

March 25, 2011 - Testimony at Regional Haze State Implementation Plan Hearing

My name is Carol Kirkstadt, I live in Loveland, Colorado

I am here today because I am interested in the possible impact on the cost of electricity to myself and other energy consumers due to various regulations established by the EPA and/or Colorado Department of Public Health and Environment, Air Pollution Control Division.

I am concerned that the Regional Haze State Implementation Plan does not represent the best interest of the people of Colorado.

As a resident of Loveland, I get my electric service from the City of Loveland which buys power from Platt River Power Authority. PRPA uses several sources including the coal-fired Rawhide Plant, near Wellington, Colorado and two coal-fired Plants near Craig, Colorado.

The Regional Haze Plan calls for considerable expense to reduce NOx emissions at Craig Unit 1 and 2. There is also a recommendation for the Rawhide Plant. There is no recommendation for SO2 reduction action. I would like to confine my remarks to the recommendation to reduce NOx emissions at Craig and Rawhide.

It should be noted that a major environmental project upgrade at the Craig Station was initiated in 2002. This was a \$121 million dollar, multi-year retrofit to Units 1 and 2 at Craig Station to address opacity concerns and the mitigation of particulate matter.

According to the SIP Plan (page 22) The Regional Haze Rule requires the tracking of visibility conditions in terms of the Haze Index metric expressed in the deciview (dv) unit. Under many scenic conditions, a change of one deciview is considered to be just perceptible by the average person. The benefit for the changes proposed at Craig Unit 1&2 is .31 deciview of improvement (page 70). A benefit of .45 is projected for Rawhide (page 126). If I understand this measurement correctly, then the benefits expected by implementing the new recommendations for Craig and Rawhide will not be perceptible by the average person!

The Revisions Report submitted to the Colorado Legislative Council estimates that the new regulations will result in the “reduction of approximately 35,000 tons of NOx emissions”. However there is no statement summarizing the cost required to achieve this objective. In the SIP Revisions Report - Conclusion there is a statement about “improving the scenic vistas in Colorado’s most important national parks and wilderness areas and protecting the health of Colorado’s citizens.” There is no quantitative statement about the expected improvement in “visibility”. I could not find any quantitative data about how this plan will “protect the health of Colorado’s citizens”. I believe that making recommendations without clearly defining the benefits and the costs is unacceptable.

In summary, I recommend both the Craig units and the Rawhide Plant recommendations be removed from this plan. It is irrational to spend over \$28 million dollars a year for 20 years (that is, over \$500 million dollars) in the hopes of achieving an imperceptible improvement in visibility.

Emission Reductions Resulting from the Regional Haze Program - Plan dated January 2011						
Facility or Unit	Location	Emissions Control Approach	Nox Reductions	Annualized Cost (\$)	Cost (\$/ton/yr)	DeciView Impr.
			Tons/Year Summary	Tons/Year Detail		
Black Hills Clark Station	Canon City	Shut Down	861			
PSCo Cherokee-Unit 1	Denver Metro	Shut Down	1556			
PSCo Cherokee-Unit 2	Denver Metro	Shut Down	2895			
PSCo Cherokee-Unit 3	Denver Metro	Shut Down	1866			
PSCo Cherokee-Unit 4	Denver Metro	Natural Gas Operation	2211			
PSCo Arapahoe-Unit 3	Denver Metro	Shut Down	1770			
PSCo Arapahoe-Unit 4	Denver Metro	Natural Gas Operation	248			
PSCo Valmont-Unit 5	Denver Metro	Shut Down	2314			
PSCo Pawnee Station	E Colorado	NOx - SCR	3135			
PSCo Comanche-Unit 1	Pueblo		0			
PSCo Comanche-Unit 2	Pueblo		0			
PSCo Hayden-Unit 1	NW Colorado	NOx - SCR	3032	3120	\$10,560,612	3385
PSCo Hayden-Unit 2	NW Colorado	NOx - SCR	3120	3032	\$12,321,491	4064
PSCo Cameo Station	W Colorado	Shut Down	1140			0.85
TriState Craig-Unit 1	NW Colorado	NOx - SNCR	727	779	\$3,797,000	4874
TriState Craig-Unit 2	NW Colorado	NOx - SCR	3975		\$25,036,709	6299
TriState Craig-Unit 3	NW Colorado	NOx - SNCR	854		\$4,173,000	4886
TriState Nucia	W Colorado		0			
PRPA Rawhide-Unit 101	Larimer County	NOx - ECC	448		\$288,450	644
CSU Drake - Unit 5	Colo. Springs	NOx - ULNB+OFA	215		\$288,844	1343
CSU Drake - Unit 6	Colo. Springs	NOx - ULNB+OFA	509		\$337,751	664
CSU Drake - Unit 7	Colo. Springs	NOx - ULNB+OFA	749		\$461,217	616
CSU Nixon	Fountain	NOx - ULNB+OFA	707			
Holcim Cement Plant	Florence	NOx - SNCR	1028		\$2,520,000	2451
Cemex Cement Plant	Denver Metro	NOx - SNCR	846		\$1,636,636	1935
CENC-Boiler 3	Denver Metro	NOx - LNB+SOFA	0			
CENC-Boiler 4	Denver Metro	NOx - LNB+SOFA+SNCR	214	209	\$678,305	3245
CENC-Boiler 5	Denver Metro	NOx - LNB+SOFA+SNCR	354		\$1,739,825	4915
		Totals	34774		\$63,839,840	1836
					\$64.8 Million per year for 20 years = \$1.28 Billion (does not include Xcel items)	

Source of Information: SIP Plan, except "Tons/Year Summary" - see Chart included in Jan 26, 2011 Presentation to APCD Staff

Jan 26, 2011 - Regional Haze Presentation to ACD Staff

Emission Reductions Resulting from the Regional Haze Program

Facility or Unit	Location	Emissions Control Approach	NOx Reductions (tons/year)	SO2 Reductions (tons/year)	PM Reductions (tons/year)	Total Emissions Reductions (tons/year)
Black Hills Clark Station*	Canon City	Shut Down		861	1,457	72
PSCO Cherokee-Unit 1#	Denver Metro	Shut Down	1,556	2,221	37	2,390
PSCO Cherokee-Unit 2#	Denver Metro	Shut Down	2,895	1,888	35	4,818
PSCO Cherokee-Unit 3#	Denver Metro	Shut Down	1,866	743	65	2,674
PSCO Cherokee-Unit 4#	Denver Metro	Natural Gas Operation	2,211	2,127	0	4,338
PSCO Arapahoe-Unit 3#	Denver Metro	Shut Down	1,770	925	56	2,751
PSCO Arapahoe-Unit 4#	Denver Metro	Natural Gas Operation		248	1,764	0
PSCO Valmont-Unit 5#	Denver Metro	Shut Down		2,314	758	42
PSCO Pawnee Station*	E Colorado	NOx - SCR	SO2 - LSD	PM - baghouse***	3,135	11,065
PSCO Comanche-Unit 1#	Pueblo	NOx - LNB**	SO2 - LSD***	PM - baghouse***	0	0
PSCO Comanche-Unit 2	Pueblo	NOx - LNB**	SO2 - LSD***	PM - baghouse***	0	0
PSCO Hayden-Unit 1	NW Colorado	NOx - SCR	SO2 - LSD***	PM - baghouse***	3,032	61
PSCO Hayden-Unit 2	NW Colorado	NOx - SCR	SO2 - LSD***	PM - baghouse***	3,120	39
PSCO Cameo Station	W Colorado	Shut Down		1,140	2,618	225
TriState Craig-Unit 1	NW Colorado	NOx - SNCR	SO2 - WS**	PM - baghouse***	727	0
TriState Craig-Unit 2	NW Colorado	NOx - SCR	SO2 - WS**	PM - baghouse***	3,975	0
TriState Craig-Unit 3	NW Colorado	NOx - SNCR	SO2 - LSD***	PM - baghouse***	854	0
TriState Nacita	W Colorado	NOx - SNCR**	SO2 - Li**	PM - baghouse***	0	0
PRP Rawhide-Unit 101	Larimer County	NOx - ECC	SO2 - LSD***	PM - baghouse***	448	0
CSU Drake-Unit 5	Colo. Springs	NOx - ULNB+OFA	SO2 - DS1	PMI - baghouse***	215	762
CSU Drake-Unit 6	Colo. Springs	NOx - ULNB+OFA	SO2 - LSD	PMI - baghouse***	509	2,368
CSU Drake-Unit 7	Colo. Springs	NOx - ULNB+OFA	SO2 - LSD	PM - baghouse***	749	3,764
CSU Nixon	Fountain	NOx - ULNB+OFA	SO2 - LSD	PM - baghouse***	707	3,215
Holcim Cement Plant	Florence	NOx - SNCR	SO2 - WLS***	PM - baghouse***	1,028	0
Cemex Cement Plant	Denver Metro	NOx - SNCR	SO2 - none	PM - baghouse***	846	0
CENC-Boiler 3	Denver Metro	NOx - none	SO2 - none	PM - baghouse***	0	0
CENC-Boiler 4	Denver Metro	NOx - LNB+SOFA	SO2 - none	PM - baghouse***	214	0
CENC-Boiler 5	Denver Metro	NOx - LNB+SOFA+SNCR	SO2 - none	PM - baghouse***	354	0

* HB 10-1365 Source
** existing controls

Total Emissions Reductions (by 2030)

34,772 35,726 532 71,082

2009 Statewide Emissions (all sources)

Benefit of RH Emission Reductions - Percentage Reduction from 2009 Statewide Emissions

284,037 61,229 293,738

-12.2%

-58.4%

-0.2%

Abbreviation Key

DS = dry sorbent injection	WLS = wet lime scrubbers
ECC = enhanced combustion control	SOFA = separated overfire air
L = limestone injection	SO2 = Sulfur Dioxide
LNB = low NOx burners	ULNB=OFAs = ultra LNFB plus overfire air