HARDWOOD

Note: R38,G1,2x12,16"oc,R3.3/in

Layers	Paths		
	Cavity	Framing	Grade
Inside Air Film	0.920	0.920	0.920
Floor covering	0.680	0.680	0.680
Subfloor	0.820	0.820	0.820
Cavity ins	38.000	0.000	0.000
Continuous ins	0.000	0.000	0.000
Framing	0.000	14.375	0.000
	0.000	0.000	0.000
Outside Air Film	0.920	0.920	0.920
Total R-Value	41.340	17.715	3.340
U-Value	0.024	0.056	0.299
Relative Area	0.850	0.150	0.000
UA	0.021	0.008	0.000

Total Component UA: 0.029

Total Component Area: 1.0

Component Uo: 0.029

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<b>Rim and Band Joist:</b>	1		
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Name	ext	
Area(sq ft)	86.0	
Continuous Ins	0.0	
Framed Cavity Ins	21.0	
Cavity Ins Thk(in)	5.5	
Joist Spacing	16.0	
Location	Cond -> ambient	
Uo Value	0.047	

<b>Above-Grade Wall:</b>	1	2	
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Name	ext	garage
Library Type	2" HDSF +3.5 BIBS	2" HDSF +3.5 BIBS
Gross Area(sq ft)	6530.00	360.00
Exterior Color	Medium	Medium
Location	Cond -> ambient	Cond -> garage
Uo Value	0.046	0.046

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**Above-Grade Wall: 2" HDSF +3.5 BIBS**

Information From Quick Fill Screen:

Standard Wood Frame

Continuous Insulation (R-Value)	0.0
Frame Cavity Insulation (R-Value)	27.0
Frame Cavity Insulation Thickness (in)	5.5
Frame Cavity Insulation Grade	1
Stud Size (w x d, in)	1.5 x 5.5
Stud Spacing (in o.c.)	16.0
Framing Factor - (defined)	0.1600
Gypsum Thickness (in)	0.5

Note: 2" high density spray foam - R 6.5 per inch + 3.5" BIBS R 4.2 per inch

Layers	Paths		
	Cavity	Framing	Grade
Inside Air Film	0.680	0.680	0.680
Gyp board	0.450	0.450	0.450
Air Gap/Frm	0.000	0.000	0.000
Cavity ins/Frm	27.000	6.875	1.030
Continuous ins	0.000	0.000	0.000
Ext Finish	0.940	0.940	0.940
	0.000	0.000	0.000
Outside Air Film	0.170	0.170	0.170
Total R-Value	29.240	9.115	3.270
U-Value	0.034	0.110	0.306
Relative Area	0.840	0.160	0.000
UA	0.029	0.018	0.000

Total Component UA: 0.046

Total Component Area: 1.0

Component Uo: 0.046



**BUILDING FILE REPORT**

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<b>Window Information:</b>	<b>1</b>	<b>2</b>	<b>3</b>
Name	north	east	south
Library Type	U:0.32, SHGC:0.30	U:0.32, SHGC:0.30	U:0.32, SHGC:0.30
U-Value	0.320	0.320	0.320
SHGC	0.300	0.300	0.300
Area(sq ft)	256.60	518.70	999.00
Orientation	North	East	South
Overhang Depth	0.0	0.0	0.0
Overhang To Top	0.0	0.0	0.0
Overhang To Bottom	0.0	0.0	0.0
Interior Winter Shading	0.85	0.85	0.85
Interior Summer Shading	0.70	0.70	0.70
Adjacent Winter Shading	None	None	None
Adjacent Summer Shading	None	None	None
Wall Assignment	AGWall 1	AGWall 1	AGWall 1

<b>Window Information:</b>	<b>4</b>	<b>5</b>
Name	south continued	west
Library Type	U:0.32, SHGC:0.30	U:0.32, SHGC:0.30
U-Value	0.320	0.320
SHGC	0.300	0.300
Area(sq ft)	80.40	267.60
Orientation	South	West
Overhang Depth	0.0	0.0
Overhang To Top	0.0	0.0
Overhang To Bottom	0.0	0.0
Interior Winter Shading	0.85	0.85
Interior Summer Shading	0.70	0.70
Adjacent Winter Shading	None	None
Adjacent Summer Shading	None	None
Wall Assignment	AGWall 1	AGWall 1

**Window: U:0.32, SHGC:0.30**

U-Value: 0.320  
 Solar Heat Gain Coefficient: 0.300  
 Note: U-factor .32, Solar Heat Gain Coefficient .30

<b>Door Information:</b>	<b>1</b>	<b>2</b>
Name	entry	garage
Opaque Area(sq ft)	28.0	20.0
Library Type	Exempt Door 1	Energy Star Door
Wall Assignment	AGWall 1	AGWall 2
Uo Value	0.359	0.168

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**Door: Exempt Door 1**

R-Value of Opaque Area: 1.9  
Storm Door: No  
Note:

**Door: Energy Star Door**

R-Value of Opaque Area: 5.0  
Storm Door: No  
Note:

**Roof Information:**

1

Name	vault
Library Type	SIPS**
Gross Area(sq ft)	4704.00
Color	Medium
Radiant Barrier	No
Type(Attic)	Vaulted
Uo Value	0.022

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**Ceiling: SIPS\*\***

Information From Quick Fill Screen:

Continous Insulation (R-Value)	42.0
Cavity Insulation (R-Value)	0.0
Cavity Insulation Thickness (in)	12.0
Cavity Insulation Grade	1.0
Gypsum Thickness (in)	0.500
Bottom Chord/Rafter Size(w x h, in)	1.5 x 12.0
Bottom Chord/Rafter Spacing (in o.c.)	48.0
Framing Factor - (default)	0.0787
Ceiling Type	Vaulted

Note:

Layers	Paths		
	Framing	Cavity	Grade
Inside Air Film	0.610	0.610	0.610
Gyp board	0.450	0.450	0.450
Cavity Ins/Frm	15.000	0.000	0.000
Continuous ins	42.000	42.000	42.000
Plywood	0.930	0.930	0.930
Shingles	0.400	0.400	0.400
	0.000	0.000	0.000
Outside Air Film	0.170	0.170	0.170
Total R-Value	59.560	44.560	44.560
U-Value	0.017	0.022	0.022
Relative Area	0.079	0.921	0.000
UA	0.001	0.021	0.000

Total Component UA: 0.022

Total Component Area: 1.0

Component Uo: 0.022

**Mechanical Equipment: General**

Number of Mechanical Systems:	2
Heating SetPoint(F):	68.00
Heating Setback Thermostat:	Present
Cooling SetPoint(F):	78.00
Cooling Setup Thermostat:	Present

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**GSHP: ground source\*\***

Heat Pump Type:	Closed Loop
Fuel Type:	Electric
Heating Efficiency (COP):	3.50
Compressor Heating Capacity (CAP):	60.0
Electric Resistance Backup Capacity (kW):	15
Cooling Efficiency (EER):	15.0
Cooling Capacity (kBtuh):	60.0
Sensible Heat Fraction (SHF):	0.70
Fan Power (Watts):	900
Distribution Type:	Air Distribution
Pump Energy:	50 Watts
DeSuperHeater:	No
Note:	
Performance Adjustment:	100
Percent Heating Load Served:	100
Percent Cooling Load Served:	100
Heater Location:	Conditioned area
Number Of Units:	1

**Water Heating Equipment: ground source\*\***

Water Heater Type:	Ground source heat pump
Fuel Type:	Electric
Energy Factor:	0.93
Recovery Efficiency:	0.00
Water Tank Size (gallons):	80
Extra Tank Insulation (R-Value):	0.0
Note:	
Location:	Conditioned area
Percent Load Served:	100
Performance Adjustment:	100
Number Of Units:	1

**Ground Source Heat Pump Wells:**

Well Type:	Horizontal
Number of Trenches:	5.00
Trench Length(ft):	120.00
Loop Flow(GPM):	9.00
Loop Pump(W/GPM):	25.00
Time in Operation(years):	10.00
Provides Water Heating:	No

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**Duct System Information:**

Name ducts  
 Heating System ground source\*\*  
 Cooling System ground source\*\*  
 Supply Area(sq ft) 1160.7  
 Return Area(sq ft) 859.8  
 # of Registers 4  
*Duct Leakage*  
 Qualitative Assessment - Not Applicable  
 Total Duct Leakage: 343.90 CFM @ 50 Pascals  
 Supply Duct Leakage - Not Applicable  
 Return Duct Leakage - Not Applicable  
 Duct Tightness Test: Postconstruction Test

<b>Duct Information:</b>	1	3	4
Type	Supply	Supply	Return
Percent Area	75.0	25.0	100.0
R-Value	8.0	0.0	0.0
Location	Enclosed crawl space	Conditioned space	Conditioned space

**Infiltration and Mechanical Ventilation**

Whole House Infiltration

Measurement Type: Blower door test  
 Heating Season Infiltration Value: 6.50 ACH @ 50 Pascals  
 Cooling Season Infiltration Value: 6.50 ACH @ 50 Pascals  
 2009 IECC Verification: Tested

Mechanical Ventilation for IAQ

Type: Balanced  
 Rate(cfm): 95  
 Sensible Recovery Efficiency(%): 74.00  
 Total Recovery Efficiency(%): 68.00  
 Hours per Day: 6.00  
 Fan Power (watts): 100.00

Ventilation Strategy for Cooling

Cooling Season Ventilation: Natural Ventilation

**Lights and Appliances**

Simplified Audit  
 Oven/Range Fuel Type: Electric  
 Clothes Dryer Fuel Type: Electric  
 Percent Fluorescent - Pin-Based: 0.00

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**Lights and Appliances**

Percent Fluorescent - CFL:	75.00
Refrigerator KWh:	775
Dishwasher EF:	0.66
Ceiling Fan CFM / Watt:	0.00

**Photovoltaic System**

Collector Orientation:	South
Collector Area(sq ft):	1000.0
PV Panel Peak Power(Watts):	10000.0
Collector Tilt(degrees):	22.0
Inverter Efficiency(%):	94.0

**Notes**

Earth Advantage Platinum  
EPS only

37% windows will not reach Energy Star.