

detailed storage information that other marketers do not have; and, in general, operates independently of the transmission and storage function.

### **SECTION 3. NWE NATURAL GAS SYSTEM**

#### Pipeline Interconnections

A substantial volume of natural gas is produced in close proximity to the NWE transmission pipeline system in Montana. In addition to this “on-system production,” NWE transmission pipeline has connections to major third party pipelines, as listed in Table 1. (Please refer to the system map at Attachment 1.)

Table 1

<b>NWE Pipeline Connections</b>				
<b>Pipeline</b>	<b>Connection Point</b>	<b>Capacity Dkt/d</b>	<b>Total Contract Dkt/d</b>	<b>Energy Supply Contracted Dkt/d</b>
TCPL (NOVA)	Carway	81,600	70,000	53,105
Aden	Aden Border	50,000	19,000	17,500
Havre Pipeline	Blaine Co. #3 / #1	30,000	20,000	16,000
Colorado Interstate (CIG)	Grizzly	40,000*	20,000	0
Williston Basin	Warren	20,000*	0	0

\* Interruptible capacity only.

#### On-System Storage

Energy Supply, as part of its portfolio approach to natural gas procurement, utilizes its natural gas storage to: reliably meet peak day requirements; mitigate market price fluctuations through seasonal price diversity; and provide economic benefit to ratepayers.

Natural gas storage is a physical tool that allows Energy Supply to accumulate natural gas during periods (the injection season) when prices are often lower than the forward prices for the following heating season, and to withdraw the natural gas during the period when consumption and prices may be higher.

Energy Supply enters into base-load natural gas contracts for flowing natural gas with diverse parties at specified quantities for deliveries at points across its pipeline system. When not needed to serve load, this flowing natural gas is often stored for later use (generally during the upcoming heating season) to ensure reliability and provide price stability.

The provision of peak-day reliability on the NWE natural gas transmission system depends in part on this on-system storage capacity. Operationally, NWE's transmission system is divided into two primary load zones. Each of the main storage fields is essential in maintaining reliability for Energy Supply ratepayers within the respective load zones.

The two primary natural gas storage fields are "Cobb" and "Dry Creek". However, Energy Supply is allocated only a portion of the storage rights in each of these fields by the NWE transmission division as discussed above. The Cobb storage field is on the north-end of the system, and is essential in serving peak day load requirements on the NWE system. The Cobb field is a depleted production reservoir storage field with total working gas capability of 11.0 Bcf, and maximum daily withdrawal capability of 150,000 Dkt/day. (Working gas is the term for natural gas that is injected, generally in the months from April through October, for withdrawal during the traditional heating season from November - March). The Dry Creek storage field is on the south-end of the system. Like the Cobb field, Dry Creek is also essential to augment the flowing natural gas supply to meet peak day load requirements and to enhance pressure mainly on the south end of the NWE system. The Dry Creek field is a depleted production reservoir storage field with a total working gas capacity of 5.5 Bcf, and maximum daily withdrawal capability of 44,000 Dkt/day.

The Cobb field is supplied from the north-end of the system, from NWE's interconnection with TransCanada's NOVA pipeline at Carway and from North-end Montana natural gas production. NOVA provides access to the very liquid

natural gas trading hub, AECO, which is located in Alberta. The Dry Creek field can be supplied from either the north-end or the south-end of the NWE system.

NWE's third storage field is Box Elder. Box Elder is located in the Havre area and is primarily used to augment deliveries to the Havre area during cold weather events, and is a critical resource for load balancing in the Havre area. However, its total impact on the balance of NWE's system is minimal.

The total peak deliverability of the three on-system storage fields is approximately 199,000 Dkt/day. However, Energy Supply only holds contractual rights to approximately 121,000 Dkt/day of that deliverability. The total deliverability of each field is shown in Table 2:

Table 2

<b>NWE System Storage Summary</b>		
<b>Storage Field</b>	<b>Deliverability Dkt/d</b>	<b>Working Gas Capability Bcf</b>
Cobb	150,000	11.00
Dry Creek	44,000	5.50
Box Elder	5,000	0.50
<b>Total</b>	<b>199,000</b>	<b>17.00</b>

While the working gas storage capability for the entire NWE system is 17.0 Bcf, the maximum working natural gas storage capacity allocated to Energy Supply is approximately 9.0 Bcf. NWE's Natural Gas Transmission division is responsible for operating and maintaining the storage fields in order to ensure reliability on the system. While the contractual working gas allocation for Energy Supply totals 9.0 Bcf of natural gas, the allocation of storage inventory between Cobb and Dry Creek storage fields is determined by NWE's Gas Transmission division.

Energy Supply's storage capability was increased to 9.0 Bcf when NWE's Natural Gas Transmission division modified the working gas capacity ratio on March 1, 2003. This adjustment increased the Energy Supply working gas capacity from

5.7 Bcf to 9.0 Bcf — an increase of approximately 58 percent. This increase occurred because of increased compression on the transmission system and the achievement of other operational efficiencies by NWE's Natural Gas Transmission division. The added capacity was allocated among all firm storage contract holders. The maximum daily withdrawal amount was not affected by this increase in storage capacity, and remains at 121,000 Dkt for Energy Supply.

It is important to recognize that physical limitations on the NWE system and finite compression capacity at the storage fields will, at times, limit the maximum amount of natural gas that can be injected into storage on a daily basis. NWE Energy Supply, like other storage contract holders, must comply with the standards as set forth by NWE's Natural Gas Transmission division. The Energy Supply injection capability at Cobb ranges from 50,000 Dkt/day up to 100,000 Dkt/day, depending on the storage reservoir pressure and the level of injections by other parties who also hold storage rights. This range is accurate until the field reaches an inventory of 7.0 Bcf. After the 7.0 Bcf level is reached, increased storage pressure will hinder the injection capability. The Energy Supply injection capability at Dry Creek is approximately 16,500 Dkt/day. Because of the limitations at Cobb, an Energy Supply storage plan in excess of 7.0 Bcf for the heating season necessitates a more consistent or layered injection plan throughout the injection season.

#### **SECTION 4. RESOURCE NEEDS ASSESSMENT**

##### Existing Energy Supply Requirements

NWE'S Energy Supply division is responsible for meeting all natural gas load requirements. Energy Supply provides natural gas to approximately 182,000 customers, with an estimated annual load requirement (including fuel) of approximately 20 Bcf. However, this load is highly seasonal and weather dependent in nature (i.e. consumption is heavily weighted to the heating months).