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INVITATION TO BID

Building Envelope Upgrades
at
Walnut Park Apartments, 24817 112th Avenue SE, Kent, WA 98030-6610

February 17, 2015

ADDENDUM NO. 1

This addendum is used to clarify, change, delete, add to or substitute items in the original bid documents.

BID DATE: 2:00 P.M. on March 10, 2015

QUESTION DEADLINE: March 3, 2015

NUMBER OF PAGES: 1

ATTACHMENT: 2015 PSE Multifamily Retrofit Program Guidelines (22 Pages)

CONTRACT NUMBER: HW1501130

NOTICE TO PLAN HOLDERS

Plan holders are hereby notified of the following changes and/or clarifications to the Contract Documents for this project.

A. Work performed by the PSE certified CAN contractor shall include attic insulation upgrades to R38 and airsealing of each building. All work shall conform to the requirements of the attached 2015 PSE Multifamily Retrofit Program Guidelines.

END OF ADDENDUM NO. 1

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EQUAL HOUSING OPPORTUNITY

PUGET SOUND ENERGY

2015 PSE MULTIFAMILY RETROFIT PROGRAM GUIDELINES

If you plan to receive PSE Multifamily Retrofit Program Incentives, these program guidelines shall be followed for projects started January 1, 2015 - December 31, 2015

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1.0 Introduction

The Puget Sound Energy (PSE) Multifamily Retrofit Program offers financial incentives for installation of energy-efficient upgrades in existing buildings located in its electric and natural gas service area. As program revisions are made, these program guidelines will be updated. Please contact your PSE program representative to make sure you have the current version. All participating projects must follow the process outlined below in order to receive financial incentives. Contact the PSE program representative at (866) 997-9767 for more information.

Program Participation Process:

1. Customer/contractor contacts program representative to schedule required audit prior to installation of measures.
2. A program representative will conduct an energy audit and identify eligible measures.
3. Customer selects measures to be installed and contacts program representative to initiate an **Incentive Application**. Both customer and PSE signatures are required prior to installations of any measures.
4. Once work is complete, customer/contractor notifies PSE representative and sends final installation invoice.
5. PSE conducts final verification of installed measures.
6. PSE completes **Payment Request and forwards to customer for signature**
7. Customer receives incentive payment within 4-6 weeks.

Consult your PSE representative for further program information:

Toll Free: 1 (866) 997-9767

Fax: (206) 834-6534

Email: MultifamilyRetrofit@PSE.com

Program Webpage: www.PSE.com/MultifamilyRetrofit

2.0 General Procedures

The General Procedures shall apply to all sections of these Program Guidelines.

2.1 Codes

Compliance with federal or local building codes or regulations affecting work under these Program Guidelines shall be required. Where federal or local codes or regulations permit lower standards than required by these Program Guidelines, the standards contained herein shall govern. PSE does not assume responsibility for enforcing or determining compliance with federal codes, local codes, regulations, or interpretations.

2.2 Building Eligibility

Building type: Multifamily buildings with five or more attached units located in PSE's electric & natural gas service area.

Campuses: Multifamily site with multiple buildings, including one to four-plexes located within the contiguous parcel, with a single ownership/management entity. There must be at least one building on the campus that contains 5 or more attached units.

2.3 Building Heat Source

Buildings heated by electric and/or natural gas provided by PSE are eligible. A PSE Service Area Map is included in these Program Guidelines for your reference.

2.4 Required Contractor Bid Information

This Program requires that all proposed projects are submitted to PSE using the 2015 Multifamily Retrofit Program Incentive Application.

2.5 Materials

Unless otherwise stipulated, the contractor shall furnish all materials, labor, tools, services, and equipment necessary for the execution and completion of all work under these Program Guidelines.

2.6 Workmanship and Warranties

All work shall be done in a workmanlike manner, using craftsmen skilled in their trades. The contractor shall be prompt and on schedule and complete work in the time frame agreed upon with the customer. All materials shall be installed in accordance with manufacturers' installation specifications.

Weatherization materials and labor (for both insulation and windows) shall be warranted by the installer against failure due to manufacturing and installation defects for a period of at least two years. However, glazing shall be warranted against failure of the seal for a period of at least five (5) years. Manufacturer's written warranties may be used by installers to satisfy a part of this requirement where appropriate. All warranties issued under this Program shall be fully transferable for the periods stated above.

3.0 Safety

3.1 Use of Premises

The contractor shall confine his apparatus, the storage of materials, and the operations of his workmen to limits indicated by law, permits, ordinances, and/or directions of the customer, and shall not unreasonably encumber the premises with his materials.

3.2 Protection of Work and Property

The contractor shall continuously maintain adequate protection of all his work from damage and shall protect the customer's property from injury and loss arising in connection with his work. He shall make good any such damage, injury, or loss, except such as may be caused by the customer or due to causes beyond the contractor's control and not to his fault or negligence.

3.3 Fire Retardants

The contractor is responsible for making sure thermal insulation has appropriate fire retardant qualities and is installed in a safe manner so as not to come into contact with heated surfaces, entrap heat, or otherwise create or exacerbate potential fire hazards.

Foam plastic insulation must meet the flame spread and ignition protection requirements of IBC Section 2603. Facings on pipe and duct insulation must meet the flame spread and smoke developed code requirements.

3.4 Cutting and Patching

The contractor shall do all cutting, patching, or fitting on the existing structure that may be required to complete the work in a workmanlike manner acceptable to the customer and PSE. However, the contractor shall not endanger the existing structure by cutting or otherwise altering the structure and shall not cut or alter the structure without the written consent of the customer.

3.5 Heat Producing Devices

Proper protection is required for all miscellaneous electrical devices (e.g. door bell transformers, recessed lights, and ventilating fans) in accordance with state and local codes and the requirements of the specific device.

3.6 Recessed Light Fixtures

Thermal insulation shall not be installed above a recessed fixture or within 3 inches of the recessed fixture enclosure, wiring compartment, or ballast, unless it is identified for contact with insulation, Type IC. All baffle material must be permanently attached to the ceiling structure. See section 4.1.4 for more information.

3.7 Chimneys

All combustible insulation materials, including existing insulation, shall be kept a minimum of two inches from metal flues and masonry chimneys. Non-combustible insulation may be installed in contact with masonry chimneys.

3.8 Hazardous Materials

In cases where hazardous materials such as lead, asbestos, mercury, or PCBs are found to be present, the contractor shall immediately leave the area and inform the building owner of the possible hazardous material. The building owner shall follow all applicable state, local, and federal regulations. PSE incentives will not be offered for areas where hazard abatement is required until after such abatement occurs (at the owner’s full expense).

3.9 Exhaust Ventilation

All ducted bath and kitchen exhaust fans must terminate outside of the building. Those that terminate within attics or crawl spaces shall be extended through to the outside of the building and sealed and/or dampered to prevent any exhaust air from entering back into the space. Clothes dryers vented directly into attics or crawl spaces shall be vented outside of the structure, terminating in a non-screened vent cap with a damper. Ducting over 3 feet in length located in unconditioned space shall be insulated to at least R-3 to prevent condensation.

For a detailed description of ventilation requirements, see Sections 4.1.9 and 4.2.5 of this document.

3.10 Knob and Tube Wiring

Knob and tube wiring shall be treated with special care and remain compliant with current state electrical codes. In any case where installation of insulation will be installed in areas where knob and tube wiring exists, the following conditions shall be met prior to installing the insulation:

- The wiring shall be inspected by a licensed and bonded electrical contractor who shall certify that the wiring is in good condition with no evidence of improper over current protection, conductor insulation failure or deterioration, and with no improper connections or splices.
- An inspection certificate signed by the electrician must be present prior to installing the insulation and shall remain attached to the electrical service panel until the job has been inspected by the Utility.
- In the event that the insulation is installed prior to the electrical inspection, the contractor shall be liable for the cost of the electrical inspection as well as any consequential repairs needed to pass the inspection, or for the costs of removing the installed insulation.
- If Knob and Tube wiring is evident in the wall structure, loose-fill insulation may be installed if the wiring is inspected by an appropriately licensed and bonded electrical contractor who shall certify that the wiring is in good condition with no evidence of improper over current protection, conductor insulation failure or deterioration, and with no improper connections or splices.
- All knob and tube circuits shall have overcurrent protection in compliance with the 60° C column of table 310-16 of the National Electrical Code. Overcurrent protection shall be either circuit breakers or Type S fuses with ampacities not greater than 15 amperes (or as certified as a safe ampacity, on the inspection certificate signed by the inspecting electrical contractor).

The contractor is responsible for informing the customer of the requirement to have the knob and tube inspection performed. This notification must be made to the customer at the time of audit, and proper arrangements made for payment of the inspection costs, which are the responsibility of the customer.

3.11 Moisture Management

Contractors are responsible for determining that the buildings have no significant moisture related problems or that the moisture problem will be mitigated after installation of retrofit measures. In cases where there is evidence of moisture problems including fungal decay, insect infestation, dry rot, or water leaks, the property owner will be required to implement a moisture mitigation plan at their own expense. Once the mitigation plan has been met and approved by PSE, the property will be eligible for participation in this program and work in the affected area may begin.

3.12 Health and Safety

The contractor shall comply with all applicable local, state, federal and OSHA requirements.

4.0 Insulation Procedures

This section covers the requirements for the selection of materials, ventilation, and installation of thermal insulation into existing residences. Insulation shall be installed in areas of the residence envelope that separate the conditioned living space from unconditioned. ***These procedures cover residential dwelling units only.***

Insulation Project Eligibility for Units with ELECTRIC Heat:

MEASURES	ATTIC	FLOORS	WALLS
Project Eligible for Incentives	Existing level is less than R-19	Existing level is R-11 or less	No existing insulation
Project *not* Eligible for Incentives	Existing level is R-19 or Greater	Existing level is greater than R-11	Existing wall insulation
Required Upgrade Level	R-38	R-30 or fill cavity	R-11 or fill cavity

Insulation Project Eligibility for Units with NATURAL GAS Heat:

MEASURES	ATTIC	FLOORS	WALLS
Project Eligible for Incentives	Existing level is less than R-19	No existing insulation	No existing insulation
Project *not* Eligible for Incentives	Existing level is R-19 or greater	Existing floor insulation	Existing wall insulation
Required Upgrade Level	R-38	R-30 or fill cavity	R-11 or fill cavity

4.1 Attic Insulation

4.1.1 Insulating Knee Walls

Knee walls adjoining attic spaces shall be insulated to a minimum of R-13, with R-19 preferable.

4.1.2 Urea-Formaldehyde

The use of foam insulation materials containing Urea-Formaldehyde are not allowed in this program. Spray foam cannot contain any ozone depleting products (ODP).

4.1.3 Ceiling Structure

The contractor shall be responsible for determining that the ceiling system is structurally adequate to support the combined weight of all materials imposed on the ceiling structure. Structural damage can be caused by excessive pressures imposed during installation or by installing insulation in structures too weak to support the added load. The installer shall be responsible for ceiling damage incurred during the installation of ceiling insulation and associated work.

4.1.4 Recessed lighting fixtures and other heat-producing fixtures

If insulation is installed, existing non IC-rated recessed lighting fixtures and other heat-producing fixtures may be replaced with air tight and Type IC-rated fixtures. These Type IC-rated, metal recessed lighting fixtures and other heat-producing fixtures, certified by an independent laboratory as being capable of dissipating fixture heat, can be covered with insulation. These fixtures shall be marked as UL listed “Recessed fixture Type IC”. Exceptions: If replacement or retrofit of fixtures is not practical, a Non-IC rated (non-air tight), solid flame-resistant enclosure shall be securely attached over or around all recessed lighting fixtures or other heat-producing fixtures that are not listed for insulation cover (IC). Enclosures shall meet the following requirements:

- Keep insulation at least three inches (3”) but not more than four inches (4”) from the sides of the fixture.
- Be made from metal or sheetrock, or other material with a flame spread rating of 25 or less, in accordance with ASTM E-84.
- Enclosure seams shall be air sealed.
- Be securely attached to the ceiling structure to prevent their displacement during and after the installation of insulation.
- Extend at least four inches (4”) above the top of insulation. If a closed-top enclosure is impractical, an open-top enclosure can be used. There shall be one inch (1”) or more air space above and no insulation shall be installed on top of the enclosure.

- Doorbell transformers must remain readily accessible to service. A closed-top enclosure shall not be used.
- IC rated (air tight): IC rated fixtures may either be directly covered with insulation or be sealed within an air tight enclosure. The enclosure shall be covered with insulation.

4.1.5 Attic Access Doors

Attic access doors that open to a heated space shall be weather-stripped and insulated to at least R-38 for horizontal openings and to at least R-13 for vertical openings. Access openings shall be framed or batted so as to prevent loose-fill insulation from falling through the opening (rigid foam panels are acceptable). Framed or batted material height shall exceed 6" above final insulation level. The building owner must provide access openings (see also WSEC Section 502.1.4.4 for details on attic access treatments)

4.1.6 Water Pipe Insulation in Attics

Water pipe insulation shall be part of attic insulation. Water pipe insulation shall be tented with an R-11 batt or greater. There shall be no insulation between the pressure boundary and the water pipe. This approach is referred to as "tenting".

4.1.7 Attic Vapor Barriers

If a vapor barrier is installed with ceiling insulation, it must be placed next to the ceiling (between the insulation material and the conditioned space). If an existing vapor barrier is not in substantial contact with the ceiling, it must be removed and re-installed in substantial contact with ceiling. A vapor barrier shall not be installed over the top of existing insulation. ***Slashing of existing or added vapor barriers is not allowed.***

4.1.8 Attic Ventilation

The total net free ventilating area in attic spaces shall meet the following requirements or shall be modified to meet these requirements as an integral part of any ceiling insulation installation. Where adequate ventilation cannot be obtained, ceiling insulation shall not be installed.

Enclosed attics shall have cross ventilation (over the top of all insulation) for each separate space provided by ventilating openings protected against the entrance of rain and snow. The total net free ventilating shall be one (1) square foot (net free area) per 600 square feet of attic area (1:600). If there are no visible moisture problems and attic air sealing is complete, additional ventilation is not required but is allowable.

Ventilation baffling (60") shall be provided so that at least a one inch (1") measured perpendicular to the sheathing over the full joist/truss spacing is available for incoming air from the soffit or eave openings. A shorter distance may be used if the opening defined by the baffle, sheathing, and joist/trusses has a net free ventilating area equal to or greater than the net free ventilating area of the soffit or eave openings.

Low venting baffling should be installed per manufacturer's specifications, with the perforated flange inset in the roof rafter to allow only one inch (1") airspace below the roof sheathing (not face stapled). The tongue of the baffle should extend to the low vent and allow the maximum amount of insulation on the top plate.

Ventilation baffles shall be of weather-resistant cardboard or other approved materials. Mineral wool batts of sufficient thickness to adequately baffle, and yet maintain free air clearance, are acceptable. Baffles shall be installed so as to allow the maximum amount insulation over the exterior top plate. Baffles shall be visible above the final insulation level. Roof slopes may dictate that the top of the insulation be sloped for several feet from the exterior wall line so that the baffle remains visible above the insulation level.

All soffit or eave openings shall be left free of any blockage by insulation or other materials, and such eave systems must remain effective following retrofit.

4.1.9 Exhaust Systems Vented into Attic

Ventilation only fans may be covered with insulation. If this method is used in lieu of baffling, then all holes and penetrations are to be sealed with a nonflammable sealant. In addition, the fan box must be surrounded with an unfaced batt and an R-30 unfaced batt placed over the top of the unit.

All exhaust fans which vent from any living space directly into the attic space (or to an unsealed vent cap) shall be extended through to the outside and shall be fastened to a vent cap. Attachment to the vent cap shall be substantially airtight.

Extension material shall be made of metal, mounted in a secure manner, and of appropriate diameter for the vent opening. Its configuration shall be such that no traps or reversing horizontal runs are present. Plastic/vinyl flex duct shall not be used. If plastic or vinyl flex duct is evident on an existing exhaust fan, it shall be replaced with metal ductwork. Where ridged vent ducting is impractical, flex duct may be used for runs no longer than six feet (6') from the vent cap. In no installation shall the flex duct be allowed to loop. If running the flex duct across varying heights (such as ceiling joists), the flex duct shall be stretched and secured to a splint to avoid sagging and the collection of moisture. Dampered vent caps shall be installed on fans not containing dampers as part of the housing. Exhaust fan assemblies shall have only one damper per unit. Any gaps between the ceiling sheetrock and the fan body shall be sealed with approved caulking materials.

Kitchen exhaust fans shall be connected to a duct of not less than 26-gauge galvanized, which is substantially airtight throughout, and which terminates directly to the outside in metal vent cap with no more than a two-foot horizontal run. Exhaust fans that terminate through an exterior wall with a pre-existing run greater than two feet shall be acceptable. Combustible insulation must be kept a minimum of two inches (2") from the duct (baffled). Do not install dissimilar metals such as galvanized steel and aluminum in contact with each other.

4.2 Floor insulation

4.2.1 Floor Insulation Requirements

- Floor insulation shall be a minimum of R-30 or fill the joist cavity.
- Shall be installed in substantial contact with the under floor.
- Shall be in substantial contact with the sub-floor with no voids or gaps.
- Insulation batts shall not be compressed more than 10% of rated thickness.
- Shall be cut to fit each joist space.
- All ends shall fit tight without overlapping.
- Insulation shall fit tight against structural members, rim joist, foundation walls and pipes.
- Insulation in area of routine human contact shall be covered*.

*Underfloor insulation installed over an unconditioned basement or crawlspace subject to routine human contact shall be covered with material having a flame spread index of 25 or less and smoke developed index of not greater than 450 when tested in accordance with ASTM- E84-01. See Exhibit 5.S5, ASTM E 84, Flame Spread and Smoke Development.

4.2.2 Floor Support

Support of floor insulation shall be provided in accordance with the floor matrix shown in the following chart:

FLOOR SUPPORT MATRIX						
Floor Type	**SUPPORT MATERIAL**	**MATERIAL REQUIREMENTS**	**MAXIMUM SPACING**	**ACCEPTABLE PATTERNS**	**MINIMUM FASTENER TYPE**	**MINIMUM FASTENER DEPTH**
JOIST UP TO 24”	LATH	¼”X1.5”	20” O.C.	ACROSS FLOOR JOISTS	CORROSION RESISTANT ¼” CROWN 18 AWG	5/8”
	TWINE	150 LBS. POLYESTER, POLYPROPYLENE OR NYLON	12” O.C.	SHOELACE/ ZIGZAG (MUST BE STAPLED AT EACH JOIST	CORROSION RESISTANT 3/8” CROWN 18 AWG	5/8”
POST & BEAM OVER 24” O.C.	LATH	3/8” X 1.5”	18” O.C.	ACROSS FLOOR BEAMS UP TO 48” OVER 48” NEED CENTER SUPPORT	CORROSION RESISTANT 3/8” CROWN 18 AWG	5/8”
	TWINE	150 LBS. POLYESTER, POLYPROPYLENE OR NYLON	12” O.C.	SHOELACE WITH CENTER SUPPORT	CORROSION RESISTANT 3/8” CROWN 18 AWG	5/8”

Support systems for floor insulation shall not compress the insulation material more than 10 percent, or otherwise alter the insulation value of the material except where necessary around the perimeter. Support systems will be allowed to compress floor insulation greater than 10 percent in those cases where an insulation batt of greater R-value is used to fill a joist cavity which requires a batt of lesser R-value (i.e. installation of a standard R-30 batt in place of R-25 in a 2 x 8 joist cavity). Support for insulation batts shall be provided within four inches (4”) of the end of each batt.

4.2.3 Vapor Barriers

A ground cover moisture barrier shall be in place upon job completion. The new ground cover shall be six mil black polyethylene and all joints shall be overlapped by twelve inches (12”) with sufficient material so that all ground surface areas are covered. Ground cover shall not contact wood members of the structure or cover existing wood particles and other material located in the crawl space floor. Vapor barriers must have a perm rating of 1.0 or less.

If underfloor insulation is installed over an unheated basement and the basement has no exposed soil, then the provisions for a ground cover and ventilation are not required. Any basement with exposed soil shall be treated as a crawl space and the provisions for ventilation shall be required. In addition, a ground cover shall be present which covers the entire area of exposed soil.

4.2.4 Crawlspace Ventilation

PSE recommends that underfloor crawlspace areas should be ventilated by openings in exterior foundation walls. The net free ventilating area should not be less than 1 square foot for each 300 square feet of underfloor area (1/300). Openings shall be located as close to corners as practical and shall provide cross ventilation. The required area of such openings shall be approximately equally distributed along the length of at least two opposite sides. They shall be covered with corrosion-resistant wire mesh with mesh openings of one quarter inch (¼”) in dimension. Existing vent openings which are covered with wire mesh need not be modified.

4.2.5 Exhaust Systems Vented into Crawlspace

If clothes dryers (or other exhaust systems) are found vented directly into the crawl space, underfloor insulation shall not be installed until the vent is extended directly to the outside of the structure. The vent shall terminate in a non-screened vent cap with a damper.

Extension material in excess of six feet (6') must be metal with a non-ribbed interior and mounted in such fashion that no traps or reversing horizontal runs are present. An approved metal flex pipe may be used for extensions of six feet or less. All exposed metal duct (with the exception of dryer ducting) shall be insulated to a minimum of R-3.

Kitchen range exhaust fans which are vented to the crawl space shall be ducted through to the exterior of the building in accordance with local codes and the manufacturer's instructions

4.2.6 Crawlspace Access Doors

Crawl space access doors which are adjacent to conditioned space shall be weather-stripped and insulated to the same R value of crawl insulation levels.

Exterior access doors which allow ingress from unconditioned/ambient spaces should be modified to prevent pest intrusion.

4.2.7 Water Pipe Insulation

Water pipe insulation shall be part of underfloor insulation. The insulation shall be foam pipe wrap or R11 fiberglass batts and be permanently attached to the pipe with twine. Waste or drain pipes are excluded from this insulation requirement. Water pipes that are protected by (enclosed within) installed floor insulation are not required to be separately wrapped.

All water shut off valves that are covered by floor insulation shall be identified with attached tags that hang below the insulation.

4.2.8 Skirting

Underfloor insulation in areas which are exposed to environmental elements (wind, rain, etc.) shall be protected after installation with breathable cover or some type of perimeter system (e.g. skirting).

4.2.9 Enclosed Floor Cavities

Enclosed floor cavities, such as a finished ceiling over a garage, shall be insulated by dense packing with a filler tube. This shall be done by drilling a two inch (2") hole into the floor cavity between the joists from the underside of the floor and blowing the cavities full with cellulose. When the cavities are full, contractor shall plug the holes and cover with spackling. Contractor shall not be responsible for any cosmetics or painting.

4.3 Wall Insulation

4.3.1 Wall Insulation Requirements

Application of insulation materials in walls is drilling through the exterior wall assembly. In cases where siding removal is necessary, the contractor shall come to an agreement with the customer on the approach. Once an agreement is reached, the Utility must approve prior to drilling. Contractor must inform the owner and receive consent in writing on the method used to insulate and air seal exterior walls. When siding is drilled without being removed, all holes must be plugged and spackled. Contractor is not obligated to provide any cosmetic work at drill sites. Drilling holes through cedar shake siding shall not be allowed unless grooved cedar wall plugs that are compatible with the grooves in the existing shakes are used.

Exceptions: If any of the following conditions exist, then the wall cavity should not be insulated:

- Knob and tube wiring: Refer to Section 3.10 Knob and Tube Wiring.
- Cavities containing ducts/heaters: any part of the cavity that is used as, or contains an HVAC duct, contain gas wall furnace, or contains an electric wall heater or other heat-producing device, unless a fire stop is present.
- Uninsulated soffit next to cavity: cavity is open to an uninsulated soffit with a recessed light fixture or other heat-producing device that cannot be properly dammed, unless light fixture is IC-rated.
- Cavities next to fireplace or chimney: cavity is next to a masonry fireplace or chimney with less than three inch (3") clearance between cellulose and masonry.
- Cavity next to pocket door: wall cavity is connected to an unprotected pocket door cavity.
- Repairs needed: interior or exterior repair is needed and will not be performed as part of the weatherization package of the dwelling, water leaks are present, or substandard interior or exterior sheathing is present.
- Solid walls: walls are solid masonry, concrete, concrete block, wood, or adobe.

4.3.2 Timing of wall insulation

Wall insulation shall be installed after the following:

- Knob and tube wiring inspection
- Minor electrical repairs in walls done by weatherization program
- Required damming and/or blocking are installed

4.3.3 Dense pack wall insulation for Air Sealing

All closed wall cavities that can be air sealed shall be insulated with a loose fill insulation product designed specifically for dense pack applications.

Applications performed with cellulose insulation must be blown at 80 inches of water-column pressure and at 3.5 pounds per cubic foot or greater density in an enclosed cavity. Program staff shall test machines periodically to assure 80 inches of water-column pressure. Blown fiber glass, mineral fiber, rock and slag wool, or spray foam used in an enclosed cavity shall be installed at or above the manufacturer's recommended density to limit airflow that corresponds to an air permeance value of ≤ 3.5 cfm/sq ft at 50 Pascals, as measured using BPI-102 "Standard for Air Resistance of Thermal Insulation Used in Retrofit Cavity Applications – Material Specification" or ASTM C 522, E 283 or E 2178.

4.3.4 Balloon Framing

Before drilling exterior walls, check the building structure for sections of balloon type framing (where top or bottom wall plates do not exist).

4.3.5 Filler Hole Size and Count

All wall-blow applications shall be dense-packed with a filler tube. There shall be no two-hole or non-filler tube methods allowed on this program. Drilled hole diameter shall be at least two inches (2"). After drilling, probe for fire stops or other obstructions. All holes drilled through walls shall be plugged after final inspection. Use only wooden plugs which have been recessed and finished with a spackling compound flush with the exterior surface of the siding. In no case shall silicone sealants be used when installing wall plugs. After installation, wall plugs must provide a weatherproof seal and shall remain in place for the expected life of the installed insulation.

4.3.6 Eligible Insulation Material

Only non-combustible insulation (per ASTM E-136-current) shall be installed in wall cavities adjoining fireplaces and/or chimneys.

4.3.7 Wall Heaters

Insulation shall not be installed in wall cavities which contain electric wall heaters unless fire stops are present which isolate the heater from all contact with the insulation material.

4.3.8 Flame Spread

The insulation shall meet Class I specifications as identified in the IRC, with a flame spread factor of 25 or less as tested in accordance with ASTM E84-(current). Foam insulation shall not be used where knob and tube wiring exists.

4.3.9 Unfilled Cavities

The contractor will be required to return to the job site to fill any voids in wall cavities found during the inspection. Insulation not required where kitchen/bath plumbing is installed and cavities are located next to bath tubs.

5.0 Air Sealing

As of January 1, 2015, Puget Sound Energy (PSE) will offer financial incentives to PSE certified Contractor Alliance Network (CAN) contractors and property owners, to air seal multifamily properties located in the PSE service area. These guidelines must be met in order to receive the financial incentives. As program changes are made, these program specifications will be updated. Contact your PSE program representative for the most current version.

Priority air sealing shall be performed by aligning the pressure boundary with the thermal boundary, including obvious bypasses, chase ways, and gaps that exist between the unconditioned areas and the conditioned areas. The preferred method for installing air sealing materials is from the unconditioned spaces of ceilings and attics, from the inside surface of walls, and from the underside of floors. All loose dirt and debris or other materials that might prevent the adherence of the air-sealing materials to the surface shall be removed prior to installation.

5.1 Building Eligibility

- Buildings built prior to 1992
- Buildings built after 1992 may qualify on a case by case basis and must be approved by PSE prior to air sealing.
- 5 or more attached units
- 4 stories or less including basement level
- Individual or commonly metered units
- Each unit shares a common wall or hallway
- Each unit has one to two walls exposed to the exterior
- Participating buildings shall have PSE Electric heating as the primary heat source.
- Natural gas heated buildings are eligible only if there are no combustion appliances located within the units, common areas or heated spaces. Fireplaces are exempt. Units with fireplaces must not exceed -5 Pa in the combustion zone when tested under Worst Case Conditions.

5.2 Indoor Air Quality

Each unit must have at least one controlled fan located in the unit. That fan must flow at a minimum of 30 cfm, be attached to a timer and set for 8 hours a day run time. Fans that are not rated for 8 hours a day or do not meet the minimum flow rate must be replaced prior to air sealing.

5.3 Attic Air Sealing

When air sealing attics, the contractor shall align the pressure boundary with the thermal boundary. These areas include:

- All top plates
- All party walls when accessible
- All bathroom and kitchen fan penetrations
- All electrical penetrations
- All chimney chases
- All plumbing exhaust penetrations
- All non-air tight can lights
- Any other penetrations or bypasses that may be present

<u>Bypasses around chimneys, flues and stovepipes shall be sealed using non-combustible materials rated for this use. Sprinkler system penetrations shall not be air sealed.</u>

When air sealing previously insulated attics, the contractor shall restore the existing insulation to its original condition.

5.4 Underfloor Air Sealing

When air sealing underfloors the contractor shall align the pressure boundary with the thermal boundary. These areas include:

- All electrical penetrations
- All plumbing penetrations
- All heat register boot penetrations
- All floor transition areas, to include knee walls
- Any other penetrations or bypasses that may be present

When air sealing previously insulated underfloors, the contractor shall restore the existing insulation to its original condition.

5.4 Exterior Wall Air Sealing

When air sealing exterior walls, the contractor shall align the pressure boundary with the thermal boundary. These areas include:

- All exterior walls dense-packed with cellulose under 80 inches of water-column pressure
- All exterior rim joists or band joists dense-packed with cellulose under 80 inches of water-column pressure (Such areas may require the “Bag and Blow” Method)
- All knee walls in attic rake areas shall be air sealed
- All areas exposed to routine human contact shall be covered with WMP VRR
- Unit-to-unit air sealing shall not be performed on this program

5.5 Blower Door Procedures

Whole building depressurization shall be performed by a PSE approved third party testing contractor.

- All windows and doors shall be properly closed including pass-through wood-box doors and pet doors.
- All interior doors shall be left open.
- All exhaust fan openings, vent fan openings, and intake air vents with back draft dampers shall not be sealed.
- Exterior vents without back draft dampers shall be temporarily sealed for test.
- HRV/ERV supply openings shall be sealed if back draft damper is not present.
- Mechanical ventilation supplies and returns shall remain open.
- Blower door and digital manometer equipment shall be set up using the manufacturer instructions for depressurization to 50 Pa.
- The air leakage reduction shall be defined as the difference between the pre- and post-CFM50 results.
- Provide a narrative about where doors were placed and how equipment was set for the test, both pre and post.

5.6 Supporting Blower Door Software

All blower door depressurization tests shall be conducted using TECLOG or Retrotech. The monometer shall be configured appropriately connected to its corresponding blower door, as well as to the computer conducting the test.

Once recording begins contractor shall establish and record a test in baseline. To acquire a confidence level of 95% or greater contractor shall reach a target of -75 Pa or as close as possible. Contractor will record progressively in 5 Pa intervals for thirty (30) seconds per interval. Intervals shall continue until -25 Pa or as close as possible. The contractor shall then establish and record a test out baseline. The results shall then be converted to CFM-50. ***Refer to TECLOG Manual for detailed data recording procedure.***

5.7 Energy Model Procedures

The following energy modelling procedures shall be followed on all air sealing jobs.

5.8 Auditing

All multifamily dwellings must receive a comprehensive on-site energy audit prior to testing and/or being treated, and shall be performed by a BPI certified professional.

5.9 Modeling

All information gathered from the on-site audit must be sufficient enough to create an energy model (TREAT or other DOE approved energy modeling software) at any given time.

6.0 Window Replacement Procedures

This section covers the installation of high-efficiency windows and sliding glass doors. Compliance with federal or local building codes or regulations affecting work under these program guidelines shall be required. Where federal or local codes or regulations permit lower standards than required by these program guidelines, the standards contained herein shall govern. PSE does not assume responsibility for enforcing or determining compliance with federal codes, local codes, regulations, or interpretations.

Windows are incentivized based on the final U-value and total square footage. Windows with a final U-value of 0.30 or lower qualify for a $6/sq ft rebate. Windows with a final U-value of 0.22 or lower qualify for an $8/sq ft rebate. Rebate amounts are subject to change. Windows must meet the per square foot price cap of $29, or less for total cost to qualify.

To qualify, existing windows in electrically-heated units must be single pane, single pane with storm windows or metal-framed double pane. Existing windows in gas-heated units must be single pane. Windows in public and common spaces within the site are not eligible. Heated hallways and stairwells in residential buildings qualify.

Contractors must disclose to customer the installation method they intend to utilize (i.e. with or without nail flange).

6.1 Insulation Requirements

In certain circumstances, installation of attic or floor insulation is required in order to receive financial incentives for window upgrades. The chart below describes when the upgrade of existing insulation will be a required in order to receive window upgrade incentives.

	Attic (Gas and Electric Heat)	**Floors (Electric Heat)**	**Floors (Gas Heat)**
Upgrade required IF:	Existing level is less than R-19	Existing level is R-11 or less	Existing level is R-0
Upgrade NOT required IF:	Existing level is R-19 or greater	Existing level is R-11 or greater	Existing level is greater than 0
Required Upgrade Level	R-38	R-30 or fill cavity	R-30 or fill cavity
* Note: the Insulation requirement is NOT applicable to individual condominium owners.			

6.2 Overview for all glazing systems

Window requirements shall also apply to patio doors unless otherwise stated.

- Replacement windows and patio doors (French or sliding) shall be certified and labeled for U-factor in accordance with the simulation, testing, and certification procedures of the National Fenestration Rating Council Incorporated (NFRC).Windows shall be installed and supported according to the manufacturer's specifications. After installation, contractor must be test and verify each window operates smoothly and safely.
- Exterior wood, including frame, sash, trim, stops and sills, shall be, at a minimum, caulked and primed. Any wood that touches the ground or concrete must be pressure-treated.
- All window installs must tie window flashing into existing building drainage plane. Flashing shall overhang the window frame a minimum of 1/4 inch and maximum of ½ inch to ensure water runoff and shall extend beyond vertical members by 1 inch.
- Gaps of over 3/8 inch between the exterior siding and the window shall be covered with solid trim material. Exterior or interior voids over 3/8 inch in depth or width shall be filled with window manufacturer-approved materials, such as backer rod, non-expanding foam or similar product prior to caulking, if caulking will be applied.
- Sources of evident water penetration through window openings shall be located and corrected. Necessary repairs shall be accomplished by the Homeowner or Homeowner Designee prior to installation of windows.
- Safety glazing shall be used where required by current state code. See sections on safety glass for details.
- Screens shall be furnished with all operable windows.
- Hardware and fasteners shall be aluminum, stainless steel, or other noncorrosive materials.

6.3 Windows with Nailing Fins

The preferred window installation method for PSE's Multifamily Retrofit Program is a nail-fin install. Nailing fins allow the window to be integrated into the water-resistive barrier, protecting the home from water damage. When the nailing fins are fastened directly to the house's sheathing or framing with proper flashing, the fins and flashing create a drainage system that directs water to the outside rather than relying exclusively on caulked siding to prevent rain water from penetrating the building.

Follow these steps to install a nailing-fin window securely in the rough opening.

1. At the sill, insert the flashing underneath the existing siding and on top of existing building paper.
2. Install the window by sliding the top fin under the building paper. Side and bottom fins should rest on top of the building paper. Use flat shims to provide a level surface and support under the vertical structural members of the new window frame.
3. Use fasteners with heads wide enough in diameter to span the holes or slots in the window fin. Avoid over-driving the fasteners or otherwise deforming the window fin.
4. Starting with side fins and finishing at the top, flash the window around its perimeter with 15-pound felt, house wrap, or a peel-and-stick membrane.
5. Windows that are exposed to wind-driven rain or without overhangs above them should have a rigid head flashing to prevent rainwater from draining onto the window.
    a) If the tops of the windows are already protected by an overhanging metal head flashing, tuck the new flashing behind this head flashing.
    b) If the tops of exposed windows aren't protected by head flashing, insert new metal head flashing behind the existing siding and building paper at the top of the window and over the head trim piece. The head flashing should extend beyond the sides of the window 1" to divert water away from vertical joints bordering the window.
    c) Tuck the head flashing up behind the exterior siding at least 1 inch. Metal head flashing must have downward bending lip of at least 1/4 inch on the front and ends.
6. Thoroughly caulk all filler and trim pieces surrounding the replacement window.

6.4 Block or Finless Windows

Install block-frame windows without nailing fins when the existing window frame can't be removed or for buildings with masonry, stucco, aluminum or fiberglass siding***. Wood sided buildings are expected to receive replacements with nail-fin installations, though there are situations which warrant an exception. Contact PSE to determine if a building qualifies for a block-window exception.*** If windows are to be installed without using nailing fins, they must be ordered from the supplier specifically for a block-frame install. Cutting fins at the site is not allowed.

Follow these guidelines when installing block-frame or finless windows:

1. Collapse existing window taking care to not damage existing flashing or siding.
2. Support block-frame or finless windows under their main vertical supports with shims that level the window.
    a. Use flat shims if the sill surface is flat.
    b. Use tapered shims or a sill angle if the sill surface is sloping.
3. Windows without nailing fins must be secured to the rough opening within 4 inches of each side corner and a minimum 12 inches on center along the remainder of the frame with one of these fastening methods unless manufacturer's instructions specify otherwise:
    a. Screws fastened through the window frame. Use zinc screws, or other non-corrosive hardware, designed for fastening block- frame windows.
    b. Jamb clips or plates that are fastened first to the window and then to the opening in separate steps.
4. Protect the existing sill with a metal or plastic sill pan or rigid sill flashing if necessary for drainage and to protect the existing sill that protrudes from the exterior wall. Or, install a new sill as part of the window replacement.
5. Block-frame or finless windows may require a sufficiently wide gap between the existing window frame or masonry opening to allow for leveling the window, insulating the gap with non-expanding foam or backer-rod and/or allowing for slightly out of square opening.
6. Fill any gaps over 3/8 inch that are between the exterior siding and the block-frame window. Install backer rod in all exterior or interior voids over 3/8 inch in depth or width before caulking. Non-expasive foam as needed.
7. If possible, flash block-frame windows between the opening and the replacement-window frame and extend the flashing out far enough to slip under or into the siding.
    a. Tuck the flashing up behind the exterior siding at least 1 inch.
    b. Sill flashing must wrap up 6" on the inside of the vertical jambs of the rough opening.
    c. Sill flashing should have a downward bending lip of at least 1/4 inch on the front that sheds water away from the building.
    d. Head flashing – drip edge should extend at least an inch to the sides.
8. Caulk around the perimeter of the window to the existing frame to prevent water intrusion with a high-grade 30-year silicone exterior caulk. Interior components must be caulked. IBlock-frame windows rely on caulking to create a weatherproof seal around the perimeter, take extra care when installing sealant to ensure a durable and long lasting weather barrier.

6.5 Stucco or Brick-Mounted Windows

Stucco-mounted windows are replacement windows that mount directly to the frames of existing windows.

The fin of the new window and the outer flange of the existing window shall be sealed with a sealant designed for this purpose. The sealant must stick to both the vinyl fin and the aluminum flange. The lip of the existing aluminum flange shall be at least 3/8 inch wide. The gap between the frame of the replacement window and the interior trim shall be caulked. If the gap exceeds 1/4 inch, the gap shall be filled with closed cell backer rod, or chinked and caulked, and then the gap shall be covered with a permanently attached trim material and caulked on both the top and bottom seams.The bottom rail of the existing window shall be cleaned to free up weep holes. The miter joints on the fin of the replacement window shall be smooth so the corners do not bulge from the aluminum window.

6.6 Surface-Mounted Windows

Installing surface-mounted windows on site-built houses or on manufactured homes with wood siding is not allowed. This section does not apply to stucco-mounted windows. Surface-mounted windows designed for this purpose may be installed on manufactured homes with aluminum siding.

6.7 Miscellaneous Requirements

The bottom rail of a patio door shall be firmly supported within 1/2 inch of exterior edge of the frame.
Any wood that touches the ground or concrete must be pressure-treated.

6.8 Health and Safety Requirements

All windows shall meet the following egress and safety glazing specifications. If state or local code becomes more restrictive than these RTF specifications, then installers shall be required to meet current state or local code.

6.8.1 General Safety Glazing Requirements

Safety glazing requirements shall apply to replacement windows and patio doors, multi-glazing inserts and storm windows.
All windows shall meet the following egress and safety glazing specifications.
Each light requiring safety glazing shall bear the manufacturer's permanent safety glazing label. This label of identification shall be etched or ceramic-fired on the glazing and be clearly visible in one of the corners of the light.

6.8.2 Hazardous Locations Requiring Safety Glazing

The following shall be considered specific hazardous locations for the purpose of glazing:

a) Glazing in entry doors
b) Glazing in patio doors and French doors
c) Glazing in a fixed or operable panel that meets all of the following conditions:
    I. The exposed area of an individual pane is greater than 9 square feet
    II. The bottom edge is less than 18 inches above the floor
    III. The top edge is greater than 36 inches above the floor
    IV. One or more walking surfaces are within 36 inches horizontally of the glazing
d) Glazing in a fixed or operable panel adjacent to a door where the nearest vertical edge is within a 24-inch arc of the door in a closed position and whose bottom edge is less than 60 inches above the floor or walking surface.
e) Glazing in hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers, where the bottom edge of the glazing is less than 60 inches above the drain inlet.

6.8.3 Emergency Egress Openings

a) Every sleeping room shall have at least one operable window or exterior door approved for emergency egress or rescue if required by local code.
b) All egress or rescue window installations shall meet local code requirements.

7.0 Tenant Controlled Lighting

7.1 Eligible Measures

ENERGY STAR® qualified LED fixtures are eligible. Replacement LED fixtures must meet Design Lights Consortium, or Lighting Design Lab qualified list if not ENERGY STAR qualified. *CFL fixtures are no longer qualified through this program.*

All existing fixtures must be incandescent or halogen only.

Properties that have participated in the PSE Multifamily Direct Install in Unit Lighting Program may not qualify. Contact your program representative for further details.

7.2 Fixture Locations

Any fixture controlled by tenant except fixtures located in closets, storage areas or other low use locations as determined by program representative.

7.3 Fixture installation

Building owner or representative may install fixtures. If electrical permits are required, the permit and associated costs are the responsibility of the property owner.

8.0 Common Area Lighting

8.1 Eligible Measures

Eligible measures are based on the most current "PSE Business Lighting Program" form. This form can be found at:

http://pse.com/savingsandenergycenter/ForBusinesses/Pages/Business-Lighting-Program.aspx

Projects are required to be submitted to PSE for Pre-Approval before any of the work has been done, including the removal of existing fixtures.

8.2 Fixture Locations

Any fixture located in the common areas of the complex including exterior common areas interior hallways, stairwells and parking garages. Exception: low use locations as determined by the PSE program representative.

8.3 Qualifying Lamp and Fixture Types

- LED Lamps must be listed on the Lighting Design Lab or Energy Star qualifying lists.
- LED Fixtures must be listed on the Lighting Design Lab, Design Lights Consortium or Energy Star qualifying lists.
- LED Exit signs must replace an existing CFL or incandescent exit sign and have a minimum of a 5 year warranty.
- T8 Fluorescent lamps must be 800 series or better. Reduced wattage 4' T8 lamps must be 25-28 watts and have a CEE qualified listing.
- T8 ballasts shall be NEMA Premium or listed on the CEE (Consortium for Energy Efficiency) qualified list. T5/T5HO ballasts shall be Programmed Rapid Start. CFL ballasts shall be electronic.
- Lighting Controls: Defined as commercial grade occupancy sensors, timers, photocells and dimmers
- **All LED fixtures and lamps must meet Design Lights Consortium, or Lighting Design Lab qualified list if not ENERGY STAR qualified.**

8.4 Fixture Installation

Building owner or representative may install fixtures. If electrical permits are required, the permit and associated costs are the responsibility of the property owner.

8.5 Documentation

Owner or electrical contractor must complete the current PSE Business Lighting Program for MF Rebate Pre-Approval Form (or any subsequently updated version). Contractors must complete a full site lighting audit to be submitted in conjunction with the PSE Business Lighting Program Rebate Pre-Approval Form. The PSE representative will review Pre Approval Form for completeness prior to installation. After installation, if changes need to be made, rebate form must be revised and signed and returned with the rebate application form.

8.6 Enhanced Lighting Projects

PSE offers the Enhanced Lighting option for custom lighting retrofits. With the Enhanced Lighting option you are required to upgrade all of the lighting at your facility, all interior and exterior lighting (including controls) associated with your account. With the Enhanced Lighting option PSE provides an incentive of $0.30/kWh up to 90% of the installed cost versus the Standard incentive of $0.20/kWh up to 70% of the installed cost. PSE also calculates the overall cost effectiveness of the project which may reduce your incentive.

To qualify for an Enhanced Lighting project:

- The final Lighting Power Density, for the entire project, must be at least 10% lower than the 2012 Washington State Energy Code
- In the table below, all equipment in the "Existing Equipment" column must be retrofitted or replaced by the corresponding equipment in the "Proposed Equipment" column
- In the table below, controls must be installed to meet the Controls Requirements section
- Only projects that are doing both interior and exterior fixture and control replacements qualify as an Enhanced Lighting project. Interior only and exterior only projects do not comply.
- All Enhanced Lighting projects will be pre-inspected to confirm eligibility.

Enhanced Lighting – Fixture Requirements	
Existing Equipment	***Proposed Equipment***
Incandescent lamps/fixtures including existing CFL screw-in lamps	LED or equal (lpw)
Metal Halide - Probe Start	Metal Halide - Pulse Start, LED, T8/T5HO or equal (lpw)
Metal Halide - Pulse Start	No change required - if changed, LED, T8/T5HO or equal (lpw)
High-Pressure Sodium	No change required - if changed, LED, T8/T5HO or equal (lpw)
Mercury Vapor	Metal Halide - Pulse Start, LED, T8/T5HO or equal (lpw)
Fluorescent T12	T8 - CEE or NEMA Premium listed ballast and low watt T8 lamps T5HO - Programmed Rapid Start electronic ballast and low watt T5HO lamps LED - Tubular LED or new fixtures
Fluorescent T8/T5HO (including Proposed Equipment retrofitted toT8/T5HO)	T8 - CEE or NEMA Premium listed ballast and low watt T8 lamps T5HO - Programmed Rapid Start electronic ballast and low watt T5HO lamps
CFL hardwire	No change required - if changed, LED or equal (lpw)

Enhanced Lighting – Control Requirements	
All Exterior Lights	Photocell or astronomical time switch
• Classrooms • Conference / meeting rooms • Break / lunch rooms • Private offices • Restrooms • Warehouse spaces • Storage rooms • Janitorial closets • Enclosed stairways • Parking garage fixtures • All OTHER spaces less than 300 sf	In all spaces listed to the left, occupancy sensor(s) shall be installed and shall be manual ON. Full Auto-ON occupancy sensors are allowed in corridors, stairways, restrooms, parking garages, primary building entrance areas and lobbies. Occupancy sensors in stairways and parking garages shall be integral to each light fixture. In stairways, corridors and parking garages the lighting power shall be reduced by at least 50% when the area controlled is unoccupied

9.0 Whole House Ventilation Fan

Please contact the PSE program representative at (866) 997-9767 for further details. Must comply with ASHRAE 62.2-2010 or current ventilation standard. Must be ENERGY STAR® qualified and a DC Motor is required.

10.0 CEE Tier 3 Qualified Refrigerator

Refrigerator must be 30% above federal efficiency standard. In-unit refrigerators only. Please contact the PSE program representative at (866) 997-9767 for further details.

11.0 Electric Water Heater

Any 45-55 gallon storage tank water heater with Energy Factor 0.95 or greater. This rebate does not apply to tankless electric water heaters.

12.0 CEE Tier 3 Qualified Clothes Washers

Clothes washer must have Modified Energy Factor (MEF) of 2.4 or greater and a Water Factor (WF) of 4.0 or less. Existing water heater and dryer must be electric. In-unit clothes washers only. Please contact the PSE program representative at (866) 997-9767 for further details.

13.0 Custom Calculated Measures

Funding availability subject to PSE engineering analysis. Please contact the PSE program representative at (866) 997-9767 for further details. Custom projects can include space heating boilers, water heating boilers, parking garage CO sensors, pool heat pumps, solar pool heaters, ductless heat pumps, and HRV/ERV. PSE will analyze other custom energy efficiency projects determine if grant funding can be provided based on PSE cost effectiveness standards.

14.0 Heat Pump Water Heater

NEAA Northwest Climate Tier 1 or Tier 2 certified product. Must be installed outside the conditioned living space such as a garage, attic or crawlspace. Please contact the PSE program representative at (866) 997-9767 for further details.

15.0 Water Heat Fuel Conversion

Must be converting from PSE electric water heating to natural gas. Rebate amount is limited to 75 percent of total equipment and installation cost. ENERGY STAR® qualified equipment must be installed for rebate eligibility.

16.0 High Efficiency Natural Gas Fireplace

Fireplace must meet Canadian P4 FE of 70 percent or better, be direct vent and have electronic ignition. Fireplace must be installed in main living area of the home. Bedroom installations are not eligible. Please contact the PSE program representative at (866) 997-9767 for further details.

17.0 Natural Gas Forced Air Furnace

Must be ENERGY STAR® qualified and rated 95% AFUE or better. Only eligible for in-unit installations. Natural Gas furnace installed with any new or existing heat pump is not eligible.

18.0 Natural Gas Boiler

Must be ENERGY STAR® qualified and rated 95% AFUE or better. Only eligible for in-unit installations.

19.0 Natural Gas Integrated Space and Water Heating Boiler

Qualifying systems are completely hydronic/ radiant or a combination of forced-air and hydronic/ radiant systems. Either the water or space heat may be indirectly heated off single-source integrated equipment. Qualifying equipment includes: Single-source ENERGY STAR® 0.90 Energy Factor (EF) natural gas tankless water heater and Single-source ENERGY STAR® 95 percent AFUE natural gas boiler. Only eligible for in-unit installations.

PSE Service Area Map

Puget Sound Energy's service area:

Electric Service: all of Kitsap, Skagit, Thurston, and Whatcom counties; parts of Island, King (not Seattle), Kittitas, and Pierce (not Tacoma) counties.

Natural Gas Service: parts of King (not Enumclaw), Kittitas (not Ellensburg), Lewis, Pierce (not Buckley), Snohomish, and Thurston counties.

Washington state's oldest local energy company, Puget Sound Energy serves approximately 1.1 million electric customers and more than 760,000 natural gas customers in 10 counties. A subsidiary of Puget Energy, PSE meets the energy needs of its customers, in part, through incremental, cost-effective energy efficiency, procurement of sustainable energy resources, and far-sighted investment in the energy-delivery infrastructure. PSE employees are dedicated to providing great customer service and delivering energy that is safe, dependable and efficient.

For more information, visit www.PSE.com.

Combined electric and natural gas service

Electric service

Natural gas service