PERMIT # 1903 TECHNICAL SUPPORT DOCUMENT

August 2005 version

I. GENERAL COMMENTS:

A. Company Information

Physical Address:	Mailing Address:
Pima County Wastewater Management Department 7101 North Casa Grande Highway Tucson, AZ 85743	201 N. Stone Ave 8th Floor Tucson, AZ 85701

B. Background

The Ina Road Water Pollution Control Facility (Ina Road) was built in 1975. Initial construction was completed in 1977 (prior to the PSD applicability date – see Section VII below), when the Natural Gas/Propane/Digester Gas fired engines were installed and first started up. The plant has no major violations or actions against it in the past. The most recent action was an excess emissions report filed in May 2005 that was due to a malfunction caused by a fire that damaged four generators on 04/17/2004. Other than that Ina Road has been in compliance since its inception. The plant has been undergoing an expansion construction over the last few years, to increase the capacity from 25 million gallons per day to 37.5 million gallons per day. The expansion will add parallel independent primary treatment, secondary treatment and disinfection lines to the existing facility. This expansion was included in the 1997 Title V application.

C. Attainment Classification

The plant is in an area that is in attainment for all pollutants.

II. SOURCE DESCRIPTION

The plant provides preliminary, primary and secondary treatment of wastewaters collected from the Tucson Metropolitan area. The facility consists of the headworks, primary sedimentation, aeration, secondary sedimentation, chlorination and dechlorination systems. The existing treatment process uses a High Purity Oxygen - Activated Sludge process (HPOAS) for secondary treatment. The new parallel line, when it becomes operational will also provide secondary treatment by activated sludge but will also include a nitrification - denitrification process. Each Treatment Train will have its own chlorination contact tank for the fluids, but the dechlorination process will combine the two streams. Fluids are sent either to the City of Tucson as gray water for irrigation, or to the Santa Cruz River. Solids are shipped offsite as fertilizer for local agriculture.

A. Process Description

Seven 1000 hp engines that utilize different fuels to generate electric power for the plant. The engines burn Natural Gas/ Propane when there is not sufficient Digester gas, although this is not preferred, due to the relative higher cost of Pipeline Natural Gas and propane. Normally, five engines are sufficient to meet the power demand, but it is possible to run all seven at the same time. There are several smaller engines that are standby and emergency power sources, less than 100 Hp each that can be classified as insignificant activities since they are less than 325 BHP. (See 17.12.140.B.2.b.iv). These use propane as the fuel but have been permitted using gasoline emission factors to be more conservative.

The power generators are the main source of regulated air pollutants. The main pollutants emitted are NOx, CO, VOC and HAPs. PM_{10} and SO_2 emissions are insignificant.

B. Air Pollution Control Equipment

The pollution control equipment at the site are scrubbers that limit odors during the treatment process, an activated carbon filter that traps HAPs when they volatize from the plant influent.

III. REGULATORY HISTORY

A. Testing & Inspections

The source is currently permitted under a renewable one-year permit issued on 11/2/93. There have been regular inspections, and there has not been a history of any compliance problems. The source was last inspected in july 2005, and no notes of non-compliance where made in the inspection report, although there was one odor complaint and one dust complaint from the construction activities during the previous year.

B. Excess Emissions

PCWWMD submitted an excess emissions report in May of 2004.

IV. EMISSIONS ESTIMATES

Emission estimates were studied from various aspects. Initially, it was intended to derive emission numbers from a series of emission stack tests that were done to give emissions based on fuel type, checking both Natural Gas and Digester Gas fuels. During the testing, only emissions per hour of operation were measured, not fuel type.

When compared to the emission level specifications published by the manufacturer of the internal combustion engines (Waukesha), the measured emission factors were much lower. Because proportions of digester gas and natural gas used during testing was not collected when performing the stack testing, the measured emission factors could not be used in PTE calculations. Since AP-42 emission factors are conservative numbers, there was some discussion whether to use those emission factors to calculate the PTE. In the end, the published Waukesha emission factors from the Gas Engine exhaust emission levels document were used for the 7 Waukesha engines. AP-42 was used for PM_{10} PTE for the engines and the insignificant equipment because the engines were never tested for PM_{10} on site and PM_{10} numbers are not included in the published Waukesha emission factors. Stack tests were used for SOx emissions as explained below. Insignificant activities at the facility are identified in the process description however; they will be included and noted in the permit as insignificant activities.

SOx Emissions

Stack testing of the generator engines performed on 2/25/03 gave an average emission factor of 3.69 lbs of SOx per hour of operation for each engine burning digester gas. As noted above proportions of what type of gas being used was not collected during stack testing. PDEQ assumed that the sulfur content of natural gas is effectively zero (0.1 TPY - Pg 1 of Plantwide allowable emissions SOx emissions), therefore the AP-42 emission factor of natural gas for SOx cannot be used as a surrogate for digester gas. Even though the proportions used during testing were not collected and since SOx emissions from natural gas have been assumed to be zero, the emission rate of 3.69-lbs/ hr of SOx can therefore be assumed to effectively be solely from digester gas. Based on this, if the 7 engines are fired 8760 hours per year, the conservative potential to emit is 113 tons of SOx per year. However, only 5 of the 7 engines are run at any one time, and the engines run about 35 % of the time on Digester Gas, and about 65 % of the time on Natural Gas. The 5 operating engines run at an average capacity of 70%. Given all this, the actual SOx PTE at the plant will be a maximum of about 34 Tons per Year. PDEQ will however use the conservative PTE number of 113 tons per year for all 7 engines and will require Ina Road to do SOx testing for the engines once per permit term. PDEQ feels confident of this approach for SOx emissions despite all the problems with recording proportions because the above estimate is extremely conservative and indicates a level to which Ina Road would likely not emit under its normal operating conditions.

Combination HAP Vs Single HAP

Sampling at the inflow for HAPs from the wastewater is done quarterly and testing is carried out in the laboratory. For the previous five years, the largest annual content at the inflow was 4 tons per year, although numbers are usually less than 2.0 TPY. HAPs are also generated from the Natural gas and Digester gas fired electric Generator engines. The annual total Potential to Emit, (PTE), from these engines is 7.32 Tons per year. There is also a total PTE of 0.15 TPY generated from the flares and 0.12 Tons per Year from the small engines.

Of particular concern during the analysis was the amount of Formaldehyde generated by the different processes at the source. The PTE calculated, based on AP-42 factors, was 4.76 TPY. Most of this (4.65 Tons) is from the large Generator Engines, with minor additions from the smaller engines (0.11 tons). The question was raised as to the possible addition of wastewater emissions to the formaldehyde total. The plant tests its flows quarterly for HAPs content, but formaldehyde is not tested. However, any significant formaldehyde could only come from industrial sources, and wastewater from those sources are held and tested prior to addition to the inflow stream. Bacterial culture is used to complete the treatment process. Since this is the case, it is highly unlikely that formaldehyde would be present in the inflow stream since it would damage the bacterial culture. Hence, formaldehyde would never be a significant constituent of the fluid inflow. Total formaldehyde PTE at the plant is 4.76 Tons per year. The formaldehyde numbers are included in the totals for HAPs emitted from the engines.

Until the issuance of this permit, the source reported emissions based on fuel input monitoring. Each quarter, the fuel use was read from inlet meters, and emissions were calculated based on emission factors derived from the amount of natural gas and digester gas burnt. The stack testing done prior to writing this permit was intended to establish these types of emission factors. However, in the event, fuel inflow was not read from the meters, and so fuel input emission factors could not reliably be established. The emission factors used are those based on hours of operation under normal operating conditions using AP-42 emission factors for HAPs.

Based on the estimates, the source's permit class is a **Major Source, Class I permit**. The plant is an area source for HAPs since the total is less than 25 TPY for any combination of HAPs and less than 10 TPY for any individual HAP. Estimates are based on 8760 hours of operation per year. Refer to the PTE documents for calculations.

V. APPLICABLE REQUIREMENTS

NSPS. No NSPS rules apply to the source. The following NSPS rules could, but do not apply for the following reasons:

- 40 CFR Part 60 Subpart O (Standards for Performance of Sewage Treatment Plants) does not apply because it is only applicable to plants that combust or incinerate sewage sludge. Ina Road treatment plant does not combust or incinerate sewage sludge.

NESHAP. No NESHAP rules apply to the source. The following NESHAP rules could, but do not apply for the following reasons:

- 40 CFR Part 63 Subpart VVV (Publicly Owned Treatment Works) does not apply because the rule is only applicable to treatment works that are a major source for HAPs. This is an area source for HAPs, and therefore not subject to Subpart VVV.

- 40 CFR Part 63 Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines) does not apply because the rule is only applicable to RICE that are located at a major source for HAPs. This is an area source for HAPs, and therefore not subject to Subpart ZZZZ.

SIP The following SIP rules apply: SIP rules 321, 332, 343, 344.

PCC The following PCC rules apply: 17.16.010, 17.16.030, 17.16.050, 17.16.340, and 17.16.430.

VI. PERMIT CONTENTS

A. Emission Limits/ Standards:

Facility

17.16.030, 17.16.430.D & SIP Rule 344.A	Odor Rule
17.16.430.F	Materials Handling Rule
17.16.430.H	H_2S Standard

Stationary Rotating Equipment (Both Natural gas/ Propane & Digester Gas fired engines)

17.16.340.C, 17.16.340.B, 17.16.340.D & SIP Rule 332	Particulate Matter Standard
17.16.340.E	Opacity Standard
17.16.340.H	Fuel Limitation
17.16.340.F	SO_2 Limitation

General Particulate Standards

17.16.010.B, 17.16.050.B & SIP Rule 321.A	Opacity Standard
17.16.050.D	Visibility Limiting Standard

B. Monitoring and Recordkeeping Requirements:

Odor and Hydrogen Sulfide Control

17.12.180.A.3	Weekly checks of pollution control equipment

Stationary Rotating Equipment

17.12.180.A.3	Maintain an operation log for each engine
17.16.010.C & 17.12.180.A.3 and A.4	Opacity monitoring when engines are operating
17.16.010.C & 17.16.340.I	SO_2 & lower heating value not required unless the Control Officer requests.
17.12.180.A.3 and A.4	Record results of opacity monitoring

General Particulate Monitoring

17.12.180.A.3	Opacity Monitoring
17.12.180.A.3 and A.4	Record results of opacity monitoring
17.12.180.A.4	Retention of Records

Opacity may be monitored by using Test Method 9. The monitoring shall be conducted as follows. A person certified in Test Method 9 shall view the emission points at least once each day when the engines are operating. A certified Method 9 person shall have attended the ADEQ smoke school course. If there are visible emissions, the observer shall conduct a Test Method 9, and record the result. If the emissions are 20% or more for a fugitive source, or 40% or more for a point source, this shall be recorded and reported as an excess emission and a permit deviation.

C. Reporting Requirements:

Stationary Rotating Equipment

17.16.340.J	Sulfur content of fuel above 0.8%

17.12.250.A.6	Use of other fuels
17.16.340.I	LHV reporting for digester gas is not normally necessary as the heating value of the digester gas (heat input) on which the calculation for the particulate matter standard in II.B is dependent on yields emission estimates of particulate matter that are far less than the standard allowed by the referenced equation. There will subsequently be no testing or monitoring of the lower heating value required when using digester gas.

General

17.12.180.A.5.b & 17.12.180.E.3.d	Excess emissions and permit deviation reporting
17.12.210.A.2	Compliance certification reporting
17.12.320	Emissions inventory reporting
17.12.180.A.5.a	Quarterly summary reports of required monitoring

D. Testing Requirements:

17.20.010	EPA Test Method 9 or Test Method 22 to monitor opacity
17.20.010	PM testing upon request by the Control Officer Mass emission testing to determine compliance with the particulate matter standard in II.B is not normally necessary as standard emission factors yield emission estimates of particulate matter that are far less than the standard allowed by the referenced equation.
17.20.010	H_2S testing upon request by the Control Officer. Hydrogen sulfide testing to determine compliance with the applicable standard is not normally necessary because the use of good modern practices prevents the emission of hydrogen sulfide beyond the property boundary.
17.20.010 & 17.12.050	Performance testing for NOx, CO, VOC, SOx at least once per 5-yr permit term & Formaldehyde within 365 days of ***first*** 5-yr permit issuance.

E. Alternate Operating Scenarios: The applicant has not requested any alternate operating scenarios.

F. Miscellaneous Comments:

VOC Emissions

The stack testing measured VOC emissions. The test method used did not distinguish between methane and non-methane gases. The VOC emission factor was found to be an average of 3.97 lbs per hour of operation. Running for 8760 Hours per Year, this could generate 121.72 Tons of VOC per year. However, the literature shows that up to 80% of the exhaust gases are unburned methane fuel. Applying similar reductions in time and efficiency as those above in the SOx section gives an actual emission figure closer to 12 tons per year of VOC. Ina Road has elected to use Waukesha emission factor numbers for VOC and so this approach was not used in calculating PTE. Ina Road will be required to do VOC testing for the engines.

Formaldehyde Emissions

From emission calculations, Ina Road does not seem to be subject to 40 CFR Part 63 Subpart VVV & 40 CFR Part 63 Subpart ZZZZ. Since there was some question as to whether Ina Road could be a potential major source for individual HAPs using digester gas, the source will be required to do a one time test for formaldehyde in order to establish a base that shows that emissions from the engines are indeed below the 10 ton PTE for individual HAPs. This should confirm that Ina Road is not subject to the above-mentioned NESHAP subparts.

Insignificant Activities

Ina road in an email dated September 12, 2005 indicated that Ina Road no longer has three small engines. There are therefore only two small engines that are considered as insignificant activities. They fall well below the 325 hp threshold for permitting. They are emergency generators used only for emergency power.

The emergency flare has also been designated an Insignificant Activity. It is designed to flare off any excess digester gas generated at the plant. In fact, the generator engines burn all the digester gas available, and the plant must purchase additional fuel, natural gas, at considerable cost, so it would be a very rare occasion when the flare was fired for a significant period of time. The plant typically burns the flare for an hour once per month for testing purposes only, to ensure that the system is in good working order.

Also, the flare burns only digester gas, with a small natural gas pilot. The digester gas is mostly Methane, a non-regulated emission gas. Digester gas from the Roger Road facility averages 59.71% Methane and 39.39% CO_2 with a small amount of N_2 and H_2S. If anything, the flare might be considered an odor control device for release of H_2S.But the small amounts involved, and the small number of hours the flare is fired argues against this as anything but an Insignificant Activity. The flare is fired mostly for periodic testing, 10 to 15 hours per year.

Acid Rain Provisions

The units at this facility are not subject to Acid Rain provisions because they are exempt under an Applicability determination as described in 40CFR70.6.(b)(3). Not affected units subject to the requirements of the Acid Rain Program: ...(3) Any unit that, during 1985, did not serve a generator that produced electricity for sale and that did not, as of November 15, 1990, and does not currently, serve a generator that produces electricity for sale.

This unit does not, never has and does not plan to produce electricity for sale. All electric power generated by the plant is for use by the same facility, on site.

CAM Provisions

CAM provisions will not apply to this source. 40 CFR Part 64, §64.2(a) defines the applicability of CAM to emissions units. For CAM to apply, the unit must be subject to an emission limit or standard for the applicable regulated pollutant, the unit must use a control device to achieve compliance with that limitation or standard, and the unit must have a pre-control emission potential that would classify it as a major source. The source is not subject to emission limits under this permit. Since the unit is not subject to emission limits, it is not subject to the CAM provisions, i.e. the treatment plant does not use any Control Technologies.

Other Notes

The first five-year renewal application for this facility was submitted in May 1995. A second updated application was submitted in 1997. This application included a description of an expansion program for the facility, from 25 million gallons per day to 37.5 million gallons per day.

A third application revision was received in 2001, for addition of cooling towers. This application was withdrawn however.

While the permit process proceeded, various different proposals for new engines were mentioned, and in the end, rejected. The engines included in the permit are the original engines that have been operated at the plant since construction.

VII. IMPACTS TO AMBIENT AIR QUALITY

A Grandfathered PSD source, thus no studies are required. The source was constructed prior to the PSD applicability date of August 7, 1977 (See 40 CFR 52.21). Upon a major modification however, Ina Road would need to conduct NSR.

VIII. CONTROL TECHNOLOGY DETERMINATION

No control technologies needed to be determined. This facility is in an area of attainment and is not a new source.

IX. PREVIOUS PERMIT CONDITIONS

The following changes were made to the previous permit conditions so as to enable the source to operate with the maximum flexibility.

Condition #1

This condition was removed because the treatment plant no longer operates an incinerator at the site as indicated by Ina Road in its April 1997 permit renewal application. During a 1991 inspection it was confirmed that the incinerator had been decommissioned.

Condition #s 2, 3 & 4

These conditions do not regulate any NAAQS and thus odor requirements have been treated as a generic requirement applying to the whole plant. This approach is outlined in the EPA white paper for Part 70 applications dated July 10, 1995, Sections 4 and 7 on pages 9 and 12 respectively. This resulted in the odor standards being written as shown in Part B.II.A. of the permit. With the standards written this way, they limit air pollution and prescribe the most effective pollution control methods.

Condition #5

This rule was regulating fluid emissions and not air emissions. There is also no underlying applicable requirement for the 3-mg/ l limit that was imposed on the chlorination facility. Ina road is permitted for the engines and not for the chlorination of the treatment.

HAPs POTENTIAL & ALLOWABLE EMISSION ESTIMATES

TABLE 1.

Ina Road WPCF Haps Emissions

Annual HAPs Emissions in Fluid flow in Tons per Year (From Analysis Summaries)

Test Method	608	624	625	8260B	Totals
Year					
1997	0.0017	0.2119	2.4170		2.63
1998	0.0009	0.3625	0.7600		1.12
1999	0.0006	0.4000	0.7315	0.3382	1.47
2000	0	0.8663	2.7646	0.5179	4.15
2001		0.0387	1.5373	0.3343	1.91
2002		0.0204	2.4921	0.4062	2.92

The table shows HAPs contained in fluid flow for the listed six years. PDEQ took a conservative approach and assumed that all HAPs are emitted even though that's not the case. With that assumption, the high over those six was 4.15 and so that figure was used as HAPs emitted from the fluid flow.

Total HAPS Emissions from Flares (AP-42 Table 1.4-3)

Potential to Emit (Without Controls, 8760 Hours per Year)

NG Flow rate 20,000 cfh 157.68 MM scf/Yr

		lbs/MM scf	BTU/cf	MM scf/Yr		lbs/Yr	Tons/Yr	
91-57-6	2-Methyl naphthalene	0.000024	1050	157.68		0.00	0.000002	
71-43-2	Benzene	0.0021	1050	157.68		0.33	0.000166	
25321-22-6	Dichlorobenzene	0.0012	1050	157.68		0.19	0.000095	
	Fluoranthene	0.000003	1050	157.68		0.00	0.000000	
	Fluorene	0.0000028	1050	157.68		0.00	0.000000	
	Formaldehyde	0.075	1050	157.68		11.83	0.005913	
	Hexane	1.8	1050	157.68		283.82	0.141912	
	Naphthalene	0.00061	1050	157.68		0.10	0.000048	
	Phenanathrene	0.000017	1050	157.68		0.00	0.000001	
	Pyrene	0.000005	1050	157.68		0.00	0.000000	
	Toluene	0.0034	1050	157.68		0.54	0.000268	
				FLARE	TOTAL		0.15	

Haps from Generator Engines (AP-42 Table 3.2-3) Model No: L7042

Motors		lbs/MM BTU	BTU/BHp-Hr	BHp	Hr per Year	lbs/Ton	Tons/Yr	
7	1,3 Butadiene	0.000663	7400	1000	8760	2000.00	0.150424	
7	Acetaldehyde	0.00279	7400	1000	8760	2000.00	0.633006	
7	Acrolein	0.00263	7400	1000	8760	2000.00	0.596705	
7	Benzene	0.00158	7400	1000	8760	2000.00	0.358477	
7	Formaldehyde	0.0205	7400	1000	8760	2000.00	4.651122	
7	Methanol	0.00306	7400	1000	8760	2000.00	0.694265	
7	Meth Chloride	0.0000412	7400	1000	8760	2000.00	0.009348	
7	Naphthalene	0.0000971	7400	1000	8760	2000.00	0.022030	
7	PAH	0.000141	7400	1000	8760	2000.00	0.031991	
7	Toluene	0.000558	7400	1000	8760	2000.00	0.126601	
7	Xylene	0.000195	7400	1000	8760	2000.00	0.044242	
				GEN	TOTAL		7.32	

Haps from Small Motors (AP-42 Table 3.2-3)

Laboratory Motor 25 Hp and Compressor Motor 16 Hp

Motors		lbs/MM BTU	BTU/BHp-Hr	BHp	Hr per Year	lbs/Ton	Tons/Yr	
1	1,3 Butadiene	0.000663	7000	41	8760	2000.00	0.000833	
1	Acetaldehyde	0.00279	7000	41	8760	2000.00	0.003507	
1	Acrolein	0.00263	7000	41	8760	2000.00	0.003306	
1	Benzene	0.00158	7000	41	8760	2000.00	0.001986	
1	Formaldehyde	0.0205	7000	41	8760	2000.00	0.025770	
1	Methanol	0.00306	7000	41	8760	2000.00	0.003847	
1	Methylene Chloride	0.0000412	7000	41	8760	2000.00	0.000052	
1	Naphthalene	0.0000971	7000	41	8760	2000.00	0.000122	
1	PAH	0.000141	7000	41	8760	2000.00	0.000177	
1	Toluene	0.000558	7000	41	8760	2000.00	0.000701	
1	Xylene	0.000195	7000	41	8760	2000.00	0.000245	
				Lab/Comp	TOTAL		0.04	

PTE Total Tons per Year

Formaldehyde Emissions (Uncontrolled AP-42 Table 3.2-3)

	Formaldehyde Emission Factor Lbs/MMBTU*	H.P.	BTU/BHP-Hr	Hrs/Year	Lbs/Ton	Tons/Year	Number of Motors	Total Tons/Yr
7 Generators	0.0205	1000	7400	8760	2000	0.66	7	4.65
Compressor	0.0205	16	7000	8760	2000	0.01	1	0.01
Lab	0.0205	25	7000	8760	2000	0.02	1	0.02

Formaldehyde emissions from 7 Generators and 2 Small Motors **4.68**

PLANTWIDE ALLOWABLE EMISSION ESTIMATES

Emission factors for the 7 Waukesha engines were from the Waukesha Gas Engine Exhaust Emission levels 2001 document Model No: L7042

Motor	Pollutant	EF	EF Units	Hours	HP	No of Motors	gms/lb	lbs/Ton	Emissions TPY
Gen Set	NOx	8.50	gm/BHp-Hr	8,760	1000	7	453.6	2000	574.54
Gen Set	CO	32.00	gm/BHp-Hr	8,760	1000	7	453.6	2000	2162.96
Gen Set	VOC	0.35	gm/BHp-Hr	8,760	1000	7	453.6	2000	23.66
Gen Set	SOx	Emission factors for SOx were taken from stack testing for digester gas. Refer to pg 2 of TSD.							113.00

PM_{10}, SOx emission factors from (AP-42 Table 3.2-3)

Motors	Pollutant	lbs/MM BTU	BTU/BHp-Hr	BHP	Hours	lbs/Ton	Tons/Yr
7	PM_{10}	0.0095	7400	1000	8760	2000.00	2.155398
7	SOx	0.000588	7400	1000	8760	2000.00	0.133408

Emission factors for the PTE calculations were obtained from AP-42 Table 3-3.1

Motor	Pollutant	EF	EF Units	Hours	HP	No of Motors	gms/lb	lbs/Ton	Emissions TPY
Compressor	NOx	5.16	gm/BHp-Hr	8,760	16	1	453.6	2000	0.80
	CO	199.00	gm/BHp-Hr	8,760	16	1	453.6	2000	30.74
	VOC	9.69	gm/BHp-Hr	8,760	16	1	453.6	2000	1.50
	PM_{10}	0.33	gm/BHp-Hr	8,760	16	1	453.6	2000	0.05
	SOx	0.27	gm/BHp-Hr	8,760	16	1	453.6	2000	0.04

Emission factors for the PTE calculations were obtained from AP-42 Table 3-3.1 Page 2

Motor	Pollutant	EF	EF Units	Hours	HP	No of Motors	gms/lb	lbs/Ton	Emissions TPY
Lab Motor	NOx	5.16	gm/BHp-Hr	8,760	25	1	453.6	2000	1.25
Lab Motor	CO	199.00	gm/BHp-Hr	8,760	25	1	453.6	2000	48.04
Lab Motor	VOC	9.69	gm/BHp-Hr	8,760	25	1	453.6	2000	2.34
	PM_{10}	0.33	gm/BHp-Hr	8,760	25	1	453.6	2000	0.08
	SOx	0.27	gm/BHp-Hr	8,760	25	1	453.6	2000	0.06

Ina Road WPCF Criteria Pollutants PTE

Emissions Summary Table. (8760 Hours per Year)

Pollutant		Generator	Flow	Compressor	Lab	Flares	Total TPY	
NOx		574.54		0.80	1.25		**576.58**	
CO		2162.96		30.74	48.04		**2241.75**	
VOC		23.66		1.50	2.34		**27.49**	
HAPs (incl. Formaldehyde)		7.32	4.15	0.01	0.01	0.15	**11.64**	
PM_{10}		2.16		0.05	0.08		**2.28**	
SOx		113.00		0.04	0.06		**113.10**	