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Date: March 22, 2011

Technical Support Document
Title V Permit Renewal
Monsanto AG Products - Eloy
Permit # V20645.000

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Technical Support Document
Title V Permit Renewal
Delta and Pine Land Company
Permit # V20645.000

1. BACKGROUND

1.1 Applicant

Monsanto AG Products - Eloy
PO Box 638
Eloy, AZ 85131

1.2 Facility Location

The facility, Delta & Pine Land Company, is located on 15790 S. Highway 87, Eloy, Arizona.

The location is currently designated as attainment for all criteria pollutants. The underlying attainment criteria are defined by the National Ambient Air Quality Standards (NAAQS), as required under CAA §109 and promulgated under 40 CFR Part 50. The current attainment designation includes carbon monoxide (CO), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), ozone (O₃), particulate matter (PM_{2.5} and PM₁₀). (On October 1, 2010, the EPA proposed to redesignate most of the western portion of Pinal County from “unclassifiable” to “nonattainment”. The proposed boundaries could potentially include the site of this facility within that declaration.)

1.3 Agency Authority

The Arizona Legislature granted the Pinal County Board of Supervisors to establish a program to permit certain sources of regulated air pollutants. Generally, see ARS §§49-470 *et seq.* (ARS Title 49, Chapter 3, Article 3.)

The Pinal County Board of Supervisors adopted a Code of Regulations, which among other things establishes such a program for permitting stationary sources. Generally, see the Pinal County Air Quality District Code of Regulations, as amended January 12, 2009.

In accord with A.R.S. §49-480, Pinal County's permit program constitutes a "unitary" program, with a permit conferring both authority to construct and authority to operate.

Under authority of CAA §110, the EPA has approved relevant portions of the Pinal County permitting program as an element of the Arizona SIP. In particular, see 61 Fed. Reg. 15717 (4/9/96). Among other things, that SIP-approval approved Pinal County minor new source review program. A separate EPA SIP-approval allows Pinal County to define federally enforceable permit limitations. See 60 Fed. Reg. 21440 (5/2/95).

Under authority of CAA §§501 *et seq.*, the EPA has conferred interim and final approval upon Pinal County's Title V permitting program. See 61 Fed. Reg. 55910 (10/30/96), 66 Fed. Reg. 48402 (9/20/01).

This source constitutes a major source of HAPs, and will operate under authority of a "Title V" unitary permit.

1.4 Process Description

The facility produces a maximum of 33,960 tons per year cotton seed for planting by delinting cotton

seeds from the cotton ginning process. Anhydrous Hydrogen Chloride (HCl) is used in the delinting process. The process is seasonal with a potential maximum operating time of 5660 hours per year.

The source includes a delinter, baggers, cyclones, baghouses, and other equipment used to process and prepare raw cotton seed for use in planting the succeeding cotton crop.

Fuzzy cotton seed is loaded into a hopper and fed to a natural gas fired dryer to lower the moisture content. The dryer outputs to a charge cart, which feeds a batch of fuzzy seed through an auger assembly to the delinter. The solid plug of material in the feed auger effectively precludes emissions from that point. A cyclone system controls particulate emissions generated in the drying operation.

In the delinter, gaseous anhydrous HCl is applied to physically weaken the structure of the lint. The HCl is delivered in trailer-mounted, pressurized cylinders. The quantity of HCl applied is controlled such that it is completely, or nearly completely, consumed by the process. Previously, excess HCl was applied, and ammonia was used to neutralize the excess HCl. Under this permit, ammonia is no longer used in the process. Rather, a continuous weighing system provides a computerized control system with the data needed to meter the HCl applied to precisely correspond to the quantity of seed being processed. That results in all, or nearly all, of the HCl being neutralized or consumed in the reaction with the cotton lint.

Subsequently, the seed drops from the delinter into a pit hopper, and is lifted by an elevator and dropped into a two-stage buffing reel assembly. The mechanical action separates the weakened lint fibers from the seed. The buffing reels empty on a batch basis into an elevator hopper. The elevator lifts the seed into a clipper cleaner, which removes trash such as sticks and pebbles. An elevator moves the seed to surge tanks, where it is fed to gravity tables that separate good seed from culls. The good seed is delivered to storage tanks by an elevator. Another elevator transports the seed from the storage tanks to a weigh belt after which it is treated with insecticide and fungicide and bagged for use. In addition, calcium carbonate is included with the packed seed to neutralize any trace amounts of HCl that may be present.

The buffing reels include screens that separate the seed from the lint that is removed by mechanical abrasion. The lint solids are transported to the lint tank by an auger; the solid plug of material leaving the buffing reels effectively precludes emissions. A forced draft system collects airborne lint and other possible emissions from the delinter, the pit hopper, the elevator to the buffing reels, and the buffing reels themselves. Cyclones remove the bulk of the airborne lint from the flow, and downstream baghouses further control any remaining particulate emissions.

A secondary force draft system also serves the delinter, as well as the gravity table. The delinter/gravity table exhaust system vents to the atmosphere through a cyclone. An additional exhaust flow captures emissions from the clipper cleaner, and exhausts through a dedicated cyclone. Finally, an additional set of cyclones control particulate emissions captured during the final seed treatment and packaging operations. Solids from the baghouses and all of the cyclones, other than the final treatment/packaging operations, are also conveyed to the lint tank.

To the extent that the gaseous HCl is not completely consumed in the reaction with the seed-borne lint, HCl emissions may escape through either the baghouses on the primary particulate control system, or the cyclone on the secondary control system that serves the delinter.

Emissions of volatile organic compounds, VOCs, may occur from the chemicals used in treating the processed cotton seed. Negligible emissions of VOCs are emitted during the imprinting of seed packages.

In addition to the main delinting plant, the facility also includes a small Foundation gin and a delinting system which processes approximately 4,800 tons per year of raw cotton and 2,000 tons per year of

cotton seed. The throughput of the gin is approximately 2 bales per hour with a maximum of 600 hours per year. The gin equipment and trash handling hopper are exhausted with a 8,000 scfm exhaust system. This exhaust system along with three cyclone separators operating in parallel control particulate emissions.

The new Foundation Seed Treatment line processes up to 2 tons of seed per hour, with an annual operating schedule of 1,500 hours per year. This Treatment and Packing area will be implemented for full scale operating during the 2010-11 season.

1.5. Permit History

1.5.1 Initial Permit

On 2/9/2000 permit B30677.000 authorized operation of this facility as a "synthetic minor," with HCl emissions from the delinting process constituting the "critical" pollutant. Based on test-derived emission rates for HCl, that permit imposed operational limitations to assure "minor" status.

Even by the time that permit issued, the operator anticipated the need for a Title V permit, and filed such an application dated 11/19/1999. That application explained the seasonally-drive, inherent limitations on processing cotton seed, and posited emission potentials based on 5660 hours of operation per year. Title V permit V20611.000 was issued on 4/1/2001, and that permit corresponding allowed hours-of-operation limitations, resulting in potential HCl emissions at the "major source" level.

1.5.2. Revision V20611.R01

Issued on 9/3/03 authorized the upgrading of 2 old baghouses (019A,B) from 36 to 75-bag units. The baghouses operate in parallel to further control emissions from the two cyclones (18A, B) that control emissions from the elevator (012), the buffing reels (013), two bins (033, 047) and a box filler (048) from the main delinting facility. This revision also authorized an increase in the fan system, exhaust capacity of the trash handling hopper and cyclones of the foundation gin in the small delinting facility from 8,000 scfm to 15,000 scfm, which increased the PM10 PTE from 9 to 17 tpy. The applicant indicated that the change was not driven by a plan to increase throughput, but rather to avoid clogging and maintenance problems.

1.5.3. Revision V20611.R02

Revision "V20611.R02", issued on 3/15/05, removed the testing requirement for the Foundation Gin and Delinter exhaust systems due to problems associated with obtaining 3 consecutive 1 hour test runs on these exhaust fans given the operating constraints and intermittent operating schedule. The potential particulate matter emissions from the Foundation Gin and Delinter are relatively negligible. During this revision, the source submitted updated flow diagrams reflecting a more accurate description of the various exhaust systems and controls, even though no actual changes had been made to the facility. In accordance with these diagrams, several sections throughout the permit, including the Equipment List were revised to better depict the operations at this facility.

1.5.4. Renewal V20625.000

Renewal V20625.000 reflected some small corrections and changes: Deleted SIP requirements that have been rescinded or deleted, revised the opacity rule to reflect that as

of April 2006, the standard went from 40% to 20%¹, included the fuel burning particulate emission requirement (§5-5-190) which was previously left out, and corrected typos.

1.5.5 Revision V20625.R01

Revision V20625.R01(processed as .A02 due to a permit transfer at the same time) authorized several small changes that were conducted throughout the plant in 2008 to update and replace aging equipment. These are the authorized changes:

1. Upgrade of the Foundation plant gin by replacing the existing 2 gin stands, each with a capacity of 2 bales per hour, with a single one with a capacity of 10 bales per hour and installing 2 new cyclones (C-110A and C-110B) for additional particulate matter control. Even with the increase in capacity, potential PM10 emissions from the Foundation Gin and Delinter did not exceed 1 tpy.
2. Installation of a new module feeder at the Foundation Plant to allow for consistent and uninterrupted feed to the gin stand. Emissions from this new module feeder are controlled through the existing cyclones C-106A&B.
3. Replacement of 15 old cyclones by like-kind equipment with the same air flow rates, dimensions and control efficiencies. There are no changes in emissions from the replacement of these pieces of equipment.
4. Installation of a capture system and tie-in to the existing pollution control devices to reduce fugitive dust from the calcium carbonate/talc seed treatment chemical mix tank area. A closed cover and ventilation system were installed for capture of emissions, which are vented through the existing cyclones C-023C,D.
5. Replacement of the current 1st stage 3 MMBtu/hr dryer unit with a new 4 MMBtu/hr unit, and at the same time installing a 2nd stage 4 MMBtu/hr dryer unit, in series with the 1st stage one, to provide more precise control of moisture content of the processed cotton. Potential CO and NO_x emissions from the dryer changes do not exceed 1 tpy, and particulate matter emissions are controlled by twin cyclones.

This revision also authorized the installation and operation of a 350 kW emergency diesel generator. Based on standard emission factors and continuous operation, the generator has a potential to emit approximately 42 tons per year ("tpy") of NO_x. However, the permit limits the generator operation to 500 hours per year based on the assumption that generator will only be used during a power failure. The generator, manufactured after April 2006, falls subject to CAA §111, New Source Performance Standard (NSPS) for Internal Combustion Engines in 40 CFR 60 Subpart IIII.

1.5.6 Renewal V20645.000

This renewal updates the equipment list to include the Foundation Treatment line equipment and controls and a hot water soak system, incorporates a list of "Insignificant Activities" and incorporates some applicable requirements that have been promulgated since the last renewal (i.e. Reasonable Precautions rule).

The changes to the Foundation seed treater were conducted in 2009 and at the time were deemed to

¹This change does not affect the cotton gin on site, since it is already regulated by a standard with opacity.

have insignificant impact on the facility's emissions (less than 1 ton per year or 5.5 lb/day). The change was done in accordance with the notice requirements of §3-2-180.

1.6 Compliance/Enforcement History

There is no history of Notices of Violation or enforcement actions against this facility. It was last inspected in May of 2010, and the facility conducted emissions tests in 2009.

2. EMISSIONS

2.1 Actual Emissions (based on 2009 data)²

	PM10	PM2.5	NOx	CO	VOC	Total HAPs
TOTAL	1.63	1.31	0.11	0.09	0.04	0.04

2.2 Potential Emissions³

	PM10/ PM2.5	NO x	CO	VOC	SO2	HCl	Other HAPs	Total HAPs
Main Delinting								
Heaters and Dryers	0.19	2.5	2.1	0.14	0.02		0.05	0.05
Generator	0.04	1.2	0.7	0.08	0.05		0.002	0.002
Cyclones/Baghouses	9.4					13.8		13.8
Fugitives	0.14							
Foundation Gin & Delinter	7.1							
Foundation Treatment								
Seed Treatment	0.4			2.8			0.06	0.06
Baghouse	2.37							
TOTAL	19.64	3.7	2.8	3.02	0.07	13.8	0.112	13.912

2.3 Methodology

2.3.1 External Combustion (Heaters, Dryers...)

Emission factors from AP-42, Tables 1.4-1 and 1.4-2 were used to calculate the potential emissions from external combustion sources. Annual operations are 5660 hours per year from the main delinting heaters (as required by permit) and 1000 hours per year for the Foundation Delinter dryer.

²The facility remained inactive for most of 2009.

³The PTEs may be slightly different than those from the 1999 application. Applicant is now using site-specific emission factors for calculating actuals and potentials.

2.3.2 Emergency Diesel Generator

The emission factors used for CO, NO_x and PM₁₀ are the limitations from the NSPS Subpart III as required by the permit, and the rest of the pollutants emission factors from AP-42 Tables 3.4-1, 3.4-3 and 3.4-4, for 500 hours per year of operations.

2.3.3 Particulate Matter from Main Delinting Plant

Particulate Matter (PM) emissions are based on on-site test results from 2003 and 2009. The tests measured 2 baghouse outlets and 8 cyclone outlet stacks. It is assumed that these results are representative of the cyclones for common sources. In 2009, several cyclones were not tested due to process downtime, and therefore the 2003 results were used for estimating emissions. The highest tested emission rate from either of the previous stack test events was used as the emission rate basis for calculating the annual potential emissions, and a safety factor of 1.25 was applied to provide a more conservative estimate. Annual estimates were calculated at 5660 hours per year.

PM₁₀ emissions were estimated from the total PM values based on information from AP-42 Section 9.7 Cotton Ginning, which indicates that 37% of total PM emitted from ginning and seed processing, with cyclone control, is PM₁₀. PM_{2.5} emissions are conservatively assumed to be equal to PM₁₀.

2.3.4 Fugitive Emissions from Main Delinting Plant

For material handling and points of fuzzy seed, lint and cull seed at the main delinting area, uncontrolled PM₁₀ emissions were estimated using AP-42's equation for batch drop of solid materials (Section 13.2.4, Eqn 1). The equation takes into account representative wind speed and material moisture. The wind speed was assumed to be (conservatively) 20 mph and moisture content is 2% for all materials. Seed moisture content is higher, but 2% was a conservative estimate.

2.3.5 HCl Emissions from the Main Delinting Plant

HCl emissions are not controlled. Potential emissions are based on tests results from 2003 and 2009, where HCl rates were measured from individual exhaust outlets. As for PM₁₀, results at several baghouse and cyclone outlets were used as representative rates for other emission points at the facility. Emission test results from 2003 were used since they are more conservative than those from 2009.

2.3.6 Foundation Gin and Delinter Emissions

Emissions from the gin were calculated using AP-42 Section 9.7, Cotton Ginning. The maximum processing rate for the Foundation gin is 10 bales per hour, and operating hours are 2000 per year.

There are no published factors or test data for the Foundation delinter, but Monsanto has estimated emissions using the 2003 main delinting factors applied to the smaller-scale delinter. The Foundation delinter does not use HCl. Calculated this way, emissions estimates should be very conservative, as the Foundation Delinter is a wet process. Maximum operating hours are 1000 per year.

2.3.7 Foundation Seed Treatment and Packing Emissions

Particulate emissions from the seed treatment and packing are controlled by a baghouse with

manufacturer's guarantee to meet 0.02 grains PM10 per dry standard cubic foot. Estimates for controlled emissions were calculated using the specified maximum baghouse effluent concentration, and the design flow rate along with operating hours of 1500 per year.

2.3.8 VOC, PM10/PM2.5 and HAP Emissions from Chemical Use

Emissions from the application of treatments and fungicides were calculated based on site-wide material use rates and estimated emission factors. Purchase reports from 2009-10 and MSDSs for specific products were reviewed to obtain chemical composition, percentage of VOC/HAPs and product density or specific gravity. It was assumed that 100% of the volatile content is evaporated to the atmosphere. A safety factor of 1.25 was applied. For treatment coatings, based on experience at the plant, it was assumed that 80% of the chemical applied is absorbed by the seed. The 20% loss, in the form of particulate matter, is captured and carried to the baghouses. Capture efficiency for these types of systems is estimated at 90%.

3. AMBIENT IMPACT ASSESSMENT

There are no changes associated with this permit renewal.

3.1. Criteria Pollutants

Criteria pollutants emitted by this facility include VOCs, PM₁₀, CO, SO_x, and NO_x which are regulated under the Clean Air Act ("CAA").

Maximum anticipated emissions from this facility do not reach the quantity-threshold that would trigger an obligation to analyze the additional impact on any nearby ozone non-attainment areas.

The relatively negligible emissions of PM₁₀ associated with production operations, and the limited quantities of PM₁₀, CO, SO_x or NO_x emissions associated with natural gas combustion, all allow for a cursory analysis to obviate any need to conduct an ambient impact analysis of those criteria-pollutant emissions to conclude that those emissions will not endanger the ambient air quality standards.

3.2. HAP Emissions

Hydrogen chloride (HCl), used in the delinting process, constitutes the predominant pollutant. Other HAPs are emitted by this facility in relatively negligible quantities.

While the provisions of the CAA do not mandate an ambient impact analysis for HAPs, prevailing local permitting practice does involve such an inquiry. That inquiry looks to both impact relative to the Arizona Ambient Air Quality Guidelines, as well as potential nuisance-level impacts.

○ AQGL Analysis.

With an emissions potential of approximately 15⁴ tons HCl per year (5660 operating hours), and initially assuming a 100% capture ratio, and using an averaging time of one hour, a SCREEN3 analysis, as discussed more fully below, predicts a maximum ambient HCl impact of 184 µg./m³. That falls below the 1-hr Arizona Ambient Guideline of 210 µg./m³. Accordingly, to the extent that all HCl emissions are captured, anticipated emissions do not constitute a meaningful health threat.

Delinting occurs in a closed chamber exhausted to cyclones. The only HCl not captured is

⁴PTE Emissions have been recalculated closer to 10 tons per year. This would predict an approximate impact of 122.67 µg./m³

the small amount which is adsorbed on the surface of the seed. This would be less than one percent of the HCl used.

3.3. Conclusion

None of the pollutants from this facility, including HAPs, nitrogen oxides, carbon monoxide or particulate matter, will individually or collectively threaten the ambient standards, approach the Arizona ADHS-promulgated "AQGL" ("air quality guideline") values, or threaten a nuisance.

4. REGULATORY REQUIREMENTS AND CONSTRAINTS

4.1 TITLE V/PSD Applicability

This facility constitutes a "major source" of Hazardous Air Pollutants (HAPs) and therefore requires a permit pursuant to Title V of the CAA Amendments of 1990.

In the context of the PSD requirements under the Clean Air Act ("CAA") and local rules, this facility's emissions of criteria pollutants are below the 250 TPY "major emitting source" threshold that would trigger a PSD permit requirement under the Clean Air Act.

4.2 NSPS Applicability

The diesel generator, manufactured after April 2006, falls subject to CAA §111, New Source Performance Standard (NSPS) for Internal Combustion Engines in 40 CFR 60 Subpart IIII. The standard includes emission standards, recording of operating time and related recordkeeping.

4.3 MACT Applicability

This facility's main operations do not fall within any of the MACT defined categories and it is an existing source subjected to Title V permitting due to an increase in the permitted hours of operation. Therefore, while this facility is a major source of HAPs it is exempt from the case-by-case MACT determination requirement.

- A recent amendment to 40 CFR Part 63, Subpart ZZZZ, the NESHAP for Stationary Reciprocating Internal Combustion Engines (ICE) included additional affected sources. The generator engine at this facility is an affected source under this revision. However, since the engine is also subject to the NSPS Subpart IIII, there are no additional requirements under the NESHAP (40 CFR §63.6590(c)).

4.4 40 CFR 68 - Risk Management Program and Plan

The requirements of 40 CFR 68 of submitting and maintaining a Risk Management Program and Plan (RMP) apply to this facility if due to the storage of anhydrous hydrogen chloride gas, which is regulated by 40 CFR 68. The regulating threshold for such gas is 5,000 pounds on site at any time, and Monsanto estimates their storage capacity at 21,000 pounds. As required by Part 68, Monsanto keeps an updated RMP.

4.5 Greenhouse Gas Reporting Rule (40 CFR Part 98, Subparts A and B)

Maximum anticipated GHG emissions from this facility do not approach the 25,000 metric ton per year reporting threshold, therefore this monitoring and reporting program does not apply.

4.6 Regulatory Emissions Limitations

4.6.1 PM-10 Standard - Process industries

Using the maximum processing capacity of fuzzy cotton seed of 33,960 tpy at 5660 hours per year, the mass emission equation from PCAQCD Reg. 7-3-1.8 allows emissions of 13.8 pounds of particulates per hour from the facility. Potential emissions of PM (total particulates) are approximately 19.64 tpy @ 5660 hours per year = 7.06 pounds per hour. Since this is only approximately 50 percent of the allowable, no compliance mechanism is included for this standard.

4.6.2 PM-10 Standard - Fuel burning equipment

This facility includes several natural gas fired equipment (heaters and dryers) which total approximately 15.7 MMBtu/hr.

The mass emission equation from PCAQCD Reg. 7-3-1.7 allows emissions of 8.48 pounds of particulates per hour. As a matter of common knowledge, the particulate emissions from natural gas combustion fall exclusively within the PM₁₀ size range. PM-10 emission factors from AP-42, 5th ed., Table 1.4-1 give PM-10 emissions as 0.0045 per hour million Btu of heating value. Since the calculated emissions are much less than the standard, no compliance mechanism is included for this standard.

4.6.3 Opacity

Natural gas equipment is by nature clean burning. Emissions from the delinting process are controlled by an extensive cyclone system. Based on performance tests and the experience of PCAQCD personnel during site inspections it is concluded that the possibility of an opacity of 20 percent or more from this equipment is essentially non-existent. For these reasons, the only required opacity compliance regimen is a periodic screening, with an "as needed" formal "Method 9" opacity observation triggered only by initial observation of actual opacity.

5. REGULAR COMPLIANCE REPORTING

There are no changes associated with this permit renewal.

The emission factors determined from performance tests at this facility, actual production rate records, and mass balance analysis will be used to determine the HCl, PM10, and VOC emissions required by the periodic report. VOC and HAP emissions from seed treatment will be determined assuming all contained VOCs and HAPs are emitted.

6. PERMIT SHIELD

The following have been cited but excluded from the permit shield:

67.1. Open Burning §7-3-1.3

The current open-burning permit program essentially limits burning to small-scale burning of natural growth or landscaping trimmings. Open burning of other materials, or on a scale that generates emissions in excess of our 5.5#/day *de minimis* threshold, requires a separate permit or permit revision under §3-1-040 etc. Under an open burning permit, the Control Officer retains discretion to order a burning halt where the resulting smoke causes a nuisance.

Accordingly, the existing open-burning permit program is fully effective for purposes of protecting ambient air quality, as well as preventing nuisances.

However, since §7-3-1.3 is a "SIP" provision, it must be cited as an applicable requirement; since the

provisions of the SIP-approved predecessor rule conflict with current District practice, enforcement of the older rule is now impractical. Therefore, we will exclude it from the permit shield in Permit §9.K.

6.2. All provisions already exempted from "federal enforceability."

7. COMPLIANCE ASSURANCE MONITORING (CAM)

The requirements of 40 CFR 64 do not apply to this facility, since no single emission unit satisfies the criteria of §64.2(a)(3). While pre-control particulate matter emissions from the whole facility are greater than 100 tpy, no single unit has pre-control device emissions of 100 tpy or more. The HCl emission units do not utilize emission control devices for the acid gas and there is no emission limit established for those emissions.

8. LIST OF ABBREVIATIONS

AP-42	.....
"Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources", 5 th Edition		
bhp	.....	Brake Horse Power
CAA	.....	Clean Air Act
CFR	.....	Code of Federal Regulations
CI	.....	Compression Ignition
CO	.....	Carbon Monoxide
EPA	.....	Environmental Protection Agency
°F	.....	Degrees Farenheit
FEP	.....	Federally Enforceable Provisions
FERC	.....	Federal Energy Regulatory Commission
g/hp-hr	.....	grams per horsepower-hour
HAPs	.....	Hazardous Air Pollutants
hp	.....	Horse Power
hr	.....	Hour
ICE	.....	Internal Combustion Engine
kW	.....	Kilowatt
lb	.....	Pound
MACT	.....	Maximum Achievable Control Technology
MMBTU	.....	Million British Thermal Units
MMSCF	.....	Million Standard Cubic Feet
MSDS	.....	Material Safety Data Sheet
NAAQS	.....	National Ambient Air Quality Standards
NESHAPs	.....	National Emission Standards for Hazardous Air Pollutants
NOX	.....	Nitrogen Oxides
NSPS	.....	New Source Performance Standard
NSR	.....	New Source Review
O ₃	.....	Ozone
PCAQCD	.....	Pinal County Air Quality Control District
PGCAQCD	.....	Pinal-Gila Counties Air Quality Control District
PPM	.....	Parts per million
PPMV	.....	Parts per million volume
PM10	.....	Particulate Matter nominally less than 10 Micrometers
PM2.5	.....	Particulate Matter nominally less than 2.5 Micrometers
PSD	.....	Prevention of Significant Deterioration
RICE	.....	Reciprocating Internal Combustion Engine
SIC	.....	Standard Industrial Code
SCR	.....	Selective Catalytic Reduction
SO ₂	.....	Sulfur Dioxide

THC Total Hydrocarbons
TOC Total Organic Compound
tpy tons per year
TSD Technical Support Document
VOC Volatile Organic Compound
yr year