



Technical Support Document

Clark County Department of Air Quality

Technical Support Document

Preparer: Scott Chappell
Action Received: July 20, 2011
TSD Date: March 28, 2012
Company: Aquatic Co.
Submitter: Same
Source: 75
Source Name: Aquatic Co.
Source Address: 201 North Meadow Valley Road
Moapa Valley, Nevada 89025
T14S, R66E, S29
Hydrographic Area: 218

Source Description

Aquatic Co. is a bathware manufacturing operation that falls under SIC 3088: Plastic Plumbing Fixtures and NAICS 326191: Bathroom and Toilet Accessories, Plastic Manufacturing. The source is a major source of HAP pollutants, a synthetic minor source of VOC pollutants, and a minor source of PM, NO_x CO, and SO_x pollutants.

Permitting Action

This is a minor permit revision, pursuant to AQR 12.5.2.14. On July 20, 2011, the Permittee submitted an application for a minor revision to the Title V Operating Permit for the addition of a 341 hp diesel-powered fire pump. The application also provided corrected serial numbers for Emission Units A02, A06, A10 and A12. Administrative changes, such as the layout of the List of Emission Units table were made. None of these changes added or removed applicable requirements or conditions. AQR 12.4 analysis for the proposed changes has been performed and it is concluded that the emission increase from this change is below the Minor NSR Significant levels. The proposed changes will result in a Title V minor permit revision according to the provisions of AQR 12.4.3.2 (b).

The Part Demolding process, previously identified as Emission Unit A30, has been reclassified as an insignificant emission unit. This determination was based on the fact that there are no emissions of regulated pollutants associated with this process.

This TSD only addresses the new emission unit being added for this permitting action.

Table 1: Source-Wide PTE (tons per year)

PM₁₀	PM_{2.5}	NO_x	CO	SO_x	VOC	HAP
0.69	0.19	9.47	3.18	0.24	49.42	45.67

ACRONYMS

Table 2: Acronym List

Acronym	Term
AQR	Clark County Air Quality Regulations
AST	Aboveground Storage Tank
BCC	Clark County Board of County Commissioners
CAO	Field Corrective Action Order
CE	Control Efficiency
CEM	Continuous Emissions Monitoring System
CF	Control Factor
CFR	United States Code of Federal Regulations
CO	Carbon Monoxide
CPI	Urban Consumer Price Index
CPMS	Continuous Parameter Monitoring System
DAQ	Clark County Department of Air Quality
DEM	Digital Elevation Model
EF	Emission Factor
EPA	United States Environmental Protection Agency
EU	Emission Unit
EVR	Enhanced Vapor Recovery
GDO	Gasoline Dispensing Operation
HAP	Hazardous Air Pollutant
HP	Horse Power
MACT	Maximum Achievable Control Technology
MMBtu	Millions of British Thermal Units
NAC	Nevada Administrative Code
NEI	Net Emission Increase
NO _x	Nitrogen Oxides
NOV	Notice of Violation
NRS	Nevada Revised Statutes
NSPS	New Source Performance Standards
NSR	New Source Review
OP	Operating Permit
PM ₁₀	Particulate Matter less than 10 microns
PM _{2.5}	Particulate Matter less than 2.5 microns
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RTO	Regenerative Thermal Oxidizer
scf	Standard Cubic Feet
SIP	State Implementation Plan
SO _x	Sulfur Oxides
TSD	Technical Support Document
UST	Underground Storage Tank
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound
VOL	Volatile Organic Liquid

Emission Units

Table 3: Emission Unit List

EU	Description	SCC	Manufacturer	Model No.	Serial No.	Control Method
B01	Fire Pump	20200102	Patterson		94FP07328-L8	Turbocharger and Aftercooler
	Diesel Engine; 341 hp; DOM: 1994		Detroit Diesel	DDFPT6VT7363F	6VA-1428	

Table 4: Insignificant Emission Units or Activities

Description
Part Demolding, Lines 1 and 2

Calculation of PTE and NEI

Table 5: PTE and NEI (tons per year)

	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	H ₂ S	Pb
Source PTE	0.69	0.19	9.47	3.18	0.24	49.42	45.67	0.00	0.00
NEI	0.19	0.19	2.64	0.57	0.17	0.21	0.01	0.00	0.00
Significant Revision	7.5	N/A	20	35	40	20		5	0.6

Operational Limits

1. The Permittee shall limit the operation of the fire pump for testing and maintenance purposes to 100 hours per year. The Permittee may operate the fire pump up to 50 hours per year for nonemergency situations, but those hours count towards the 100 hours provided for testing and maintenance. The 50 hours per year for nonemergency situations cannot be used for peak shavings or to generate income for the facility (EU: B01). *[40 CFR 63.6640(f)]*

Review of Applicable Regulations

1. Pursuant to Sections 26, 40 and 43 of the AQR, this source shall be operated in a manner such that odors will not cause a nuisance.
2. The source is applicable to the regulations and requirements of 40 CFR 63 Subpart ZZZZ (EU: B01).

Control Technology

The NEI for this permitting action does not trigger requirements for a control technology analysis. The Permittee shall operate the diesel fire pump with a turbocharger and aftercooler (EU: B01).

Monitoring

The Permittee shall operate the fire pump with a nonresettable hour meter and monitor the duration of operation for testing, maintenance and non-emergency operation, and separately for

emergencies. The nature of the emergency leading to emergency operation shall be documented (EU: B01).

Testing

No performance tests have been identified for the diesel-powered fire pump.

Mitigation

The source has no federal offset requirements.

Increment

Aquatic Co is a major source of HAP pollutants and a minor source of all other regulated pollutants. It is located in Hydrographic Area 218 (California Wash). Permitted emission units include air heaters, core tunnel heaters, one RTO, one fire pump and other bathware manufacturing operations. Since minor source baseline dates for PM₁₀ (May 21, 1979), NO₂ (February 01, 2001) and SO₂ (May 21, 1979) have been triggered, Prevention of Significant Deterioration (PSD) increment analysis is required.

DAQEM modeled the generator using AERMOD to track the increment consumption. Stack data submitted by the applicant were supplemented with information available for similar emission units. Five years (1999 to 2003) of meteorological data from the McCarran Station and Desert Rock Station were used in the model. United States Geological Survey (USGS) National Elevation Data (NED) terrain data was used to calculate elevations. Table 6 shows the location of the maximum impact and the potential PSD increment consumed by the source at that location. The impacts are below the PSD increment limits

Table 6: PSD Increment Consumption

Pollutant	Averaging Period	PSD Increment Consumption by the Source (µg/m ³)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO ₂	3-hour	31.48 ¹	712450	4062743
SO ₂	24-hour	15.27 ¹	712450	4062743
SO ₂	Annual	3.78	712450	4062743
PM ₁₀	24-hour	16.95 ¹	712450	4062743
PM ₁₀	Annual	4.19	712450	4062743
NO _x	Annual	5.40	712600	4062900

¹Modeled High ²nd High Concentration

Public Notice

Public notice is not required.

Permitting History

1. The Title V permit was issued on February 11, 2009.
2. A significant revision to the Title V permit was issued on June 8, 2011.
3. An application for a minor revision to the Title V permit was received on July 20, 2011.
4. The application was assigned to the Permit Writer on March 20, 2012.
5. The application was deemed complete on March 28, 2012.
6. The draft permit and TSD was sent for review on March 28, 2012.

Attachments

Table 7: PTE from Diesel Engine

EU#	B01	Pollutants	Emission Factor (lb/hp-hr) ¹	PTE	
				lb/hr	ton/yr
Make:	Detroit Diesel				
Model:	DDFPT6VT7363F	PM₁₀	2.20E-03	0.75	0.19
		PM_{2.5}	2.20E-03	0.75	0.19
S/N:	6VA-1428	NO_x	3.10E-02	10.57	2.64
Horsepower:	341	CO	6.68E-03	2.28	0.57
Hours/Day:	24	SO_x	2.05E-03	0.70	0.17
Hours/Year	500	VOC	2.51E-03	0.86	0.21
		HAP	4.52E-05	0.02	0.01

¹Emission factors from AP-42.