

## Minor New Source Review Demonstration

The GRIC Tribal Council unanimously passed the GRIC Air Quality Management Program Plan (AQMP) on December 6, 2006. The plan contains, among other things, requirements for complying with 40 C.F. R., Part 51.160(a) through (e) and section 110(a)(2)(C) of the Clean Air Act. Part II of the AQMP requires each facility to submit a complete permit application that contains the necessary information to allow the GRIC DEQ to develop individual operating permits. The permit application forms require applicants to submit the information necessary for the GRIC DEQ to evaluate the air pollutant emissions of each facility on a case by case basis. In addition, the GRIC AQMP establishes emissions limitations, operating requirements and work practices to ensure emissions do not cause an exceedance of the NAAQS or violate the GRIC AQMP. During the permit development process, an individual determination of the facility operations will be conducted, first, to determine whether the source or modification is "major," in which case GRIC will submit the permit application to EPA; then, if the source/modification is not major, GRIC will evaluate it to determine if the facility will be subject to the GRIC Best Reasonable and Demonstrated Technology (BRDT) emission limitation, equipment design or work practice standard. In addition, Part II, Section 4.0 of the GRIC AQMP contains detailed requirements for making modifications or revisions to existing facilities. The following detailed discussion will further demonstrate how GRIC expects to meet the requirements of 40 C.F.R., 51.160(a)-(e).

### 1.) Applicability

First, any "major stationary source" or "major modification" (as defined in the CAA and EPA's implementing regulations) proposing to locate in an attainment/unclassifiable area within the GRIC reservation is subject to the federal Prevention of Significant Deterioration (PSD) permitting requirements at 40 C.F.R. § 52.21. As such, any person who proposes to construct or modify a source in an attainment/unclassifiable area within the reservation must first determine, in accordance with the applicable requirements of 40 C.F.R. § 52.21: (1) for a new source, the potential to emit of the source, or (2) for a modification to an existing source, the emissions increase of the project. If the project constitutes a "major stationary source" or "major modification" under section 52.21, the person must apply for a PSD permit from EPA. For a "major stationary source" or "major modification" proposing to locate in a nonattainment area – i.e., in the northern portion of the GRIC reservation which is part of the Maricopa County PM-10 nonattainment area – the project proponent should consult with EPA to determine the applicable permitting requirements. GRIC commits to consult with EPA Region IX as necessary to ensure that major sources and major modifications are appropriately identified and referred to EPA.

If the project is not a "major stationary source" or "major modification" under EPA's NSR regulations, then the person must determine whether it is subject to preconstruction review under GRIC's Non-Title V permit program. The calculation methodology for

determining applicability of the permit program depends on whether the project is a “new source” or a “modification” to an existing source.

*For “new sources”:* Any person who proposes to construct a “new source” must calculate the source’s “actual emissions” (as defined in Part II, section 1.0 of the AQMP) – which, for new Non-Title V sources, will be a projection based on “applicable control equipment requirements and projected conditions of operation.” If the new source would have the following levels of “actual emissions,” it may not be constructed until it is authorized in a “Non-Title V permit” issued by GRIC in accordance with the requirements of Part II, section 4.0 of the AQMP:

- (a) more than 1 ton per year (tpy) of any single criteria pollutant or air contaminant that is subject to a New Source Performance Standard (i.e., a “regulated air pollutant”), or any combination of hazardous air pollutants (HAPs);
- (b) more than 1000 lbs/year of any single HAP; or
- (c) more than 300 lbs/year of any single or combination of ultrahazardous air pollutants.

New sources with “actual emissions” at or below these thresholds are exempt from preconstruction permit review. Part II, section 2.1(c). Any new source that is categorized as a “de minimis facility” under Part II, section 2.1(c)(2) is also exempt from preconstruction review.

*For “existing sources”:* Any person who proposes to modify an existing source must calculate the “potential to emit” (PTE) of the “modification” (as defined in Part II, section 1.0 of the AQMP). If the modification project would result in the following potential emission increases, it may not be constructed until it is authorized in a “significant permit revision” from GRIC:

- (a) an increase in the source’s PTE of any single criteria air pollutant by at least 25 tpy or a threshold listed in the definition of “significant,” whichever is lower (e.g., 15 tpy for PM10);
- (b) a PTE of at least 3 tpy of any new HAP;
- (c) an increase in the source’s PTE by at least 3 tpy of any individual HAP or 5 tpy of any combination of HAPs;
- (d) a PTE of at least 300 lbs/yr of any new ultrahazardous air pollutant, or
- (e) an increase in the source’s PTE by at least 300 lbs/yr of any ultrahazardous air pollutant or combination of ultrahazardous air pollutants;
- (f) an increase in the source’s PTE of any other pollutant listed in the definition of “significant,” by the corresponding thresholds (e.g., 3 tpy for fluorides, 7 tpy for sulfuric acid mist, and 10 tpy for hydrogen sulfide)

In addition, any of the other changes listed under Part II, section 5.5 of the AQMP (e.g., a change to a synthetic minor emission limit established under Part II, section 4.2(C)) must be authorized through a “significant permit revision” from GRIC before the source

may proceed with it. Modification projects at existing sources that are *not* listed in Part II, section 5.5 and result in PTE increases below these thresholds are exempt from the requirement to obtain a permit revision from GRIC, but may be subject to “minor modification” or notice requirements under Part II, sections 5.2 or 5.4.

## 2.) Control technology review

The GRIC AQMP contains emission limits and emission standards that are generally based on the technology available to control emissions. GRIC has also developed a control standard, called Best Reasonable Demonstrated Technology (BRDT), which establishes emission limitations, equipment design requirements, work practices or operational standards based on the maximum degree of reduction of each criteria pollutant or hazardous air pollutant determined on a case by case basis. Each facility with emissions in excess of the thresholds established in Part II, section 2.1 of the AQMP must submit a permit application in accordance with Part II, Section 2.2 and provide process and emission information in accordance with Part II, Section 3.3. This information will be evaluated by GRIC Air Quality personnel or an outside contractor on a case by case basis to determine whether and what types of controls must be installed. The RACT-BACT Clearing house will be consulted in each individual case to evaluate emission limitations for like processes and operations. The GRIC permits will contain emission limits, emission standards and operating requirements consistent with established limits in the RACT- BACT clearing house. In some instances, GRIC may adopt requirements that are more stringent than RACT or BACT. In no event will BRDT be less stringent than the most stringent source-category specific emission limitation in Part VII of GRIC’s Air Quality Management Plan, a New Source Performance Standard (NSPS), or a Maximum Achievable Control Technology (MACT). Also BRDT will generally be at least equivalent to EPA’s RACT standards, and in some cases as stringent as BACT or LAER, as determined on a case-by-case basis.

## 3.) Current air quality designations

The Gila River Indian Community has adopted the National Ambient Air Quality Standards (NAAQS) as GRIC Standards in Part I, section 4.0 of the AQMP. The GRIC AQMP was developed on the basis that all GRIC lands are attainment/unclassifiable for ozone. The U.S. EPA designated all of GRIC as attainment under the 8-hour ozone standard in 2004. In addition, GRIC is also designated attainment for lead, carbon monoxide, nitrogen oxides and sulfur oxides.

Currently the northern portion of GRIC lies within the Maricopa County non-attainment area for particulate matter 10 microns in size and smaller (PM<sub>10</sub>). Approximately 92,000 acres of GRIC on the northern boundary was included in the Maricopa County non-attainment area when it was designated by EPA as non-attainment. This area is classified as a serious non-attainment area. The remainder of the Community is located in Pinal County which is currently designated as attainment for PM<sub>10</sub>. GRIC monitors document that the air within the exterior boundaries of the Community currently meet the

NAAQS for PM<sub>10</sub>. GRIC monitors have documented exceedances of the standard during high wind episodes and monsoons and have documented some transport from neighboring jurisdictions that do impact PM<sub>10</sub> concentrations at GRIC. GRIC has flagged the data under the Exceptional Events rule for high wind events that were greater than 20 miles per hour as exceptional events and submitted documentation for 3 exceptional events in 2007. In addition, 2 exceptional events were flagged in 2008, and GRIC will prepare documentation for those events. GRIC also documented an exceedance of the PM<sub>10</sub> standard on November 2, 2007 as a result of a major road construction project within 100 feet of the Casa Blanca monitoring station. A contractor failed to notify the GRIC DEQ of the proposed project and did not acquire an Earth Moving Permit or submit a Dust Control Plan. Air quality program staff received a complaint concerning dust from the construction project and responded. GRIC air program staff required the contractor to immediately take action to reduce dust (e.g., water roads and work area) from construction activities and vehicle traffic. In addition, GRIC air program staff required the contractor to acquire an Earth Moving Permit and submit a Dust Control Plan which eliminated the dust problem. This exceedance was also flagged due to noncompliance with the GRIC AQMP. No further exceedances of the PM<sub>10</sub> standard have been documented within the exterior boundaries of the Community.

The GRIC Air Program was monitoring for PM<sub>2.5</sub> in two locations throughout the Community. Data was collected between 2002 and 2004 which documented that PM<sub>2.5</sub> concentrations at GRIC were very low. EPA Region IX allowed GRIC to terminate operation of the PM<sub>2.5</sub> monitors due to the very low concentrations and similar data being collected by neighboring jurisdictions. GRIC received a letter from EPA Region IX on August 22, 2008 indicating that EPA intended to designate GRIC attainment/unclassifiable under the 2006 24-hour PM<sub>2.5</sub> NAAQS. The letter also indicated that EPA intended to make the final designation decisions by December 18, 2008. EPA made final designations decisions on December 22, 2008.

#### 4.) Emissions inventory

The GRIC Air Program has been working with an outside consultant and completed an updated emissions inventory. The inventory includes updated emission calculations for mobile sources which utilized Maricopa Association of Governments (MAG) emission factors. Emissions for four (4) new stationary non-title V sources were not included in this emissions inventory because these sources were only in operation for a short period of time towards the end of 2007 and GRIC is only using facility data from 2006 for the updated Emission Inventory. GRIC will include emissions from these four facilities and updated emissions estimates for any facilities that have modified or expanded operations in subsequent emission inventories. The Community's Air Quality Program is in the process of developing their first set of Non-Title V air quality permits for several industries located on the Community. This process will continue until all sources required to have a permit within the community are permitted. All permitted sources will be required to submit an annual emission inventory to the GRIC DEQ as a condition of their operating permit. The revised emission inventory also reflects those facilities that have terminated operations at GRIC. Emission estimates for the remainder of the

facilities will reflect the emissions from operations in 1997. Since most of the existing facilities operating at GRIC have not changed operations or increased in size, GRIC decided not to develop an entirely new emissions inventory for the AQMP submittal packet.

#### 5) Air pollution sources

There are approximately 50 industrial facilities located within Gila River Indian Community that will require an air quality operating permit to continue operations within the Community. There is currently one (1) Major source (Title V) facility (Pimalco) and the GRIC Air Program has had discussions with Pimalco concerning their options for applying for a synthetic minor permit. The remaining approximately 49 facilities are considered Non-Title V facilities. Several sources have terminated operations since 1997 including the Stericycle medical waste incinerator, Arizona Processing (cotton seed delinting facility), Phillips Services (copper wire recycler) and Fertizona Coolidge (agricultural chemical supply). A few new facilities have located at GRIC since 1997 including Superlite Block, Triumph Precision Castings, Triumph Turbines, Loves Truckstop and Beaudry RV while Champion Homes and Classey Closets have increased in size. The majority of the non-Title-V facilities at GRIC are considered very small sources of air pollution. An estimated 10 non-Title V facilities have emissions exceeding 5 tons per year of a criteria pollutant while the remainder are well under 5 tons. The GRIC Air Program has updated the 1997 emissions inventory using data from 2006. The 1997 emissions inventory documented that the largest source of air pollution at GRIC was Interstate 10 which traverses the Community between Phoenix and Tucson. The 2007 emissions inventory indicates that emissions from all sources were as follows:

#### Emissions (tons/yr)

all Sources (stationary, mobile, and non-point sources)	PM <sub>10</sub>	CO	NOx	VOC	SOx
	2109 tons	10,810 tons	2,275 tons	1,126 tons	68 tons

non-Title V (stationary) sources	PM <sub>10</sub>	CO	NOx	VOC	SOx
	1,047 tons	161 tons	175 tons	142 tons	31 tons

Emissions of PM<sub>10</sub> at GRIC were generated by vehicle traffic on unpaved roads, on road vehicle emissions, agricultural tillage and non-title V stationary sources. Mobile sources and area sources accounted for 1062 tons of PM<sub>10</sub> out of the total 2109 tons. Stationary sources generated 1047 tons of PM<sub>10</sub> with 888 tons of PM<sub>10</sub> were generated by two sand and gravel mining and crushing operations operated by Gila River Sand and Gravel. Emissions of carbon monoxide at GRIC can be attributed almost entirely to on road

vehicle emissions with 10,588 tons of the total 10,810 tons of CO being generated by on road vehicle traffic. This represents a large increase from 4,108 tons of CO generated in 1997. This increase can be attributed to a huge increase of vehicle miles traveled on Interstate 10 and Maricopa roads through the Community. Emissions of nitrogen oxides are again mostly generated by on-road vehicle traffic with 2,055 tons of NO<sub>x</sub> being generated by vehicles out of the total 2,275 tons of NO<sub>x</sub> Community wide. The largest source of Volatile Organic Compounds (VOCs) is again on road vehicle traffic although other sources do contribute to this category on a slightly higher basis. On road vehicle traffic emissions are responsible for 929 tons of the 1,126 tons of VOCs emitted in 2006.

The Gila River Indian Community is located south of the Phoenix metropolitan area which is one of the fastest growing metropolitan areas in the nation and is designated as a serious non-attainment area under the 8-hour ozone NAAQS. The Phoenix metropolitan area is home for over 4 million people and along with the dense population comes heavy vehicle traffic, extensive industry, congestion and air pollution problems. In contrast, the Gila River Indian Community is home to approximately 15,500 Community members over an area of 561 square miles. Community members do not have to contend with heavy vehicle traffic, extensive industry, congestion or major air pollution problems generated by sources within the Community, although transport of air pollutants especially ozone and PM<sub>10</sub> from neighboring jurisdictions is a concern. Emissions of precursors to ozone (NO<sub>x</sub> & VOCs) generated within the Community are minuscule compared to the huge amount of ozone precursors generated within the greater Phoenix metropolitan area. The 1997 emissions inventory documents that emissions of VOCs from that portion of GRIC which lies within Maricopa County were less than .002% of the VOC emissions in the Phoenix nonattainment area. In addition, emissions of NO<sub>x</sub> from that portion of GRIC which lies within Maricopa County were less than .006% of the NO<sub>x</sub> emissions from the Phoenix nonattainment area. Total emissions from the Community have not been and are not now sufficient to cause or contribute to a violation of the eight-hour ozone standard or otherwise have a measurable impact on the Phoenix non-attainment area. In addition, GRIC ozone monitors have not registered a violation of the ozone NAAQS since GRIC began monitoring for ozone in July 2002. After evaluating these factors and numerous other factors submitted in the GRIC 8-hour ozone designation recommendation, EPA designated GRIC attainment and removed GRIC from the Phoenix ozone non-attainment area.

The Gila River Indian Community has been monitoring for ambient concentrations of PM<sub>10</sub> since 2005. This data has been collected under an EPA approved Quality Assurance Project Plan (QAPP) and is available through the AQS data base maintained by EPA. GRIC has documented exceedances of the PM<sub>10</sub> standard during high wind episodes (20 miles per hour or greater) and has flagged these exceedances as exceptional events. The final exceedance of the standard was documented by the GRIC air monitoring network and was attributed to non-compliance with the GRIC AQMP. GRIC Air Program personnel implemented a Compliance and Enforcement action to eliminate the non-compliant activities. With the exceptions of the events listed herein, GRIC has not documented any other exceedances of the PM<sub>10</sub> standard within the exterior boundaries of the Community.

GRIC has taken actions to reduce anthropogenic (man made) sources of PM<sub>10</sub> by implementing ordinances under the GRIC AQMP designed to reduce dust emission from earth moving operations and operation of industrial facilities. In addition, GRIC is in the process of drafting air quality operating permits with enforceable emission limitations for sources affected by the GRIC Non-metallic Mineral Mining Ordinance (e.g., asphalt plants, concrete plants, sand and gravel mining and crushing operations etc.). The GRIC Air Program also requires Earth Moving Permits and Dust Control Plans for any earth moving operations one (1) acre in size. The dust control measures being implemented by the GRIC Air Program are expected to reduce PM<sub>10</sub> emissions within the Community.

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