

Case No. PAC-E-07-05  
Exhibit No. 42  
Witness: Mark T. Widmer

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

ROCKY MOUNTAIN POWER

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Exhibit Accompanying Supplemental Direct Testimony of Mark T. Widmer

Interruptible Energy Value

July 2007

### Interruptible Energy Value

The table below shows the value, in millions, of the curtailment credit in the existing Monsanto Agreement and the projected value of the same curtailment contracts for calendar year 2008 and calendar year 2009 using various valuation methods:

<u>2008</u>	<u>2009</u>	<u>Valuation Methodology</u>
\$12.4	\$12.4	Existing Contract
\$10.8	\$8.7	Front Office Model
\$9.2	\$10.4	GRID Model

#### Valuation Methodology Details

Consistent with the Commission's findings in Order No. 29157 in Case No. PAC-E-01-16, the Company believes no single model or methodology is precise or exact enough to provide a definitive cost of service for an interruptible load, but rather a variety of reasonable and applicable models and methodologies can establish a range of values from which a single value can be determined through use of reasonable judgment.

Accordingly, the Company utilized two models or methodologies to establish a range of values for the interruptible products: 1) the front office "opportunity cost" model (front office model) and 2) the GRID model. Descriptions of the two models and the results from the models are included in this exhibit.

#### Monsanto Interruptible Products

The current Monsanto Agreement provides three products:

1. *Operating Reserves.* Monsanto provides 95 megawatts of operating reserves available for 188 hours per calendar year. The Company must hold operating reserves to be able to respond to unit outages and maintain reliability. An industrial customer can be counted as operating reserves if they are able to curtail their load on a 10 minute notice. Monsanto is able to meet this requirement and therefore qualifies under WECC as a resource that can provide operating reserves. The Company can only interrupt Monsanto for an operating reserve interruption if the Company needs to utilize the operating reserves, which typically occurs following the unplanned outage of a Company generating asset.
2. *Economic Curtailment.* Monsanto provides 67 megawatts of economic curtailment available for 800 hours per calendar year. This product allows the Company to curtail 67 megawatts of Monsanto's load on a two hour notice for any reason. Being able to curtail Monsanto in this manner allows the Company to

either avoid market purchases or have additional generation available to sell into the market.

3. *System Integrity.* Monsanto provides 162 megawatts of system integrity available 12 hours per calendar year. The product allows the Company to curtail Monsanto following the occurrence of a double contingency event. A double contingency event is defined as two or more forced outages of Company generating assets totaling 500 megawatts or more of capacity within 48 hours of each other and must overlap for at least an hour.

### **Front Office Model**

The front office model is an Excel based model that utilizes the Company's forward price curves, the operating characteristics and costs of the Company's generating assets, and other inputs to determine the incremental or marginal cost of providing the curtailment products from Company resources and/or market purchases instead of purchasing those same products from Monsanto. The front office model values operating reserves by determining what the marginal cost of holding operating reserves on the Company's own units. The front office model determines which of the Company's units are "in-the-money", meaning which units are economic to run given the operating and fuel costs and the market price for the time period in question. A Company unit is considered economic to run if the cost to run the Company unit is less than the market price the Company would receive for sales of the output from the unit. The Company typically holds operating reserves on the highest cost in-the-money resource, meaning the most expensive unit that is still economic to run when compared to market prices. In other words, the Company holds reserves on the unit that has the lowest margin or profit and thus the lowest opportunity cost of not producing megawatt hours for sale to the market. The Company then maintains that unit in a state in which it could provide energy in response to a reserve event. Since that unit is being held back and is not producing power to be sold to the market, the opportunity cost of utilizing that unit for operating reserves is the difference between the cost to run the unit and the market price the Company would receive if the unit were producing megawatt hours to be sold to market. This opportunity cost, or foregone margin, is the value the Company ascribes to operating reserves. Therefore, the model assigns that value to Monsanto for its operating reserves since Monsanto can provide the operating reserves, which then allows the Company's unit to produce megawatt hours for sale to the market.

To calculate the value of the economic curtailment interruptions, the model determines which hours over the time period being evaluated are the most expensive based on the Company's forward price curves and hourly scalars. Because Monsanto allows for 800 hours of curtailment each year, the model utilizes the 800 most expensive hours each year to calculate the market value of the curtailed hours. The market value for each hour is then multiplied by the number of megawatts Monsanto is curtailing. This value represents the incremental dollars the Company receives by curtailing the Monsanto load and selling the megawatt hours to market. That number is then assigned as the value of the economic curtailment product.

The system integrity product is priced using an average annual on peak market price, with the assumption that the probability of a double contingency is constant throughout the year. The annual average on peak market price is applied to the number of megawatts Monsanto will curtail and multiplied by the number of hours Monsanto will curtail each year. That number is then assigned as the value of the system integrity product.

### **GRID Model**

The GRID model is a deterministic hourly production dispatch model that simulates the operation of the Company's system given load, resource characteristics, market prices, fuel costs and system constraints over a variety of hydro conditions. The GRID model is described in more detail in my direct testimony. The Company believes it is appropriate to perform resource evaluations and selection using a production cost model consistent with the assumptions in the Company's planning process. Since GRID determines the value of the curtailment products by looking at the impact on a system basis, the use of this production cost run methodology aligns with the concept of evaluating resources by the benefit to ratepayers on a system basis. To determine the value of the operating reserve and curtailment products using the GRID model, the Company compares the results of two model runs. The first run is a base case that does not include the Monsanto curtailment products. The second run is the same base case, but the Monsanto curtailment products are added at zero cost. The difference in the two runs represents the value GRID assigns to the curtailment products. A value for the system integrity component was not calculated with GRID because it is not capable of calculating a value for that component.

### CERTIFICATE OF SERVICE

I hereby certify that on this 2nd day of July, 2007, I caused to be served, via U.S. Mail, a true and correct copy of Rocky Mountain Power's supplemental direct testimony and exhibits in PAC-E-07-05, to the following:

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