

ATTACHMENT J

El Paso Natural Gas Company, LLC
Rio Vista Compressor Station - Permit Limits

Turbine Cost Analysis	Interest Rate:	3.25%
All Units	Period (yrs):	20

Cost Effectiveness Summary using Permit Limits

Control Equipment	Unit	Total Capital Investment Cost	Total Annual Cost*	Emission Reduction	Cost Effectiveness
		(\$)	(\$)	(tpy)	(\$/ton)
Selective Catalytic Reduction (SCR)	A-01	4,200,000	442,388	0.5	974,508
Selective Catalytic Reduction (SCR)	A-02	4,200,000	449,590	0.5	830,527

* Total Annual Cost includes the annualized capital cost as well as the direct and indirect annual operating costs.

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Solar Model 10-T1202 Turbine		Interest Rate:	3.25% <-- EPA Default Interest Rate
A-01		Period (yrs):	20 <-- EPA Air Pollution Control Cost Manual
Base Case			
NO _x lb/hr:	2.34 lb/hr	<-- Highest measured NOx emissions of identical unit at San Juan CS	
NO _x tpy:	4.00 tpy	<-- Annual emissions based on highest measured NOx emissions of identical unit at San Juan CS and 3,420 hrs/yr	
SCR			
NO _x Reduction:	11%	<-- Based on highest ppm measured of identical unit at San Juan CS and the proposed NOx limit	
NO _x lb/hr:	2.07 lb/hr	<-- Expected hourly NOx emissions (lb/hr) after SCR	
NO _x tpy:	3.55 tpy	<-- Expected annually NOx emissions (ton/yr) after SCR	
Turbine Housing Reconfiguration	\$ -	<-- Estimated cost included in the total capital investment	
Total SCR Capital Investment	4,200,000.0	<-- CER 7/14/21, sized for 50 ppm NOx; \$8.4 millions for both units	
Total Capital Investment	\$ 4,200,000		
Annualized TCI:	\$ 288,871	<-- Based on interest rate, year and TCI	
Annual O&M Costs:	\$ 153,516	<-- EPA Cost Control Spreadsheet	
Total Annual Costs:	\$ 442,388		
Emissions Reduction:	0.5 tpy	<-- NOx Reduction based on 3,420 hr/yr	
Cost Effectiveness:	\$ 974,507.91	\$/ton	

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GE Model M3712R Turbine		Interest Rate:	3.25% <-- EPA Default Interest Rate
A-02		Period (yrs):	20 <-- EPA Air Pollution Control Cost Manual
Base Case			
NO _x lb/hr:	2.34 lb/hr	<-- Highest measured NOx emissions of identical unit at San Juan CS	
NO _x tpy:	4.77 tpy	<-- Annual emissions based on highest measured NOx emissions of identical unit at San Juan CS and 4,078 hrs/yr	
SCR			
NO _x Reduction:	11%	<-- Based on highest ppm measured of identical unit at San Juan CS and the proposed NOx limit	
NO _x lb/hr:	2.07 lb/hr	<-- Expected hourly NOx emissions (lb/hr) after SCR	
NO _x tpy:	4.23 tpy	<-- Expected annually NOx emissions (ton/yr) after SCR	
Turbine Housing Reconfiguration	\$ -	<-- Estimated cost included in the total capital investment	
SCR Capital Investment	\$ 4,200,000	<-- CER 7/14/21, sized for 50 ppm NOx; \$8.4 millions for both units	
Total Capital Investment	\$ 4,200,000		
Annualized TCI:	\$ 288,871	<-- Based on interest rate, year and TCI	
Annual O&M Costs:	\$ 160,719	<-- EPA Cost Control Spreadsheet	
Total Annual Costs:	\$ 449,590		
Emissions Reduction:	0.5 tpy	<-- Expected Reduction based on 4,078 hr/yr	
Cost Effectiveness:	\$ 830,526.64	\$/ton	

Op Hour Comparison

Operating Hours Per Year			
Yr/Unit	A-01	A-02	A-03
2018	2,868.25	3,904.00	4117
2019	5,645.25	5,413.50	821.25
2020	1,744.25	2,914.50	64.25
2016 – 2018 Avg. Hours	3,419.25	4,077.33	1,667.50

Fuel Consumption

Fuel Consumption Per Year (MMSCF)			
Yr/Unit	A-01	A-02	A-03
2018	30.60	41.45	122.979
2019	59.85	57.39	23.189
2020	18.84	32.52	2.03
2018 – 2020 Avg. Hours	36.43	43.79	49.40

Total
194.463
141.104
53.39