WSEC COMPLIANCE CHECKLIST

(New Home Construction & Additions)

(For Alterations and Remodels, use the WSEC-R Form)

PERMIT NUMBER

REQUIRED CREDITS

	Very Small Additions (additions 150-500 sf) *Additions 149 sf and less do not require energy credits.	2
	Small Additions (additions ≥500-1500 sf)	5
	Small Dwelling (dwellings <1500 and <300 sf of glazing)	5
	Medium Dwelling (dwellings and additions ≥1500-5000 sf, sm dwellings with >300 sf of glazing)	8
	Large Dwelling (dwelling >5000 sf)	9

Heating System Options ④		Credits
1	Combustible fuels (e.g. natural gas, LP, etc)②	0.0
2	Heat pump (w/ supplemental elec. resist. or gas heat)③	1.5
3	Elec. Res. Heat only (forced-air or zonal)	0.5
4	Heat pump (w/o supplemental heat) ⑩	3.0
5	ELECTRIC RESISTANCE HEATING WITH: Inverter-driven mini-split (largest zone) --- OR --- Elec. Resistance heating (combined sys. shall not exceed 2kW installed heating capacity)	2.0

BLDG Envelope Improvements ④			Credits
1.1	**Glazing**: U-0.22		0.5
1.2	**Glazing**: U-0.25 **Floor**: R-38 **Basement Wall**: R-21 + R-5ci **ALL Ceilings**: R-60 (adv.) **Slab**: R-10 edge + entire slab	**OR** Reduce the Total target UA by 15% ⑦	1.0
1.3	**Glazing**: U-0.18 **Floor**: R-38 **Basement Wall**: R-21 + R-12ci **ALL Ceilings**: R-60 (adv.) **Slab**: R-10 edge + entire slab	**OR** Reduce the Total target UA by 25% ⑦	1.5
1.4	**Glazing**: U-0.18 **Walls**: R-21 + R-16ci **Floor**: R-48 **Basement Wall**: R-21 + R-16ci **ALL Ceilings**: R-60 (adv.) **Slab**: R-20 edge + entire slab	**OR** Reduce the Total target UA by 30% ⑦	2.5

Air Leakage Control & Efficient Ventilation ④		Credits
2.1	Reduce air leakage to 2 ACH **AND** whole house ventilaltion (M1505.4) w/ HRV min. 0.65 ⑥	1.0
2.2	Reduce air leakage to 1.5 ACH **AND** whole house ventilaltion (M1505.4) w/ HRV min. 0.75 ⑥	1.5
2.3	Reduce air leakage to 0.6 ACH **AND** whole house ventilation (M1505.4) w/ HRV min. 0.85 ⑥	2.0

HE HVAC Distribution System ④		Credits
4.1	**ALL HVAC/Duct equip. located in conditioned space (R403.3.2).** ⑨ Electric Resist., hydronic, and ductless HP heating are NOT permitted with this option.	0.5

High Efficiency HVAC	HSPF x 0.85 = HSPF2 HSPF2 / 0.85 = HSPF		Credits
3.1 ①	Min. 95% AFUE fuel-fired furnace Min. 90% AFUE fuel-fired boiler ⑧	Chosen with Heat System 1	1.0
3.2 ①	Min. 95% AFUE fuel-fired furnace Min. 90% AFUE fuel-fired boiler ⑧	Chosen with Heat System 2	0.5
3.3 ①	Air-source centrally ducted heat pump (min. HSPF 9.5 & must be rated for cold climate) ⑧	Chosen with Heat System 4	0.5
3.4 ①	Closed-loop ground heat pump (min. COP 3.3) **OR** Open-loop water heat pump (min. COP 3.6) ⑧	Chosen with Heat System 4	1.5
3.5	Ductless mini-split (in zonal elec. heated houses) of HSPF 10.0+ shall give heat to largest zone in house.	Chosen with Heat System 4 or 5	1.5
3.6	Centrally ducted cold climate variable capacity heat pump (cc VCHP), found on the NEEP cc VCHP qualified product list, with an HSPF 10+.	Chosen with Heat System 4	1.0
3.7	Ductless mini-split with no elec. resist. heating in primary living areas shall be HSPF 10.0+ OR HSPF 9.0+ if total heating loads do not exceed 24k BTUs (and utilize multi heads). ⑧	Chosen with Heat System 4 or 5	2.0
3.8	Air-to-water heat pump with COP 3.2+ @ 47º F. (AHRI 550//590 rated) ⑧	Chosen with Heat System 4	1.0
3.9	Gas-fired HP w/ ANSI Z21.40.2 & Z21.40.4 or CSA w/ UEF 1.15+		1.5
3.10	Combination water heating & space heating system shall include gas-fired heat pump water heaters meeting Tier II NEEA for Gas-Fueled Res. Storage Water Heaters (version 1.0)	May only be taken with 5.1 or 5.2	2.5
3.11	Smart thermostat (energy star certified).	Chosen with 3.1 or 3.3 ONLY	0.5

Efficient Water Heating			Credits
5.1	Drain water HRU captures only shower waste water heat ⑫		0.5
5.2	Compact Hot Water Distribution system, the volume stored shall not exceed 16 oz. of water between nearest source of heated water & termination of fixture supply pipe (calculated via R403.5.2). When hot water source is nearest primed plumbing loop or trunk, this must be primed with On Demand recirculation pump and must run a dedicated ambient return line from the furthest fixture or end of loop to water heater. ⑭	5.1 and 5.2 may be combined with another credit 5 option	0.5
5.3	Energy Star rated gas/propane water heater (UEF 0.80+) ⑪		0.5
5.4	Choose from one of the following: ⑪ - Gas or propane water heater w/ UEF ≥ 0.91 - Solar water heating w/ rated min. savings of 2000kWh (SRCC) - Water heated by ground-source heat pump meeting req. of 3.4		1.0
5.5	Gas-fired heat pump water heater meeting Tier II NEEA stds. ⑪		1.5
5.6	Electric heat pump water heater meeting Tier III NEEA stds. ⑪		2.0
5.7	Electric heat pump water heater with a minimum UEF of 2.9 and utilizing a split-system configured with the air-to-refrigerant heat exchanger located outdoors. Equipment shall meet Section 4, requirements for all units, of the NEEA standard Advanced Water Heating Specification with the UEF noted above ⑪		2.5
5.8	Credit selection 3.10 earns this. (See R403.7, R403.5.7 & Manu. Sizing)		2.5

Renewable Electric Energy ⑤		Credits
6.1	0.5 credit/600 kWh generated per housing unit ⑬	1.0

Appliance Package		Credits
7.1	Dishwasher, fridge, washer & dryer meet Energy Star requirements ⑮	0.5

ADDITIONAL NOTES

①	An alternate heating source sized @ 0.5 Watts/ft2 (equiv.) of heated floor area or 500 Watts, whichever is larger, may be installed in the dwelling unit.
②	Equipment listed in Table C403.3.2(5) or C403.3.2(6)
③	Equipment listed in Table C403.3.2(2) and supplemental heating system per C403.3.2(5)b for combination furnace
④	**You may not select more than (1) option from this category.**
⑤	An Above-Grade Wall Assembly U-Factor shall be equal to or less than 0.056, R402.1.5, Table R402.1.2. R406.1.6 directs you to Appendix A WSEC-C.
⑥	To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the max tested building air leakage and show the HRV system
⑦	This sheet may not be used. Submit a completed Code Compliance Calculator (C3) for energy compliance.
⑧	To qualify to claim this credit, the building permit drawings shall specify the option being selected, the heated floor area calculation, the heating equipment type(s), the minimum equipment efficiency, and total installed heat capacity (by equipment type).
⑨	The building permit drawings shall specify the option selected and specify heating equipment type and show the location of the heating and cooling equipment & all ductwork. For mechanical equipment outside conditioned space, max 10' return duct and 5' supply duct connections to equipment may be outside deeply buried insulation. All metallic ducts outside conditioned space must have both transverse and longitudinal joints sealed w/ mastic. If flex ducts are used, they cannot contain splices.
⑩	Per Table C403.3.2.(2), C403.3.2(9), or Air-H2O HP (heating/cooling) rated AHRI 550/590
⑪	To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater equipment type and minimum equipment efficiency.
⑫	Minimum efficiency of 40% if installed for equal flow or a minimum efficiency of 54% if installed for unequal flow. Such units shall be rated in accordance with CSA B55.1 or IAPMO IGC 346-2017 & be labeled. (must collect from 2+ showers/tubs). To qualify to claim this credit, the building permit drawings shall include a plumbing diagram that specifies drain water HRU and plumbing layout needed to install it. Labels or other documentation shall be provided that demonstrates that the unit complies with the standard.
⑬	0.5 credits for each 600 kwh of electrical generation provided annually, up to 4.5 credits max. See complete Table R406.2 for all requirements and option descriptions. Generation calculated via: For solar electric systems, the design shall be demonstrated to meet this requirement using the National Renewable Energy Laboratory calculator PVWATTs or approved alternate by the Building Official. Documentation noting solar access shall be included on the plans. For wind generation, project design shall document annual power generations based on the following factors: the wind turbine power curve, average annual wind speed at site, frequency distribution of the wind speed at the site and height of the tower. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the photovoltaic or wind turbine equipment type, provide documentation of solar and wind access, and include a calculation of the minimum annual energy power production.
⑭	Construction Documents shall show ounces of water in piping between the hot water source and the termination of the fixture.
⑮	To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the appliance type and provide documentation of Energy Star compliance. At the time of inspection, all appliances shall be installed and connected to utilities. Dryer ducts and exterior dryer vent caps are not permitted to be installed in the dwelling unit.
⑯	**HEATING and COOLING EQUIPMENT SHALL BE SIZED and EFFICIENCY MEASURED IN ACCORDANCE WITH R403.7.**

Additional Energy Credit Summary

2021

King County

HVAC SUMMARY

Efficiency Rating	CFM	BTUs	⑯	OSA Duct Size	Duct size to be ≥ 6" (unless engineered)
HVAC Summary Per WSEC Heating Sizing Worksheet & Mandatory Equipment Sizing with Efficiency Rating in Accordance with ACCA Manuals J, S, & D. ⑯	⑯				

HRV		OSA (Outside Air)	
YES	NO	In HVAC	Separate

2021 Washington State Energy Code Insulation Requirements

	BLDG. Components	WSEC MIN.	Adjusted R/U Values per Credit Selections or Calculations
WINDOWS	U-0.30	U-0.50	
SKYLIGHTS			
CEILING W/ ATTIC	R-38 (full depth insul. Extend over ext. wall top plate)	R-60	
VAULTED CEILING			
EXT. WALLS ⑤	R-20 + R-5ci or R-13 + R-10ci		
FLOOR	R-30		
BELOW-GRADE WALL	R-10/15/21 (int) + 5TB		
SLAB	R-10, 4ft down perimeter		

King County Department of Local Services Permitting Division

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