Addendum to Section 6.0 (Submitted 8-22-06)

Model Source Data Refinements

The table shows the RDO model source data used to perform the impact analyses IDEQ requested with actual rather than conservative stack parameters for the National dryers and refinement to the exhaust flow rate for the FP_BULK line. Those limited changes from modeling previously reported, highlighted in yellow, were derived from information on stack dimensions and exhaust flow rate by onsite personnel based upon their observations and manufacturer's specifications.

The changes in model source data highlighted are the only changes in model input. All other options and model setting from the previously reported modeling were retained, except that the short term PM-10 run used one five year meteorological data set rather than five separate years.

As per the recommendation of IDEQ, the pollutants modeled were PM-10, NOx, and the carcinogenic TAPs arsenic and Chromium VI.

Table 1 Refined Model Source Data

Short term Emissions Source ID	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (ft)	Temp. (°F)	Exit Velocity (fps)	Stack Diameter (ft)	PM (lb/hr)
BOILER_1	402339	4881756	1497	45.00	123.0	20.85	6.65	21.66
DRUM1	402391	4881771	1496	45.58	125.0	0.00	3.58	1.95
DRUM3	402382	4881765	1497	45.58	125.0	0.00	3.58	1.95
DRUM5	402382	4881775	1497	45.58	125.0	0.00	3.58	1.95
DRUM2	402391	4881780	1496	45.58	125.0	0.00	3.58	1.95
DRUM4	402382	4881769	1497	45.58	125.0	0.00	3.58	1.95
DRUM6	402382	4881778	1497	45.58	125.0	0.00	3.58	1.95
DRUM7	402382	4881783	1497	45.58	125.0	0.00	3.58	1.95
DRUM8	402372	4881765	1497	45.58	125.0	0.00	3.58	1.95
DRUM9	402372	4881769	1497	45.58	125.0	0.00	3.58	1.95
DRUM10	402372	4881775	1497	45.58	125.0	0.00	3.58	1.95
DRUM11	402372	4881778	1497	45.58	125.0	0.00	3.58	1.95
DRUM12	402372	4881783	1497	45.58	125.0	0.00	3.58	1.95
NAT_A1	402353	4881754	1496	46.00	150.0	22.57	2.86	0.46
NAT_A2	402358	4881754	1497	46.00	176.0	22.57	2.86	0.46
NAT_B	402370	4881754	1497	46.00	167.0	22.57	2.86	0.46
NAT_C	402380	4881754	1497	46.00	148.0	22.57	2.86	0.46
FP_BULK	402406	4881741	1496	38.75	68.0	57.72	0.67	0.12
FP	402395	4881758	1496	39.59	68.0	18.60	4.00	0.08
FP_TOR	402410	4881751	1496	33.92	68.0	0.00	0.25	0.08
REC_1	402330	4881898	1497	35.38	90.0	0.00	0.40	0.01
REC_2	402345	4881890	1497	34.58	90.0	0.00	0.40	0.01
REC_3	402352	4881883	1497	35.58	90.0	0.00	0.40	0.01
FBD_DYR	402357	4881745	1497	39.42	110.0	0.00	0.00	3.53
FP_BH	402410	4881756	1496	37.42	68.0	108.30	1.53	0.18
BOILER_2	402340	4881742	1497	41.42	355.0	22.20	1.66	0.05
04CYCLON	402347	4881872	1497	44.08	68.0	0.00	0.00	0.07

Annual Emissions	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temp.	Exit Velocity	Stack Diameter	PM	NO2	ARSENIC	CHRVI
Source ID	(m)	(m)	(m)	(ft)	(°F)	(fps)	(ft)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
BOILER_1	402339	4881756	1497	45.00	123.01	20.85	6.65	4.50	48.93	0.00137	2.58E-04
DRUM1	402391	4881771	1496	45.58	125.01	0.00	3.58	1.95			
DRUM3	402382	4881765	1497	45.58	125.01	0.00	3.58	1.95			
DRUM5	402382	4881775	1497	45.58	125.01	0.00	3.58	1.95			
DRUM2	402391	4881780	1496	45.58	125.01	0.00	3.58	1.95			
DRUM4	402382	4881769	1497	45.58	125.01	0.00	3.58	1.95			
DRUM6	402382	4881778	1497	45.58	125.01	0.00	3.58	1.95			
DRUM7	402382	4881783	1497	45.58	125.01	0.00	3.58	1.95			
DRUM8	402372	4881765	1497	45.58	125.01	0.00	3.58	1.95			
DRUM9	402372	4881769	1497	45.58	125.01	0.00	3.58	1.95			
DRUM10	402372	4881775	1497	45.58	125.01	0.00	3.58	1.95			
DRUM11	402372	4881778	1497	45.58	125.01	0.00	3.58	1.95			
DRUM12	402372	4881783	1497	45.58	125.01	0.00	3.58	1.95			
NAT_A1	402353	4881754	1496	46.00	150.01	22.57	2.86	0.46	0.55	7.20E-07	0
NAT_A2	402358	4881754	1497	46.00	176.00	22.57	2.86	0.46	0.55	7.20E-07	0
NAT_B	402370	4881754	1497	46.00	167.00	22.57	2.86	0.46	0.55	7.20E-07	0
NAT_C	402380	4881754	1497	46.00	147.99	22.57	2.86	0.46	0.55	7.20E-07	0
FP_BULK	402406	4881741	1496	38.75	68.00	57.72	0.67	0.12			
FP	402395	4881758	1496	39.59	68.00	18.60	4.00	0.08			
FP_TOR	402410	4881751	1496	33.92	68.00	0.00	0.25	0.08			
REC_1	402330	4881898	1497	35.38	90.00	0.00	0.40	0.01	0.23	2.40E-07	0
REC_2	402345	4881890	1497	34.58	90.00	0.00	0.40	0.01	0.23	2.40E-07	0
REC_3	402352	4881883	1497	35.58	90.00	0.00	0.40	0.01	0.23	2.40E-07	0
FBD_DYR	402357	4881745	1497	39.42	109.99	0.00	0.00	3.53	0.67	9.00E-07	0
FP_BH	402410	4881756	1496	37.42	68.00	108.30	1.53	0.18			
BOILER_2	402340	4881742	1497	41.42	354.99	22.20	1.66	0.05	0.64	1.28E-06	0
04CYCLON	402347	4881872	1497	44.08	68.00	0.00	0.00	0.07			

Summary of Modeling Results

The modeling results indicate little to no change from the previously reported compliance demonstration. All modeled pollutants are shown to meet applicable impact limits. Remodeled values are shown in yellow if there was any change from previously reported model results, and in blue if the results were unchanged.

Predicted maximum NOx impacts increased less than 1% from 21.82 to 21.88 ug/m^3, remaining less than one quarter the NAAQS standard. Predicted maximum PM-10 impacts decreased from previously reported estimates. Maximum impact locations were unchanged from those previously reported. This additional analysis continues to show that criteria pollutant emissions from this facility will not cause or contribute to any exceedances of the NAAQS, and TAP emissions will not lead to exceedances of IDAPA 585 or 586 impact limits for TAPs. Table 6-9 summarizes the results of the modeling demonstrating NAAQS compliance.

Table 2 Criteria Pollutant Modeling Results Summary

Pollutant	Averaging Time	Location	Maximum µg/m³	Backgrd µg/m³	Total µg/m³	NAAQS µg/m³	% NAAQS
SO_2	Annual	N bndy Nof plant	2.53	8	10.053	80	13.2%
	3-hour	W bndy NW of plant	64.2	34	98.2	1300	7.6%
	24-hour	W bndy NNW of plant	12.5	26	38.5	365	10.6%
NO_2	Annual	N bndy Nof plant	4.88	17	21.88	100	21.9%
PM-10	Annual	N bndy W of plant	2.9	26	28.9	50	57.8%
	24-hour	W bndy NNW of plant	38.7	73	111.7	150	74.5%
CO	1-hour	W bndy NNW of plant	66	N/A (insignificant)			
	8-hour	W bndy NNW of plant	15	N/A (insignificant)			

Table 3 TAP Impacts Compared with AAC or AACC (for those exceeding the EL)

Non-Carcinogens			
Pollutant	**Modeled 24-hour µg/m3**	**AAC µg/m3**	**% AAC**
Cobalt	0.00399	2.5	0.16%
Phosphorus	0.00626	5.0	< 0.1%
Vanadium	0.02111	5.0	0.4%
Carcinogens			
Pollutant	**Modeled Annual µg/m3**	**AACC µg/m3**	**% AACC**
Arsenic	1.30E-04	2.30E-04	56.2%
Beryllium	<1.0E-05	4.20E-03	<0.2%
Cadmium	4.00E-05	5.60E-04	7.1%
Chromium VI	2.00E-05	8.30E-05	24.1%
Formaldehyde	3.32E-03	7.70E-02	4.3%
Nickel	1.00E-05	4.20E-03	0.2%
Total PAHs	<1.0E-05	1.40E-02	<0.1%