

Summary of Visibility Modeling Done by the National Park Service

Visibility Impairment from A) Existing Xcel Units 1 and 2 in Pueblo, Colorado and B) Units 1 and 2 with Settlement Agreement Conditions and Unit 3

(Data Received July 14, 2005 from John Notar at the National Park Service 303-969-2079)

A) Visibility Impairments* Modeled Due to Existing Air Emissions from Xcel Units 1 and 2 in Pueblo, Colorado

Great Sand Dunes

Rocky Mountain National Park

<u>Weather Year</u>	<u>Ammonia**</u>	<u>Days ≥10%</u>	<u>Max. Impairment</u>
1996	10 ppb	39	140.34%
	0.1 ppb	25	83.19%
2001	10 ppb	36	163.79%
	0.1 ppb	21	92.85%
2002	10 ppb	41	209.71%
	0.1 ppb	32	143.01%

<u>Weather Year</u>	<u>Ammonia**</u>	<u>Days ≥10%</u>	<u>Max. Impairment</u>
1996	10 ppb	32	322.89%
	0.1 ppb	22	197.31%
2001	10 ppb	19	61.84%
	0.1 ppb	15	36.75%
2002	10 ppb	27	111.67%
	0.1 ppb	(Not Provided)	

* Visibility impairments of over 10% to Class I areas like Rocky Mountain National Park and the Great Sand Dunes Wilderness Area are considered significant by Federal Land Managers. (See p. vi in Federal Land Managers Air Quality Related Values Workgroup Phase I Report (December 2000))

** The more ammonia in the air, the greater the visibility impacts as the ammonia will form particles of ammonium sulfate and ammonium nitrate. 0.1 ppm ammonia is lower than any measured amount of atmospheric ammonia and provides a lower bound on the modeling estimates.

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(Data Received July 14, 2005 from John Notar at the National Park Service 303-969-2079)

B) Visibility Impairments* Modeled for Air Emissions from Units 1 and 2 With Settlement Agreement Conditions and the Addition of Unit 3

Great Sand Dunes

Rocky Mountain National Park

<u>Weather Year</u>	<u>Ammonia**</u>	<u>Days ≥10%</u>	<u>Max. Impairment</u>	<u>Weather Year</u>	<u>Ammonia**</u>	<u>Days ≥10%</u>	<u>Max. Impairment</u>
1996	10 ppb	15	57.11%	1996	10 ppb	17	150.42%
	0.1 ppb	5	20.81%		0.1 ppb	13	47.02%
2001	10 ppb	14	72.11%	2001	10 ppb	12	25.89%
	0.1 ppb	5	16.75%		0.1 ppb	6	13.23%
2002	10 ppb	22	100.37%	2002	10 ppb	15	54.59%
	0.1 ppb	6	41.56%		0.1 ppb	9	21.57%

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