Pacific Corp Nox data

Prepared July 12 for the July 14 webinar

Pacific Corp Data on Mcilvaine sites

- Data on each plant is shown in Mcilvaine Utility Plans
- The most recent 2015 data on each plant is displayed in a separate file linked from the left hand column of the tracking system
- An extract just for the 4 Hunter and Huntingon units is dislayed in a zip file linked from the Power Plant Air Quality Decisions
- You can search under a variety of key words in the intelligence system displayed in the PPAQD. This search shows presentations in webinars but not Mcilvaine newsletter articles
- If you click under search at the top of the PPAQD you find articles on Pacific Corp from the fabric filter, FGD & DeNOx, precipitator, and monitoring newsletters
- The intelligence system contains a link to the July 5 Federal “Register Disapproval of the Utah plan for Pacific Corp
- The following slides are excerpts from that document with specific cost effectiveness analyses of Nox control at the 4 units

Cost effectiveness of SCR for 4 Units

TABLE 1—EMISSION LIMITS, COSTS, AND COST EFFECTIVENESS FOR LNBS/SOFA WITH SCR FOR THE SOURCES SUBJECT TO THE FIP

Source	Technology*	NO_X Emission limit—lb/MMBtu (30-day rolling average)	Total capital cost ($)	Total annualized cost ($)	Average cost-effectiveness ($/ton)
Hunter Unit 1	SCR + LNB/SOFA	0.07	$130.6M	$14.8M	$2,697
Hunter Unit 2	SCR + LNB/SOFA	0.07	128.5M	14.5M	2,774
Huntington Unit 1	SCR + LNB/SOFA	0.07	128.3M	14.6M	2,871
Huntington Unit 2	SCR + LNB/SOFA	0.07	130.0M	14.7M	2,928

*The technology listed is the technology evaluated as BART, but sources can choose to use another technology or combination of technologies to meet established limits.

Hunter Unit 1 Nox BART Impacts Analysis

TABLE 2—SUMMARY OF EPA'S HUNTER UNIT 1 NO_X BART IMPACTS ANALYSIS

Control option	Annual emission rate (lb/MMBtu)	Emission reduction (tpy)	Total annual costs (million$)	Average cost effectiveness ($/ton)	Incremental cost effectiveness ($/ton)	Visibility impacts *		
						Improvement (dv)	Days > 0.5 dv	Days > 1.0 dv
LNB with SOFA	0.21	3,042	$1.2M	$382		0.846	330 (29)	218 (22)
LNB with SOFA and SNCR	0.16	3,735	3.8M	1,016	3,796	1.041	322 (37)	202 (38)
LNB with SOFA and SCR	0.05	5,500	14.8M	2,697	6,255 (compared to LNB with SOFA and SNCR) 5,561 (compared to LNB with SOFA).	1.545	311 (48)	188 (52)

* At the most impacted Class I area, Canyonlands National Park. The improvement in days over 0.5 and 1.0 dv provided by the control option relative to the baseline is presented in parentheses. See Table H.9. Air Quality Modeling Protocol: Utah Regional Haze Federal Implementation Plan, US EPA Region 8 (Nov. 2015); Docket Id. EPA–R08–OAR–2015–0463–0012.

Hunter Unit 2 Nox BART Impacts Analysis

TABLE 3—SUMMARY OF EPA'S HUNTER UNIT 2 NO_X BART IMPACTS ANALYSIS

Control option	Annual emission rate (lb/MMBtu)	Emission reduction (tpy)	Total annual costs (million$)	Average cost effectiveness ($/ton)	Incremental cost effectiveness ($/ton)	Visibility impacts *		
						Improvement (dv)	Days > 0.5 dv	Days > 1.0 dv
LNB with SOFA	0.20	2,902	$0.9M	$298		0.658	336 (23)	221 (19)
LNB with SOFA and SNCR	0.16	3,562	3.5M	968	3,913	0.822	331 (28)	218 (22)
LNB with SOFA and SCR	0.05	5,230	14.5M	2,774	6,632 (compared to LNB with SOFA and SNCR) 5,861 (compared to LNB with SOFA).	1.250	317 (42)	198 (42)

*At the most impacted Class I area, Canyonlands National Park. The improvement in days over 0.5 and 1.0 dv provided by the control option relative to the baseline is presented in parentheses. See Table H.10. Air Quality Modeling Protocol: Utah Regional Haze Federal Implementation Plan, US EPA Region 8 (Nov. 2015); Docket Id. EPA–R08–OAR–2015–0463–0012.

Huntington 1 Nox BART Impacts Analysis

TABLE 4—SUMMARY OF EPA'S HUNTINGTON UNIT 1 NO_X BART IMPACTS ANALYSIS

Control option	Annual emission rate (lb/MMBtu)	Emission reduction (tpy)	Total annual costs (million$)	Average cost effectiveness ($/ton)	Incremental cost effectiveness ($/ton)	Visibility impacts *		
						Improvement (dv)	Days > 0.5 dv	Days > 1.0 dv
LNB with SOFA	0.22	2,440	$0.8M	$332		0.851	249 (28)	153 (22)
LNB with SOFA and SNCR	0.17	3,185	3.5M	1098	3,609	1.113	244 (33)	143 (32)
LNB with SOFA and SCR	0.05	5,092	14.6M	2,871	5,830 (compared to LNB with SOFA and SNCR) 5,206 (compared to LNB with SOFA).	1.881	210 (67)	117 (58)

*At the most impacted Class I area, Canyonlands National Park. The improvement in days over 0.5 and 1.0 dv provided by the control option relative to the baseline is presented in parentheses. See Table H.11. Air Quality Modeling Protocol: Utah Regional Haze Federal Implementation Plan, US EPA Region 8 (Nov. 2015); Docket Id. EPA–R08–OAR–2015–0463–0012.

Huntington 2 Nox BART Impacts Analysis

TABLE 5—SUMMARY OF EPA'S HUNTINGTON UNIT 2 NO_X BART IMPACTS ANALYSIS

Control option	Annual emission rate (lb/MMBtu)	Emission reduction (tpy)	Total annual costs (million$)	Average cost effectiveness ($/ton)	Incremental cost effectiveness ($/ton)	Visibility impacts *		
						Improvement (dv)	Days > 0.5 dv	Days > 1.0 dv
LNB with SOFA	0.21	2,576	$0.9M	$365		0.776	254 (23)	153 (22)
LNB with SOFA and SNCR	0.17	3,264	3.5M	1,075	3,730	1.016	244 (33)	149 (26)
LNB with SOFA and SCR	0.05	5,023	14.7M	2,928	6,368 (compared to LNB with SOFA and SNCR) 5,626 (compared to LNB with SOFA).	1.657	220 (57)	126 (49)

* At the most impacted Class I area, Canyonlands National Park. The improvement in days over 0.5 and 1.0 dv provided by the control option relative to the baseline is presented in parentheses. See Table H.12. Air Quality Modeling Protocol: Utah Regional Haze Federal Implementation Plan, US EPA Region 8 (Nov. 2015); Docket Id. EPA–R08–OAR–2015–0463–0012.