

09-035-23/Rocky Mountain Power  
September 21, 2009  
DPU Data Request 34.4

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**NPC – Wind Integration Costs.** Please provide all available evidence and documentation that supports the Company’s claim that operating reserves have increased in response to additional wind capacity added to the generating system.

**Response to DPU Data Request 34.4**

The Company objects to this request as being overly broad. Without waiving this objection, the Company responds as follows.

The Company’s wind integration study provides strong empirical evidence that the need for operating reserves (forecast variation, regulate up, and regulate down) has increased in response to adding wind capacity to the system. The Company must address these new intra-hour variations by holding additional resources in reserve to meet reliability standards (see response to DPU 34.5). The Company does not separately identify or record the incremental reserves specifically held to manage the additional intra-hour wind variations.

There is a great deal of evidence supporting the Company’s claim from sources outside of the Company. A number of entities, in addition to the Company, make the claim that reserve requirements increase in response to the addition of wind to the system. The Bonneville Power Administration, for example, charges \$5.71 / MWh (at a 31% capacity factor) for wind integration costs. This amount represents intra-hour costs only, and if inter-hour costs were added, would be between \$7 and \$8 / MWh. Most utilities in the west have prepared a wind integration study as part of their IRP. In addition, the Company is not aware of any utility or other entity associated with the utility industry that claim that operating reserves have not increased in response to additional wind capacity.