Chapter 4
Valuation Standards for Direct-Use

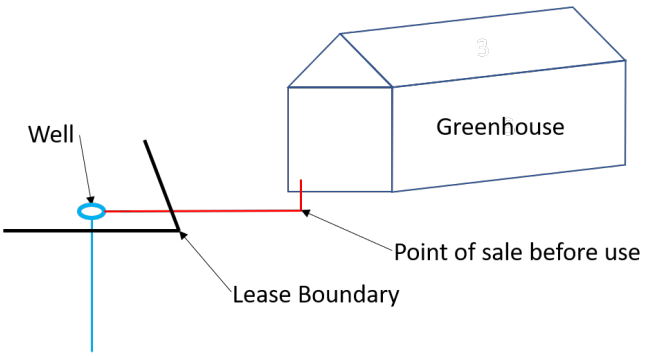
This chapter describes the standards in 30 CFR 1206.355 and 30 CFR 1206.356 for valuing geothermal resources that you use in direct-use processes for Class 2 & 3 leases. For direct use valuation for Class 1 leases, please see the Geothermal Payor Handbook-Class 1 leases. Direct-use includes commercial and residential space heating; greenhouse heating; industrial and agricultural operations requiring process heat; and other operations where thermal water is the heat source. These resources usually involve warm to hot water and the heat that they produce. Valuation standards group according to the resource's disposition as follows:

- Sales under an arm's-length contract
- Use by the lessee in the lessee's own direct-use facility

Valuation standards for resources that you sell under an arm's-length contract focus on the contract's gross proceeds with the conditions that the gross proceeds reflects total consideration and reasonable value (see "Exceptions to Acceptance of Arm's-Length Gross Proceeds" in Chapter 2.

We refer to geothermal resources that you use in direct-use processes as "Direct-Use Resources."

4.1 Arm's-Length Sales



If you sell geothermal resources produced from Class 1, 2, or 3 leases at arm's length to a purchaser for direct use, then the royalty on the geothermal resource is the gross proceeds accruing to you from the sale of the geothermal resource to the arm's-length purchaser multiplied by the royalty rate in your lease or that BLM prescribes under 43CFR 3211.18.

You generally determine the value of direct-use resources that you sell under an arm's-length contract as the gross proceeds accruing under that contract (30 CFR 1206.355. See "General Valuation Principles" in Chapter 2 for additional discussion on arm's-length contracts and gross proceeds.

The sales contract must reflect both a reasonable value and the total consideration that the buyer actually transferred, either directly or indirectly, to the seller (30 CFR 1206.361(b)).

1. ONRR may determine that the gross proceeds do not reflect the reasonable value of the resource because of misconduct by or between the contracting parties, or because you have otherwise breached your duty to market the production to the mutual benefit of yourself and the Federal Government.
2. ONRR may determine that the contract does not reflect that the total consideration is synonymous with the full definition and intent of gross proceeds, as discussed in Chapter 2.

If the contract does not reflect a reasonable value or the total consideration, ONRR may require you to increase the gross proceeds to reflect any additional consideration. Alternatively, for Class I leases, ONRR may require you to use another valuation method in the regulations applicable to dispositions other than under an arm's-length contract. ONRR will notify you to give you an opportunity to provide written information justifying your gross proceeds.

Example 4.1: Arm's Length Sales

This example shows how to calculate royalties for an arm's length sale of geothermal resources to a direct use facility.

Assumptions:

- The royalty rate is 10%
- The production sales month is October 2017.
- You sell steam to a nonaffiliated owner of a geothermal greenhouse. The sales contract establishes a price of $0.015 per thousands of lbs. of steam.
- The pay statement for the month shows 26,140,500 lbs. of steam.

Form ONRR 2014 Fact Sheet

Product Code	Sales Type Code	Sales MO/YR
32	ARMS	062016

Sales Volume	Sales Value	Royalty Value Prior to Allowances
26140500 lbs.steam	$392107.50	$39210.75

How to calculate royalty value prior to allowance:

Sales Volume * Price * Royalty Rate

26140500 lbs. steam *$0.015/lb* 0.10 = $39210.75

Please contact ONRR Royalty Valuation at royaltyvaluation@onrr.gov if you have any questions on how to do these calculations.

4.2 If you use the Geothermal Resource for your own Direct- Use purpose

The new regulations established a fee schedule, in lieu of royalties, for all new and converted geothermal leases that do not sell the geothermal resource and use it for a purpose other than commercial generation of electricity (direct use).

For geothermal resources produced from Class 2 and Class 3 leases, multiply the appropriate fee from the fee schedule by the number of gallons or pounds you produce from the direct use lease each month. Use the following fee schedule to calculate the fees due:

4.2.1 Direct Use Fee Schedule

Hot Water

If your average monthly inlet temperature (°F) is		*Your fees are…*	
At least…	*But less than…*	*($/million gallons)*	*($/million pounds)*
130	140	2.524	0.307
140	150	7.549	0.921
150	160	12.543	1.536
160	170	17.503	2.150
170	180	22.426	2.764
180	190	27.310	3.379
190	200	32.153	3.993
200	210	36.955	4.607
210	220	41.710	5.221
220	230	46.417	5.836
230	240	51.075	6.450
240	250	55.682	7.064
250	260	60.236	7.679
260	270	64.736	8.293
270	280	69.176	8.907
280	290	73.558	9.521
290	300	77.876	10.136
300	310	82.133	10.750
310	320	86.328	11.364
320	330	90.445	11.979
330	340	94.501	12.593
340	350	98.481	13.207
350	360	102.387	13.821

i. For direct use geothermal resources with an average monthly inlet temperature of 130° F or less, you must pay only the lease rental.

ii. ONRR, in consultation with BLM, will develop and publish a revised fee schedule in the *Federal Register*, as needed.

iii. ONRR, in consultation with BLM, will calculate revised fees schedules using the following formulas:

For reporting on a volume basis: $R_V = \rho \times (T_{in} - T_{out}) \times P_{prbc} \times F_{rr} \times \frac{1}{e}$

For reporting on a mass basis: $R_m = (T_{in} - T_{out}) \times P_{prbc} \times F_{rr} \times \frac{1}{e}$

Where:
R_V = Royalty due as a function of produced volume in the fee schedule, expressed as dollars per million (10^6) gallons;
R_m = Royalty due as a function of produced mass in the fee schedule, expressed as dollars per million (10^6) pounds;
ρ[rho] = Water density at inlet temperature expressed as lbs per gallon;
T_{in} = Measured inlet temperature in ° F (as required by BLM under 43 CFR part 3275);
T_{out} = Established assumed outlet temperature of 130° F;
e = Boiler Efficiency Factor for coal of 70 percent;
P_{prbc} = The 3-year historical average of Powder River Basin spot coal prices, as published by the Energy Information Administration, or other recognized authoritative reference source of coal prices, in dollars (per MMBtu);
F_{rr} = The assumed Lease Royalty Rate of 10 percent.

(2) The fee that you report is subject to monitoring, review, and audit.

Example 4-2 Calculating direct use fees

This example shows how to calculate geothermal fees when you use your own geothermal resources in your own direct use facility:
Assumptions:

- The royalty rate is 10 percent. Note: The lease royalty rate is already included in the fee schedule so you do not need to use it in your fee calculation.
- The production/sales month is December 2016.
- Production: 39,255.645 million gallons of hot water with an average monthly inlet temperature (° F) of 135°.
- You multiply the appropriate fee ($/million gallons) from the schedule below by the number of gallons you produced from the direct use lease for this month.
- 39255.645 million gal * $2.524/million gal (from fee schedule) = $99081.25

Product Code	Sales Type Code	Sales MO/YR	Transaction Code	Sales Volume	Royalty Value Less Allowances
45	NARM	122016	16	39255.65	99081.25