Technical Review and the Evaluation of the
Application for Air Quality Permit
Proposed Permit Number 36183

I. INTRODUCTION

This Class I Air Quality Control Permit is being issued to Snowflake White Mountain Power (SWMP), the Permittee, for the construction and operation of a 22 Megawatt (MW) wood fired generating station in Snowflake, Navajo County, Arizona.

Company Information

Mailing Address: 4801 E. McKellips Rd, Ste 103, Mesa, AZ 85215
Facility Address: 140 West of Snowflake, 277 Spur, Snowflake, AZ 85937

II. PROCESS DESCRIPTION

A. Equipment

SWMP owns and will operate the following equipment:

Type: Wood fired boiler
Use: Produce steam which will run a turbine to produce power.
Model: Babcock and Wilcox – 2 drum
Rating: 190,000 lbs/hr steam capacity
Fuel: Wood waste or paper fiber waste. Natural gas as a supplementary fuel

Control Equipment
Type: Multiclone
Use: Reduce PM emissions from boiler exhaust
Model: Barrons 14K35-0710

Control Equipment
Type: Baghouse
Use: Reduce PM emissions from boiler exhaust
Model: Pulse-jet

Control Equipment
Type: Selective non-catalytic reduction
Use: Reduce NO_x emissions from boiler exhaust
Model: To be determined

Type: Cooling tower
Model: Marley mechanical draft
Rating: 28,000 gallons per minute

The company will also operate the necessary equipment for handling of the wood waste and bottom ash. Such equipment includes conveyor belts and loaders.

B. Process

The SWMP generating facility is to be fueled by paper fiber from the Abitibi paper recycling mill and waste wood and bark from nearby forest salvage operations. The plant will have a nominal capacity of 22 Megawatts (MW), and will consist of an approximate

340 Million British thermal unit (MMBtu) boiler, steam turbine unit, a cooling tower, and wood handling equipment. The fuel is fired in the boiler to produce steam. The steam from the boiler will operate the steam turbine, producing electricity. The spent steam from each turbine is then delivered to condensers to condense the steam back to water for reuse in the boiler. Water from the cooling towers is used to condense the steam in the condenser.

III. EMISSIONS

The emissions calculations for the permit review process relied upon emission factors drawn from the EPA's Compilation of Air Pollution Emission Factors (AP-42) for wood residue combustion in boilers, final edition, supplement G, July 2001, as well as equipment manufacturer data, and performance testing. Estimated emissions can be seen in the table below:

Facility wide controlled emissions:

Pollutant	Tons per Year (tpy)
PM_{10}	48.96
VOC	22.07
SO_2	225[1]
NO_x	240[1]
CO	225[1]
Federal Hazardous Air Pollutants (HAPs)	<10 tpy for any one HAP <25 for combination of HAPs

[1] Based on limits in the permit

Detailed emissions calculations can be seen in the attached spreadsheet.

In accordance with A.A.C. R18-2-406.H, if SWMP becomes a major source (as defined in A.A.C. R18-2-401.9) solely by virtue of a relaxation of an enforceable limitation, SWMP would be subject to the Prevention of Significant Deterioration program (contained in A.A.C. Title 18, Chapter 2, Article 4) as if construction had not yet commenced on the facility.

IV. APPLICABLE REGULATIONS

A. The applicable regulations were identified by the agency as part of the application packet. If necessary, the source is required to list any additional regulations that may be applicable. Table 1 displays the applicable requirements for each piece of equipment under this proposed permit.

Table 1: Verification of Applicable Regulations

Unit	Date of Manufacture	Control Device	Rule	Verification
Boiler	1966	Multiclone, baghouse, selective non-catalytic reduction system	A.A.C. R18-2-703.B R18-2-703.C.1 R18-2-703.G.1 R18-2-703.J R18-2-703.K	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
Cooling Tower	TBD	None	A.A.C. R18-2-702.B R18-2-702.C R18-2-730.A.1	The regulations listed are applicable to unclassified sources.
Material Handling Operations	Not Applicable	Control Measures	A.A.C. R18-2-702.B R18-2-702.C R18-2-730.A.1	The regulations listed are applicable to unclassified sources.
Fugitive Dust Sources	Not Applicable	Control Measures	A.A.C. R18-2-602 R18-2-604.A R18-2-604.B R18-2-605 R18-2-606 R18-2-607 R18-2-612	The regulations listed are applicable to fugitive dust sources.
Abrasive Blasting	Not Applicable	Wet blasting, enclosure, or equivalent (approved by Director)	A.A.C. R18-2-726 R18-2-702.B	Relevant requirements applicable to abrasive blasting
Spray Painting	Not Applicable	Control measures that attain 96% efficiency	A.A.C. R18-2-727	Relevant requirements applicable to spray painting
Mobile Sources	Not Applicable	Control Measures	A.A.C. R18-2-801 R18-2-802.A R18-2-804	These regulations are applicable to all mobile sources.
Demolition/ Renovation	Not Applicable	None	A.A.C. R18-2-1101.A.8 (NESHAP for asbestos)	Relevant requirements applicable to demolition and renovation operations

B. NSPS Applicability

The SWMP facility was potentially subject to Title 40 of the Code of Federal Regulation (CFR), Subpart Db. Subpart Db is applicable to steam generating facilities with heat input capacities of greater than 100 MMBtu/hour that commence construction, modification, or reconstruction after June 19, 1984. While the SWMP boiler has a heat input capacity greater than 100 MMBtu/hour, the boiler was manufactured prior to the June 19, 1984 applicability date, and has not undergone modification or reconstruction as defined by 40 CFR 60.14 and 60.15.

V. PERIODIC MONITORING

Opacity

1. Cooling Tower

The Permittee must conduct a monthly EPA Reference Method 9 observation of emissions emanating from the cooling tower. The Permittee is required to keep a record of the name of the observer, date and time of observation, and the results of the

observation. If the observation results in an exceedance of the opacity limit the Permittee must take corrective action and log all such actions.

2. Material Handling Operations

The Permittee must conduct a monthly EPA Reference Method 9 observation of emissions emanating from material handling operations. The Permittee is required to keep a record of the name of the observer, date and time of observation, and the results of the observation. If the observation results in an exceedance of the opacity limit the Permittee must take corrective action and log all such actions.

3. Fugitive Dust Sources

The Permittee is required to maintain records of the dates on which any reasonable precaution to prevent excessive amounts of particulate matter from becoming airborne is taken. In addition, a certified EPA Reference Method 9 observer is required to conduct a quarterly survey of visible emissions from fugitive dust sources. If the observer sees a plume that on an instantaneous basis appears to exceed 40%, then the observer is required to take a six minute Method 9 observation of the plume. If the six-minute opacity of the plume is less than 40%, then the observer is required to make a record of the location, date, time of the observation and the results of the Method 9 observation. If the six-minute opacity of the plume exceeds 40%, then the Permittee is required to adjust or repair the controls or equipment to reduce opacity to below 40% and report it as an excess emission.

VI. COMPLIANCE ASSURANCE MONITORING (CAM) (40 CFR 64)

A. Particulate Matter

1. Background

a. Emission Unit

Description: Wood Fired Steam Electric Generating Units

Air Pollution Control ID: Multiclone collectors in series with fabric filter

b. Applicable Regulation, Emissions Limit, and Monitoring Requirements

Regulation: A.A.C. R18-2-703.C.1

Emission Limit: $E = 1.02Q^{0.769}$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

Q = the heat input in million Btu per hour

Monitoring Requirements: Continuous pressure-drop monitoring and continuous opacity monitoring

c. Control Technology: Fabric Filter

2. Monitoring Approach

Pressure drop across fabric filter modules or the overall filter and opacity of emissions exiting the fabric filter are indicative of the proper operation of the filter. High module pressure drops indicate filter bag blinding, plugging in module dust hoppers, or improper valve operation. Low module pressure drops indicate damaged or detached filter bags or improper module valve operation. High filter pressure drops indicates possible high boiler exhaust flow or overall bag blinding. High opacity indicates possible holes in bags or bags that have become disconnected.

ADEQ has included in the permit that if the pressure drop or opacity are outside the indicator ranges that will be established, the period will constitute a PM excursion. This will be reported to the Department as a deviation, unless during an EPA reference method test can be performed that demonstrates PM emissions were less than the standard.

3. Monitoring Approach Justification

The CAM indicators selected are the pressure drop across the fabric filter modules and across the entire fabric filter and the opacity of the emissions exiting the baghouse. Pressure drop and opacity were selected as the performance indicators because, if the fabric filter is operating properly, as indicated by pressure drop and opacity, it can be reasonably assumed that PM emissions are below the emissions limit. In addition, the facility has been required to conduct annual PM testing.

The indicator ranges selected for pressure drop and opacity will be established during the first 90 days of operation. When the pressure drop or opacity is outside the indicator ranges, the event will be recorded as a PM excursion and reported to the Department as an excursion, unless an EPA reference method test is conducted during the event and it is demonstrated that emissions are less than the applicable limit.

CAM Plan for Fabric Filter

	Indicator 1	Indicator 2
Indicator and its measurement approach	Pressure drop across the fabric filter modules and entire fabric filter will be used as the measurement approach.	Opacity of emissions exiting the fabric filter will be used as the measurement approach.
Indicator Range	The indicator range for pressure drop will be established during annual performance testing.	The indicator range for opacity will be established during the first 90 days of operation.
Data representativeness	The data will represent normal operating conditions.	The data will represent normal operating conditions.
Verification of operational status	Not Applicable	Not Applicable
QA/QC practices and criteria	SWMP is required to follow manufactures recommended maintenance and operation of the fabric filter and pressure drop monitors.	SWMP is required to follow manufactures recommended maintenance and operation of the fabric filter and opacity monitors.
Monitoring Frequency	The pressure drop monitors will be in continuous operation and shall complete a minimum of one cycle of sampling and analyzing for each successive 15-minute period.	The opacity monitor will be in continuous operation and shall complete a minimum of one cycle of sampling and analyzing for each successive 6-minute period.
Data Collection Procedure	Recorded on Plant Information System.	Recorded on Plant Information System.
Averaging period	Not applicable	Not applicable

B. Nitrogen Oxides

The boiler is subject to a NO_x limit of 240 tons/year. The Permittee is required to operate a continuous emissions monitoring system (CEMS) for recording emissions of NO_x. The CEMS will be used as CAM for NO_x. The monitoring system is required to meet the requirements of 40 CFR 60.13 and 40 CFR 60, Appendix B.

VII. MONITORING REQUIREMENTS

A. Nitrogen Oxides

The Permittee is required to install a CEMS to monitor and record the emissions of nitrogen oxides on a continuous basis.

B. Carbon Monoxide

The Permittee is required to install a CEMS to monitor and record the emissions of carbon monoxide on a continuous basis.

C. Sulfur Dioxide

The Permittee is required to install a CEMS to monitor and record the emissions of sulfur dioxide on a continuous basis.

D. Other Monitoring

The Permittee is required to monitor the oxygen levels in the boiler exhaust gases. This monitoring, along with the monitoring of steam production will be used to show compliance with the emissions limits contained in the permit. The Permittee will use the steam production values and boiler efficiency to demonstrate compliance with the MMBtu per year limit contained in the permit.

VIII. TESTING REQUIREMENTS

Boiler

A. Boiler Efficiency

The Permittee is required to conduct a boiler performance test to determine the boiler efficiency.

B. Particulate Matter

The Permittee is required to conduct an initial performance test for PM on the boiler within 180 days after startup of the facility**,** and subsequent performance tests every year. Additional performance tests will be performed at the request of the Director.

C. Nitrogen Oxides

The Permittee is required to conduct an initial performance test for NO_x on the boiler within 180 days after startup of the facility, and subsequent performance tests every year. Additional performance tests will be performed at the request of the Director.

D. Carbon Monoxide

The Permittee is required to conduct an initial performance test for CO on the boiler within 180 days after startup of the facility, and subsequent performance tests every year. Additional performance tests will be performed at the request of the Director.

E. Sulfur Dioxide

The Permittee is required to conduct an initial performance test for SO_2 on the boiler within 180 days after startup of the facility, and subsequent performance tests every year. Additional performance tests will be performed at the request of the Director.

F. Volatile Organic Compounds

The Permittee is required to conduct an initial performance test for VOC on the boiler within 180 days after startup of the facility. Additional performance tests will be performed at the request of the Director. This testing is being required even though there are no explicit limits for VOC emissions in the permit. This requirement is to ensure that the emissions estimates provided as part of the permit application were representative of actual emissions.

F. Hazardous Air Pollutants

The Permittee is required to conduct an initial performance test for HAPs on the boiler within 180 days after startup of the facility, and subsequent performance tests every year. Additional performance tests will be performed at the request of the Director.

G. Heating Value

The Permittee is required to conduct annual tests on the wood waste and fiber waste to determine the heating value of each fuel.

IX. AMBIENT AIR QUALITY IMPACT ANALYSIS

A. Introduction

As part of the Class I permit application, SWMP submitted an air quality impact analysis (i.e. modeling analysis) to ADEQ which demonstrated full compliance with all required ambient air quality standards and guidelines. The modeling analysis considered operation of one biomass-fired boiler, one cooling tower (8 cells), and other fugitive emissions.

The purpose of the modeling analysis is to determine whether air quality impacts from proposed criteria pollutant and hazardous air pollutant (HAP) emissions will cause or contribute to a violation of any air quality standard, or worsen an existing air quality problem. Applicable standards/guidelines include the National Ambient Air Quality Standards (NAAQS) and the Arizona Ambient Air Quality Guidelines (AAAQG).

The results of ADEQ's modeling review confirmed the original conclusion reached by SWMP. The proposed SWMP facility meets all required ambient air quality standards and guidelines.

The discussion presented in this section pertains to the results of ADEQ's modeling analysis.

B. Modeling Analysis Overview

1. Air Quality Model

The Industrial Source Complex Short-Term model (ISCST3 Version 02035) was used to complete the air dispersion modeling analyses. The ISCST3 model was run using regulatory default options and rural dispersion coefficients.

ISCST3 is a steady-state, multiple-source, Gaussian dispersion model. ISCST3 is the USEPA-preferred refined model for estimating impacts at receptors located in simple terrain and complex terrain (within 50 km of a source) due to emissions from complicated sources. The ISCST3 model is capable of calculating downwind ground-level concentrations due to point, area, volume, and open-pit sources and can accommodate a large number of sources and receptors. ISCST3 incorporates algorithms for the simulation of aerodynamic downwash induced by buildings and can also address complex terrain using built-in COMPLEX-I model algorithms.

2. Source Release Parameters

Table 2 displays the sources release parameters used in the modeling analysis.

Table 2: Modeled Source Parameters

Equipment ID	Equipment Type	Stack Ht. [1] (m)	Dia. (m)	Exit Temp. (deg K)	Exit Vel. (m/s)
BOILER	Boiler	45.72	1.83	477	33.7
COOLING	Cooling tower (8 cells)	6.4	3.35 (per cell)	308	12.9
FUGITIVE	Various Fugitive Sources	Various	N/A	Ambient	N/A

[1] Above plant grade

3. Modeled Emissions

Table 3 indicates the criteria pollutant and AAAQG emissions for the SWMP facility. Modeled emissions for the biomass-fired boiler are based on 8,760 hours per year firing wood waste and paper fiber waste and 340 MMBtu/hour. Table 3 includes fugitive emissions.

Table 3: Facility Emissions

Pollutant	Emissions (lbs/hr)
NO_x	46.82
CO	61.06
PM_{10}	9.26
SO_x	68.32
Lead	0.01
All AAAQG Pollutants	1.32

4. Meteorological Data

ISCST3 was run using a five-year meteorological dataset from data collected at the Tucson Electric Power plant located in Springerville, Arizona.

5. Receptors

The maximum-modeled impacts at or beyond the SWMP process area boundary (i.e. utilized portion of the property) were considered in the NAAQS and AAAQG analyses.

6. Building Downwash

When calculating pollutant impacts, the ISCST3 model has the capability to account for building downwash produced by airflow over and around structures. Building downwash effects were considered in all SWMP modeling analyses.

C. Modeling Analysis Results

1. NAAQS Analysis

Modeling was performed for criteria pollutants to determine if the source would exceed the NAAQS. The results of the NAAQS analysis are presented in Table 4. Based on the modeling analysis results, SWMP has demonstrated compliance with the NAAQS standards for its proposed facility.

Table 4: NAAQS Modeling Analysis Results

Pollutant	Averaging Period	Concentration ($\mu g/m^3$)			NAAQS ($\mu g/m^3$)	% Of NAAQS
		Modeled	Background	Total		
NO_2	Annual	10.95	4	14.95	100	14.95
CO	1-hour	596.62	582	1178.62	40,000	2.95
	8-hour	225.31	582	807.31	10,000	8.07
PM_{10}	24-hour	77.68	56	133.7	150	89.1
	Annual	29.61	17	46.6	50	93.2
SO_2	3-hour	352.53	71	423.53	1,300	32.58
	24-hour	104.93	24	128.93	365	35.32
	Annual	15.98	4	19.98	80	24.98
Lead	Qtr	0.02	0	0.02	1.5	1.33

The highest predicted criteria pollutant impacts, without considering background concentrations, from the proposed SWMP facility are from PM_{10}. Without considering background concentrations, maximum predicted annual impacts of PM_{10} are approximately 59% of the NAAQS value. When considering both modeled concentrations and added background concentrations (see "Total" column in Table 4), the highest predicted criteria pollutant impacts from SWMP's proposed facility are also from PM_{10} (93% of NAAQS value).

2. AAAQG Analysis

Modeling was performed for hazardous air pollutants (HAPs) of concern to determine if the proposed SWMP facility would exceed ADEQ's guideline concentrations. This modeling analysis was performed on the 340 MMBtu/hour facility. Emissions of 50 HAPs were evaluated in the AAAQG analysis. The results of the AAAQG analysis are presented in Table 5.

Table 5: AAAQG Modeling Analysis Results

Pollutant	Averaging Period	Max. Modeled Conc. (µg/m^3)	AAAQG (µg/m^3)	% Of AAAQG
1,1,1-Trichloroethane	1-hour	1.09E-01	2.00E+04	0.00%
	24-hour	1.90E-02	1.10E+03	0.00%
	Annual	---	---	---
1,2-Dichloroethane	1-hour	1.02E-01	5.30E+01	0.19%
	24-hour	1.78E-02	1.40E+01	0.13%
	Annual	2.30E-03	3.80E-02	6.06%
1,2-Dichloropropane	1-hour	1.16E-01	4.30E+03	0.00%
	24-hour	2.03E-02	2.80E+03	0.00%
	Annual	---	---	---
2,3,7,8-TCDD	1-hour	5.71E-04	4.20E-02	1.36%
	24-hour	9.95E-05	1.10E-02	0.90%
	Annual	1.29E-05	2.40E-05	53.58%
2,4,6-Trichlorophenol	1-hour	7.75E-05	6.00E+02	0.00%
	24-hour	1.35E-05	1.60E+02	0.00%
	Annual	1.75E-06	4.30E-01	0.00%
2,4-Dinitrophenol	1-hour	6.34E-04	6.00E+00	0.01%
	24-hour	1.11E-04	1.60E+00	0.01%
	Annual	---	---	---
Acetaldehyde	1-hour	2.93E+00	2.30E+03	0.13%
	24-hour	5.10E-01	1.40E+03	0.04%
	Annual	6.59E-02	5.00E-01	13.18%
Acetone	1-hour	6.70E-01	2.00E+04	0.00%
	24-hour	1.17E-01	1.40E+04	0.00%
	Annual	---	---	---
Acetophenone	1-hour	1.13E-05	1.50E+02	0.00%
	24-hour	1.96E-06	4.00E+01	0.00%
	Annual	---	---	---
Acrolein	1-hour	7.23E-01	6.70E+00	10.78%
	24-hour	1.26E-01	2.00E+00	6.29%
	Annual	---	---	---
Antimony	1-hour	9.62E-05	1.50E+01	0.00%
	24-hour	1.68E-05	4.00E+00	0.00%
	Annual	---	---	---
Arsenic	1-hour	1.13E-04	2.80E-01	0.04%
	24-hour	1.98E-05	7.30E-02	0.03%
	Annual	2.55E-06	2.00E-04	1.28%
Barium	1-hour	1.10E-03	1.50E+01	0.01%
	24-hour	1.91E-04	4.00E+00	0.00%
	Annual	---	---	---
Benzene	1-hour	3.48E+00	6.30E+02	0.55%
	24-hour	6.07E-01	5.10E+01	1.19%
	Annual	7.84E-02	1.40E-01	56.04%
Benzo(a)anthracene	1-hour	2.29E-04	7.90E-01	0.03%
	24-hour	3.99E-05	2.10E-01	0.02%
	Annual	5.16E-06	5.70E-04	0.91%

Pollutant	Averaging Period	Max. Modeled Conc. (µg/m^3)	AAAQG (µg/m^3)	% Of AAAQG
Benzo(a)pyrene	1-hour	9.16E-03	7.90E-01	1.16%
	24-hour	1.60E-03	2.10E-01	0.76%
	Annual	2.06E-04	5.70E-04	36.21%
Beryllium	1-hour	8.27E-06	6.00E-02	0.01%
	24-hour	1.44E-06	1.60E-02	0.01%
	Annual	1.86E-07	5.00E-04	0.04%
Bis(2-Ethylhexyl) phthalate	1-hour	1.66E-04	8.30E+01	0.00%
	24-hour	2.89E-05	4.00E+00	0.00%
	Annual	3.73E-06	3.40E-01	0.00%
Bromomethane	1-hour	5.29E-02	5.00E+02	0.01%
	24-hour	9.21E-03	1.60E+02	0.01%
	Annual	---	---	---
Cadmium	1-hour	1.54E-05	1.70E+00	0.00%
	24-hour	2.68E-06	1.10E-01	0.00%
	Annual	3.47E-07	2.90E-04	0.12%
Carbon tetrachloride	1-hour	1.59E-01	4.90E+01	0.32%
	24-hour	2.76E-02	1.30E+01	0.21%
	Annual	3.57E-03	3.60E-02	9.92%
Chlorine	1-hour	2.78E+00	6.90E+01	4.04%
	24-hour	4.85E-01	2.30E+01	2.11%
	Annual	---	---	---
Chlorobenzene	1-hour	1.16E-01	---	---
	24-hour	2.03E-02	2.56E+03	0.00%
	Annual	---	---	---
Chloroform	1-hour	9.87E-02	6.00E+01	0.16%
	24-hour	1.72E-02	1.60E+01	0.11%
	Annual	2.22E-03	4.30E-02	5.17%
Chloromethane	1-hour	8.11E-02	3.60E+01	0.23%
	24-hour	1.41E-02	9.50E+00	0.15%
	Annual	1.83E-03	2.60E-02	7.02%
Chromium, hexavalent	1-hour	4.27E-06	1.10E-01	0.00%
	24-hour	7.45E-07	2.90E-02	0.00%
	Annual	9.63E-08	8.00E-05	0.12%
Chromium, total	1-hour	1.19E-04	1.10E+01	0.00%
	24-hour	2.08E-05	3.80E+00	0.00%
	Annual	---	---	---
Dibenz(a,h)anthracene	1-hour	3.21E-05	7.90E-01	0.00%
	24-hour	5.59E-06	2.10E-01	0.00%
	Annual	7.22E-07	5.70E-04	0.13%
Dichloromethane	1-hour	1.02E+00	7.60E+03	0.01%
	24-hour	1.78E-01	2.00E+03	0.01%
	Annual	2.30E-02	5.60E+00	0.41%
Ethylbenzene	1-hour	1.09E-01	4.50E+03	0.00%
	24-hour	1.90E-02	3.50E+03	0.00%
	Annual	---	---	---
Formaldehyde	1-hour	9.62E-01	2.00E+01	4.81%
	24-hour	1.68E-01	1.20E+01	1.40%
	Annual	2.17E-02	8.00E-02	27.09%

Pollutant	Averaging Period	Max. Modeled Conc. (µg/m^3)	AAAQG (µg/m^3)	% Of AAAQG
Hydrogen Chloride	1-hour	4.76E+00	2.10E+02	2.27%
	24-hour	8.29E-01	5.60E+01	1.48%
	Annual	1.07E-01	7.00E+00	1.53%
Iron	1-hour	1.21E-03	2.25E+01	0.01%
	24-hour	2.11E-04	7.50E+00	0.00%
	Annual	---	---	---
Manganese	1-hour	1.96E-03	2.50E+01	0.01%
	24-hour	3.41E-04	8.00E+00	0.00%
	Annual	---	---	---
Mercury	1-hour	8.39E-05	1.50E+00	0.01%
	24-hour	1.46E-05	4.00E-01	0.00%
	Annual	---	---	---
Methyl Ethyl Ketone	1-hour	1.90E-02	7.40E+03	0.00%
	24-hour	3.32E-03	4.70E+03	0.00%
	Annual	---	---	---
Naphthalene	1-hour	3.42E-01	6.30E+02	0.05%
	24-hour	5.96E-02	4.00E+02	0.01%
	Annual	---	---	---
Nickel	1-hour	1.93E-04	5.70E+00	0.00%
	24-hour	3.36E-05	1.50E+00	0.00%
	Annual	4.34E-06	4.00E-03	0.11%
Pentachlorophenol	1-hour	1.80E-04	1.30E+01	0.00%
	24-hour	3.13E-05	4.00E+00	0.00%
	Annual	---	---	---
Phenol	1-hour	1.80E-01	3.20E+02	0.06%
	24-hour	3.13E-02	1.50E+02	0.02%
	Annual	---	---	---
Selenium	1-hour	3.42E-06	6.00E+00	0.00%
	24-hour	5.96E-07	1.60E+00	0.00%
	Annual	---	---	---
Silver	1-hour	4.30E-05	3.00E-01	0.01%
	24-hour	7.49E-06	7.90E-02	0.01%
	Annual	---	---	---
Styrene	1-hour	6.70E+00	3.50E+03	0.19%
	24-hour	1.17E+00	1.70E+03	0.07%
	Annual	---	---	---
Tetrachloroethene	1-hour	1.34E-01	1.10E+04	0.00%
	24-hour	2.33E-02	7.70E+02	0.00%
	Annual	3.02E-03	2.10E+00	0.14%
Toluene	1-hour	3.24E+00	4.70E+03	0.07%
	24-hour	5.65E-01	3.00E+03	0.02%
	Annual	---	---	---
Trichloroethene	1-hour	1.06E-01	1.10E+03	0.01%
	24-hour	1.84E-02	2.80E+02	0.01%
	Annual	2.38E-03	0.76	0.31%
Trichlorofluoromethane	1-hour	1.00E-01	2.20E+05	0.00%
	24-hour	1.74E-02	5.90E+04	0.00%
	Annual	---	---	---

Pollutant	Averaging Period	Max. Modeled Conc. (µg/m^3)	AAAQG (µg/m^3)	% Of AAAQG
Vanadium	1-hour	1.20E-06	1.50E+00	0.00%
	24-hour	2.09E-07	4.00E-01	0.00%
	Annual	---	---	---
Vinyl Chloride	1-hour	6.34E-02	1.70E+01	0.37%
	24-hour	1.11E-02	4.40E+00	0.25%
	Annual	1.43E-03	1.20E-02	11.91%
Xylene	1-hour	8.81E-02	5.50E+03	0.00%
	24-hour	1.54E-02	3.50E+03	0.00%
	Annual	---	---	---

The highest predicted impacts (as a percentage of the guideline value) from the proposed SWMP facility for any AAAQG are from benzene. The maximum annual impacts of benzene from the proposed SWMP facility are approximately 56.04% of the annual guideline value.

Based on the modeling analysis results in Table 4, SWMP has demonstrated compliance with the AAAQG guidelines for its proposed facility.

X. LIST OF ABBREVIATIONS

AAAQG ..... Arizona Ambient Air Quality Guideline
A.A.C. ..... Arizona Administrative Code
ADEQ ..... Arizona Department of Environmental Quality
Btu/hr ..... British Thermal Units per Hour
CO ..... Carbon Monoxide
EPA ..... Environmental Protection Agency
g/sec ..... Grams per Second
HAP ..... Hazardous Air Pollutant
lb/hr ..... Pound per Hour
lb/MMBtu ..... Pound per Million British Thermal Units
MMBtu ..... Million British Thermal Units
Mw ..... Megawatts
µg/m^3 ..... Microgram per Cubic Meter
NAAQS ..... National Ambient Air Quality Standards
NO_x ..... Nitrogen Oxides
PM ..... Particulate Matter
PM_{10} ..... Particulate Matter Nominally less than 10 Micrometers
SO_x ..... Sulfur Oxides
SO_2 ..... Sulfur Dioxide
SWMP ..... Snowflake White Mountain Power
TBD ..... To Be Determined
tpy ..... Tons per Year
VOC ..... Volatile Organic Compound