ALLOWABLE CALCULATION

The following New Mexico Statute affects the proration formulas established by the Oil Conservation Division:

> **70-2-17. Equitable allocation of allowable production; pooling; spacing.**
>
> A. The rules, regulations or orders of the Division shall, so far as it is practicable to do so, afford to the owner of each property in a pool the opportunity to produce his just and equitable share of the oil or gas, or both, in the pool, being an amount so far as can be practically determined, and so far as such can be practicably obtained without waste, substantially in the proportion that the quantity of the recoverable oil or gas, or both, under such property bears to the total recoverable oil or gas, or both, in the pool, and for this purpose to use his just and equitable share of the reservoir energy.

Based on the premise that this statute was followed when the proration formulas were established, the deliverability of one well in the Basin Dakota and Blanco Mesaverde Pools represented the recoverable reserves under each proration unit or 320 acres.

When the infill drilling orders for these pools were approved, and the deliverabilities of the two wells were added for allowable calculations; then, the definition must have been changed to indicate that the deliverability of one well then represented the recoverable reserves under one-half of each proration unit or 160 acres.

The use of the existing formula does not protect correlative rights with the application of the acreage factor in the deliverability portion of the formula as shown here:

$$\text{Allowable} = (AF \times F1) + [AF \times (D_1 + D_2) \times F2]$$

The proposed formula does not use the acreage factor in the deliverability portion of the formula as follows:

$$\text{Allowable} = (AF \times F1) + [(D_1 + D_2) \times F2]$$

BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION
EXHIBIT NO. A-2
CASE NO.

EXAMPLES: BASIN DAKOTA GAS POOL

ASSUMPTIONS:

1. That two wells are on a standard 320-acre proration unit with deliverabilities of 200 and 500 Mcf respectively.

2. That the acreage allocation factor, F1, = 5188.54; and the deliverability allocation factor, F2, = 7.087965. (These are the average factors for the Basin Dakota gas Pool for 1985.)

By substitution in the **PRESENT FORMULA:**

ONE TWO-WELL UNIT:

$$\text{Allowable} = (AF \times F1) + [AF \times (D_1 + D_2) \times F2]$$
$$= (1.00 \times 5188.54) + [1.00 \times (200 + 500) \times 7.087965]$$
$$= (5188.54) + [4961.575500] = 10150.115500 = \underline{\textbf{10150 MCF}}$$

TWO ONE-WELL UNITS:

$$\text{Allowable}_1 = (0.50 \times 5188.54) + (0.50 \times 200 \times 7.087965)$$
$$= (2594.27) + (708.796500) = 3303.246500 = \underline{\textbf{3303 MCF}}$$

$$\text{Allowable}_2 = (0.50 \times 5188.54) + (0.50 \times 500 \times 7.087965)$$
$$= (2594.27) + (41771.991250) = 4366.261250 = \underline{\textbf{4366 MCF}}$$

TOTAL = **3303 + 4366 = 7669 MCF**

DIFFERENCE = 10150 - 7669 = 2481 MCF

By the use of the **PROPOSED FORMULA:**

ONE TWO-WELL UNIT:

$$\text{Allowable} = (AF \times F1) + [(D_1 + D_2) \times F2]$$
$$= (1.00 \times 5188.54) + [(200 + 500) \times 7.087965]$$
$$= (5188.54) + [4961.575500] = 10150.115500 = \underline{\textbf{10150 MCF}}$$

TWO ONE-WELL UNITS:

$$\text{Allowable}_1 = (0.50 \times 5188.54) + (200 \times 7.087965)$$
$$= (2594.27) + (1417.593000) = 4011.863000 = \underline{\textbf{4012 MCF}}$$

$$\text{Allowable}_2 = (0.50 \times 5188.54) + (500 \times 7.087965)$$
$$= (2594.27) + (3543.982500) = 6138.252500 = \underline{\textbf{6138 MCF}}$$

TOTAL = **4012 + 6138 = 10150 MCF**

DIFFERENCE: = 10150 - 10150 = 0 MCF

EXAMPLES: BLANCO MESAVERDE GAS POOL

ASSUMPTIONS:

1. That two wells are on a standard 320-acre proration unit with deliverabilities of 200 and 500 Mcf respectively.

2. That the acreage allocation factor, F1, = 2816.59; and the deliverability allocation factor, F2, = 18.318794. (These are the average factors for the Blanco Mesaverde Gas Pool for 1985.)

By substitution in the **PRESENT FORMULA:**

ONE TWO-WELL UNIT:

$$\text{Allowable} = (AF \times F1) + [AF \times (D_1 + D_2) \times F2]$$
$$= (1.00 \times 2816.59) + [1.00 \times (200 + 500) \times 18.318794]$$
$$= (2816.59) + [12823.155800] = 15639.745800 = \underline{\textbf{15640 MCF}}$$

TWO ONE-WELL UNITS:

$$\text{Allowable}_1 = (0.50 \times 2816.59) + (0.50 \times 200 \times 18.318794)$$
$$= (1408.295) + (1831.879400) = 3240.174400 = \underline{\textbf{3240 MCF}}$$

$$\text{Allowable}_2 = (0.50 \times 2816.59) + (0.50 \times 500 \times 18.318794)$$
$$= (1408.295) + (4579.698500) = 5987.993500 = \underline{\textbf{5988 MCF}}$$

TOTAL = **3240 + 5988 = 9228 MCF**

DIFFERENCE = 15640 - 9228 = 6412 MCF

By the use of the **PROPOSED FORMULA:**

ONE TWO-WELL UNIT:

$$\text{Allowable} = (AF \times F1) + [(D_1 + D_2) \times F2]$$
$$= (1.00 \times 2816.59) + [(200 + 500) \times 18.318794]$$
$$= (2816.59) + (12823.155800) = 15639.745800 = \underline{\textbf{15640 MCF}}$$

TWO ONE-WELL UNITS:

$$\text{Allowable}_1 = (0.50 \times 2816.59) + (200 \times 18.318794)$$
$$= (1408.295) + (3663.758800) = 5072.053800 = \underline{\textbf{5072 MCF}}$$

$$\text{Allowable}_2 = (0.50 \times 2816.59) + (500 \times 18.318794)$$
$$= (1408.295) + (9159.397000) = 10567.692000 = \underline{\textbf{10568 MCF}}$$

TOTAL = **5072 + 10568 = 15640 MCF**

DIFFERENCE: = 15640 - 15640 = 0 MCF