



## Energy Efficient Home FY2019

### An Energy Conservation Program

The Utility is currently offering technical energy conservation assistance to our customers who are building the *Montana Home an Energy Efficient Electrically Heated Home*. By analyzing your house plans we can calculate the heat loss, and by using local weather data, estimate the heating bill. The **Montana Home is an Energy Efficient Site Built Home**, which will insure maximum comfort and minimum heating cost. This service is available for houses whose main heating source is some form of electric heat, including furnaces, baseboard heaters, wall heaters, electric boilers & heat pumps, and may have a secondary heating source in some cases direct vent wood and propane stoves/fireplaces. Log homes are not eligible. If your house achieves the required energy savings you may qualify for the **Montana Home** program.

### Plan Submittal

Please provide the following prior to construction:

1. House plans – floor plans, wall sections, elevation, site plan with orientation direction of home.
2. Window and door schedules – type (glazing, coating, frame), rough opening dimensions, Model #'s, U-Values if known.
3. Ventilation and heating system size and layout.

Contact your **Mission Valley Power Representative – Lyle Neiss** with questions about the **Montana Energy Efficient Home Program** at 406-883-7910.

**Table 1: Montana House 2 New Construction - Prescriptive Component Requirements**

Insulation			
Ceiling		R- 60 Adv.	Flat or Minimum R-49 vaulted.
Wall (above grade)		R-21 Int. + R-5 foam	
Floors over Unconditioned Space		R-38	Insulation in floor joist cavity.
Slab Floors	Unheated	R-10 Full Slab + R-5 Thermal Break	Applies to all concrete slab floors above or below grade. Minimum R-5 thermal break required between slab edge and all walls and footings.
	Heated Radiant	R-15 Perimeter, 4' R-10 Remaining Slab + R-5 Thermal Break	Applies to all concrete slab floors above or below grade. Perimeter insulation shall be installed for a distance of 4 feet vertical, horizontal, or combined distance. Minimum R-5 thermal break required between slab edge and all walls and footings.
Basement Wall		R-21	Below grade walls can extend up to 24 inches above grade.
Sealed Crawlspace Wall		R-21	The crawlspace wall shall be sealed and mechanical ventilation shall be provided. Sealed crawlspaces shall be considered conditioned space.
Windows & Doors			
Glazing	Windows	≤ U-0. .30	NFRC rated: Up to 1% of heated floor area exempt.
	Skylights	≤ U-0.50	Skylight area shall not exceed 5% of heated floor area.
	Max. Glazing Area	15% of Heated Floor Area	Combined window and skylight area.
Exterior Doors		≤ U-0.16	One door up to 28 ft <sup>2</sup> exempt.
Ducts in Unconditioned Space			
Insulation	Rigid	R-11	
	Flexible	R-8	
Sealing		Mastic	Cloth duct tapes not allowed.
Max. Leakage		Not tested	
Ventilation & Air Sealing			
Ventilation System		Whole-House	Mechanical ventilation system required.
Envelope Tightness		4.0 ACH @ 50Pa	Utility to test 10% of homes
Heating & Cooling Equipment			
Heat Pump		8.5 HSPF/SEER 13	Installed according to Montana House 2 New Construction specifications for sizing and controls.
Air Conditioner		SEER 13	
Zonal Electric			Electronic thermostat required.
Forced Air Electric			Energy Star programmable thermostat required.
Water Heating			
Electric Water Heaters		≤ 39 gallons	Energy Factor ≥ 0.96
		40 to 49 gallons	Energy Factor ≥ 0.95
		50 to 64 gallons	Energy Factor ≥ 0.95
		≥ 65 gallons	Energy Factor ≥ 0.91
Appliances & Lighting			
Appliances		ENERGY STAR qualified	Applies to built-in appliances and any new purchases. .
Lighting		ENERGY STAR qualified	A minimum of 90% of sockets to be either ENERGY STAR bulbs, fixtures, or both.