



702 East Osborn Road, Suite 160, Phoenix, AZ 85014 / P 602.274.2900 / F 480.222.4561 / [trinityconsultants.com](http://trinityconsultants.com)

May 4, 2026

Gavin Klockeman  
Engineer, Air Permits Unit  
Arizona Department of Environmental Quality  
1110 W Washington St  
Phoenix, AZ, 85007  
[klockeman.gavin@azdeq.gov](mailto:klockeman.gavin@azdeq.gov)

*RE: Top Quality Products, LLC – ADEQ Place ID 245471  
Application for Significant Permit Revision to Class II Permit No. 106248*

Dear Mr. Klockeman,

Top Quality Products, LLC (TQP) is constructing a bioprocessing facility (the Facility) for research and development (R&D) pursuant to Arizona Department of Environmental Quality (ADEQ) Class II air quality permit No. 106248, that would treat and process an agricultural crop with first-of-its-kind processes and materials to produce dry pulp bales. The facility will be located at 2992 South Rebecca Avenue, in Yuma, Arizona, in an area of Yuma County that is classified as moderate nonattainment for the particulate matter with a diameter 10 micrometers or less (PM<sub>10</sub>) National Ambient Air Quality Standard (NAAQS). The area is in attainment for all other criteria air pollutants.

With this significant permit revision (SPR) application, TQP is seeking to authorize the following changes at the facility (i.e., the Project):

- ▶ Increase the Potential-to-Emit (PTE) of PM<sub>10</sub> and particulate matter with a diameter of 2.5 microns or less (PM<sub>2.5</sub>) from the evaporative dryer DRY-1 which is exhausted via wet scrubber SCRUB-1. Given the novel nature of the Facility, TQP proposes to reflect a conservative estimate of both the filterable and condensable fractions of particulate potentially generated by the process. The proposed PTE is provided in Table A-6 of Attachment 2.
- ▶ Revise the permit conditions associated with voluntary emission limits below. TQP also providing suggested draft permit language in a redline version of permit No. 106248 reflecting these and other minor revisions in Attachment 5, alongside a draft Technical Support Document (TSD) and public notice document with SPR language formatted in yellow highlight.
  - Condition IV.B(1) of Attachment B – TQP proposes to update the form of this voluntary emissions limit to an hourly mass rate (lb/hr) for operational flexibility for this R&D facility. TQP also requests an increase in the value from 1.6 lb/hr (the hourly mass rate form of the current 0.006 gr/dscf limit) to 3.2 lb/hr to capture the proposed PTE increases.
  - Conditions IV.B(2)(c) and IV.B(4)(c) of Attachment B – TQP proposes to update the scrubber control device monitoring method from pressure drop to flowrate. This is because SCRUB-1 will be a spray scrubber, and PM control is a function of liquid-to-air contact, where the monitoring parameter recommended by the vendor is flowrate. The appropriate monitoring range is a minimum flowrate of 90 gallons per minute (gpm) for the inlet header, and a minimum flowrate 337 gpm for the central header.
  - Condition IV.B(3)(b) of Attachment B – TQP proposes to update the required test methods from Methods 201A (for filterable PM with particle size distribution) and 202 (condensable PM), to Methods

## HEADQUARTERS

12700 Park Central Dr, Ste 2100, Dallas, TX 75251 / P 800.229.6655 / P 972.661.8100 / F 972.385.9203

5 ((or filterable PM with no particle size distribution) and 202. Method 201A is not practicable for the wet spray scrubber SCRUB-1 stack because the exhaust will be saturated with water which is not compatible with the test method. <sup>1</sup>

As depicted in Table A-6 of Attachment 2, the Project PTE exceeds the ADEQ permitting exemption thresholds for PM<sub>10</sub> and PM<sub>2.5</sub> in Arizona Administrative Code (A.A.C.) R18-2-101.101, therefore qualifying the Project as a minor New Source Review (NSR) modification that triggers the requirements in A.A.C. R18-2-334.A(3). Accordingly, TQP is submitting an ambient air impact analysis in Attachment 8 to satisfy the requirements of the minor NSR program pursuant to A.A.C. R18-2-334.C(2). The Project PTE does not trigger major NSR thresholds. Finally, the facility-wide PTE remains below Title V thresholds and therefore, the Facility would remain regulated under a Class II permit. Detailed emission calculations are provided in Attachment 2.

According to Arizona Administration Code (A.A.C.) R18-2-320.D, an application for an SPR must meet all requirements of Article 3 of A.A.C. Chapter 2 for applications, public participation, review by affected states, and review by the Administrator that apply to permit issuance and renewal (i.e., complying with all sub-sections of R18-2-304.B). Attachment 1 identifies how this SPR application meets R18-2-304.B requirements, and also includes a completed Standard Permit Application Form from ADEQ's Application Packet for a Class II Permit and all of the information required by the form's filing instructions. As clarified by A.A.C. R18-2-304.F.1, an application for a permit revision only need to supply information related to the proposed change.

All the necessary supporting documentation described above is included in the attachments listed in Table 1-1 below.

**Table 1-1. Attachments Summary**

| <b>Attachment</b> | <b>Attachment Contents</b>                                     |
|-------------------|----------------------------------------------------------------|
| Attachment 1      | ADEQ Standard Permit Application Form & Completeness Checklist |
| Attachment 2      | Emission Calculations                                          |
| Attachment 3      | Regulatory Applicability Review                                |
| Attachment 4      | Confidentiality Statement                                      |
| Attachment 5      | Redline Permit                                                 |
| Attachment 6      | Proposed TSD                                                   |
| Attachment 7      | Proposed Public Notice                                         |
| Attachment 8      | Modeling Report                                                |

If you have any questions or comments about the information presented in this letter, please do not hesitate to contact me at [c.maradiagaponce@trinityconsultants.com](mailto:c.maradiagaponce@trinityconsultants.com).

Sincerely,

Camille Ponce  
Senior Consultant

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<sup>1</sup> Per EPA's amendments to Test Methods 201A and 202 (EPA-HQ-OAR-2008-0348; FRL-9236-2), accessed at <https://www.federalregister.gov/documents/2010/12/21/2010-30847/methods-for-measurement-of-filterable-pm10-and-pm25-and-measurement-of-condensable-pm-emissions-from>.

cc: Michael Todd, Top Quality Products  
Eddie Al-Rayes, Trinity Consultants  
Joe Lynch, Trinity Consultants  
Maheshwar Mane, Trinity Consultants

**ATTACHMENT 1**

**ADEQ Class II Application Form**

Table 1-2 provides a list of the required permit application items per A.A.C. R18-2-304.B, along with a reference to where the information is located in this application.

**Table 1-2. Location of “Standard Class II Permit Application Components”**

| ADEQ Class II<br>Application<br>Packet Section | Information Required                                                                    | Included in Application |                |                | Application<br>Section        |
|------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------|----------------|----------------|-------------------------------|
|                                                |                                                                                         | Yes                     | No             | N/A            |                               |
| 3.1                                            | Standard Class II Permit Application Form                                               | X                       |                |                | Attachment 1                  |
| 3.2.A.                                         | Description of Processes at the Facility                                                | X                       |                |                | Cover Letter                  |
| 3.2.B.                                         | Flow Diagram for All Processes                                                          |                         |                | X <sup>a</sup> | See footnote.                 |
| 3.2.C.                                         | Description of Alternate Operating Scenarios                                            |                         |                | X <sup>b</sup> | See footnote.                 |
| 3.2.D.                                         | Emission Calculations                                                                   | X                       |                |                | Attachment 2                  |
| 3.2.E.                                         | Minor NSR Applicability Determination                                                   | X                       |                |                | Attachment 3                  |
| 3.2.F.                                         | Proposed Exemptions from Otherwise Applicable Requirements                              |                         | X <sup>c</sup> |                | See footnote.                 |
| 3.2.G.                                         | Voluntary Limitations                                                                   | X                       |                |                | Cover Letter and Attachment 5 |
| 3.2.H.                                         | Equipment List                                                                          |                         |                | X <sup>a</sup> | See footnote.                 |
| 3.2.I.                                         | Insignificant Activities                                                                |                         |                | X <sup>a</sup> | See footnote.                 |
| 3.2.J.                                         | Confidential Application Components                                                     | X                       |                |                | Attachment 4                  |
| 3.2.K.                                         | Compliance Schedule for Sources Not in Compliance                                       |                         |                | X <sup>d</sup> | See footnote.                 |
| 3.2.L.                                         | Suggested draft permit language must be included in minor permit revision applications. | X                       |                |                | Attachment 5                  |
|                                                | Applicable Requirements                                                                 | X <sup>e</sup>          |                |                | Attachment 3                  |

Notes:

NA Not applicable

a TQP is not proposing any changes to the current process flow, material balance, equipment list, control equipment, insignificant activities, or site diagram.

b No alternate operating scenarios are proposed as part of this application.

c TQP is not proposing changes to otherwise applicable requirements.

d TQP is in compliance with all applicable regulations.

e While applicable requirements are not requested by ADEQ's Application Packet for Class II Sources, the information is being provided for informational purposes.

**SECTION 3.1**  
**ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**Air Quality Division**  
**1110 West Washington • Phoenix, AZ 85007 • Phone: (602) 771-2338**

**STANDARD CLASS II PERMIT APPLICATION FORM**

(As required by A.R.S. § 49-426, and Chapter 2, Article 3, Arizona Administrative Code)

1. Permit to be issued to (Business license name of organization that is to receive permit):  
Top Quality Products, LLC
2. Mailing Address: 1209 Orange Street  
City: Wilmington State: Delaware ZIP: 19801
3. Name (or names) of Responsible Official: Michael Todd  
Phone: N/A Fax: N/A Email: N/A
4. Facility Manager/Contact Person and Title: Dell Majure/ Air & Chemical Programs Expert  
Phone: 770-356-2812 Fax: N/A Email: dell.majure@kcc.com
5. Facility Name: Yuma Bioprocessing Facility  
Facility Location/Address (Current/Proposed): 2992 S. Rebecca Ave  
City: Yuma County: Yuma ZIP: 85365  
Indian Reservation (if applicable, which one): NA  
Latitude/Longitude, Elevation: 32.675005, -114.559637, 210 ft
6. General Nature of Business: Pulp Mill
7. Type of Organization:  
☐ Corporation    ☐ Individual Owner    ☐ Partnership    ☐ Government Entity    ☒ LLC  
☐ Other \_\_\_\_\_
8. Permit Application Basis: ☐ New Source    ☒ Revision    ☐ Renewal of Existing Permit  
For renewal or modification, include existing permit number (and exp. date): 106248 (July 16, 2030)  
Date of Commencement of Construction or Modification: October 2026  
Primary Standard Industrial Classification Code: 2611
9. I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by ADEQ as public record. I also attest that I am in compliance with the applicable requirements of the Permit and will continue to comply with such requirements and any future requirements that become effective during the life of the Permit. I will present a certification of compliance to ADEQ no less than annually and more frequently if specified by ADEQ. I further state that

I will assume responsibility for the construction, modification, or operation of the source in accordance with Arizona Administrative Code, Title 18, Chapter 2 and any permit issued thereof.

Signature of Responsible Official: Michael Todd

Printed Name of Signer/Official Title: Michael Todd / Vice President

Date: 4-21-21 Telephone Number: 469-836-8446

### Section 3.5 - Equipment List

| Type of Equipment                                                          | Maximum<br>Rated Capacity<br>[1] | Make | Model | Serial Number | Date of<br>Manufacture | Equipment ID<br>Number |
|----------------------------------------------------------------------------|----------------------------------|------|-------|---------------|------------------------|------------------------|
|                                                                            |                                  |      |       |               |                        |                        |
| See Attachment 5, no proposed changes to the currently permitted equipment |                                  |      |       |               |                        |                        |
|                                                                            |                                  |      |       |               |                        |                        |
|                                                                            |                                  |      |       |               |                        |                        |
|                                                                            |                                  |      |       |               |                        |                        |
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|                                                                            |                                  |      |       |               |                        |                        |
|                                                                            |                                  |      |       |               |                        |                        |
|                                                                            |                                  |      |       |               |                        |                        |

[1] For generator sets, enter the maximum rated capacity of the engine rather than the maximum rated capacity of the generator.

All relevant equipment utilized at the facility should be included in the equipment list. Please complete all fields.

**The date of manufacture must be included in order to determine applicability of regulations.**

Indicate the units (tons/hour, horsepower, etc.) when recording the maximum rated capacity.

Make additional copies of this form if necessary.

**\*Submit photographs of the faceplates for all engines listed above.**

**\*If an engine is certified, please also include a copy of the engine certification with the application.**

**\*For any newly added equipment, include a copy of the specification sheet.**

**\*These documents will be used to verify equipment information and determine applicable regulations.**

### SECTION 3.6 - EMISSION SOURCE FORM

|                |                         |                                 |        |         | USE THIS SECTION FOR MODIFICATIONS ONLY |         |               |
|----------------|-------------------------|---------------------------------|--------|---------|-----------------------------------------|---------|---------------|
| Emission Point |                         | Regulated<br>Air Pollutant Name | PTE    |         | PTE AFTER MODIFICATION                  |         | CHANGE IN PTE |
| Number         | Name                    |                                 | lbs/hr | tons/yr | lbs/hr                                  | tons/yr | tons/yr       |
|                |                         |                                 |        |         |                                         |         |               |
|                | <b>See Attachment 2</b> |                                 |        |         |                                         |         |               |
|                |                         |                                 |        |         |                                         |         |               |
|                |                         |                                 |        |         |                                         |         |               |
|                |                         |                                 |        |         |                                         |         |               |
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|                |                         |                                 |        |         |                                         |         |               |
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|                |                         |                                 |        |         |                                         |         |               |
|                |                         |                                 |        |         |                                         |         |               |
|                |                         |                                 |        |         |                                         |         |               |
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|                |                         |                                 |        |         |                                         |         |               |
|                |                         |                                 |        |         |                                         |         |               |
|                |                         |                                 |        |         |                                         |         |               |
|                |                         |                                 |        |         |                                         |         |               |
|                |                         |                                 |        |         |                                         |         |               |
|                |                         |                                 |        |         |                                         |         |               |

**\*\*Submit emission calculations spreadsheet with your application\*\***

## SECTION 5.0 -APPLICATION ADMINISTRATIVE COMPLETENESS CHECKLIST

|     | REQUIREMENT                                                                                                                                          | MEETS REQUIREMENTS |    |     | COMMENT                                             |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----|-----|-----------------------------------------------------|
|     |                                                                                                                                                      | YES                | NO | N/A |                                                     |
| 1   | Has the standard application form been completed?                                                                                                    | X                  |    |     |                                                     |
| 2   | Has the responsible official signed the standard application form?                                                                                   | X                  |    |     |                                                     |
| 3   | Has a process description been provided?                                                                                                             | X                  |    |     | See Cover Letter                                    |
| 4   | Are the facility's emissions documented with all appropriate supporting information?                                                                 | X                  |    |     | See Attachment 2                                    |
| 5   | Is the facility subject to Minor NSR requirements?<br>If the answer is "YES" , answer 6a, 6b and 6c as applicable. If the answer is "NO", skip to 7. | X                  |    |     |                                                     |
| 6.a | If the facility chooses to implement RACT, is the RACT determination included for the affected pollutants for all affected emission units?           |                    |    | X   |                                                     |
| 6.b | If the facility chooses to demonstrate compliance with NAAQS by screen modeling, is the modeling analysis included?                                  |                    |    | X   |                                                     |
| 6.c | If refined modeling has been conducted, is a comprehensive modeling report along with all modeling files included?                                   | X                  |    |     | See Attachment 8                                    |
| 7   | Does the application include an equipment list with the type, name, make, model, serial number, maximum rated capacity, and date of manufacture?     |                    |    | X   | See Attachment 5, no changes to permitted equipment |
| 8   | Does the application include an identification and description of Pollution Controls? (if applicable)                                                | X                  |    |     | See Cover Letter                                    |
| 9   | For any application component claimed as confidential, are the requirements of AR.S. 49-432 and A.A.C. R18-2-305 addressed?                          | X                  |    |     | See Attachment 4                                    |
| 10  | For any current non-compliance issue, is a compliance schedule attached?                                                                             |                    |    | X   |                                                     |
| 11  | For minor permit revision that will make a modification upon submittal of application, has a suggested draft permit been attached?                   |                    |    | X   |                                                     |

## **ATTACHMENT 2**

### **Emission Calculations**

# Bioprocessing Facility Emissions Calculations

April 2026

**Table A-1a. Cooling Tower Design Parameters**

| Emission Source ID | Emission Source Name | Water Flow (gpm) | TDS <sup>1</sup> (ppmw) | Drift Loss <sup>2</sup> |          | Potential to Emit (lb/hr) <sup>3</sup> |                  |                   | Potential to Emit (tpy) <sup>4</sup> |                  |                   |
|--------------------|----------------------|------------------|-------------------------|-------------------------|----------|----------------------------------------|------------------|-------------------|--------------------------------------|------------------|-------------------|
|                    |                      |                  |                         | (%)                     | (gal/hr) | PM                                     | PM <sub>10</sub> | PM <sub>2.5</sub> | PM                                   | PM <sub>10</sub> | PM <sub>2.5</sub> |
| CT-1               | Cooling Tower 1      | 250              | 360                     | 0.001%                  | 0.15     | 0.00045                                | 0.00041          | 0.0000057         | 0.0020                               | 0.0018           | 0.000025          |
| CT-2               | Cooling Tower 2      | 1,000            | 360                     | 0.001%                  | 0.60     | 0.0018                                 | 0.0016           | 0.000023          | 0.0079                               | 0.0072           | 0.00010           |
| <b>Total</b>       |                      |                  |                         |                         |          | <b>0.0023</b>                          | <b>0.0021</b>    | <b>0.000028</b>   | <b>0.010</b>                         | <b>0.0090</b>    | <b>0.00012</b>    |

<sup>1</sup> TDS per U.S. Army Garrison Yuma Proving Ground, 2020 Water Quality Report,

<sup>2</sup> TQP will purchase cooling towers that meet this drift rate specification. This drift rate is achievable by many modern cooling towers.

<sup>3</sup> PM<sub>10</sub> and PM<sub>2.5</sub> fractions were determined using the methodology described by Reisman and Frisbie (2003).

<sup>4</sup> Cooling towers operation 8,760 hr/yr

**Table A-1b. Cooling Towers - Emissions - CT-1**

| Data Entry                  |                       |
|-----------------------------|-----------------------|
| Water Circulation Rate      | 250 gal/min           |
| Drift Rate                  | 0.001%                |
| TDS                         | 360 ppmw              |
| Droplet Density             | 1 g/cm <sup>3</sup>   |
| Solids Density              | 2.2 g/cm <sup>3</sup> |
| Calculations                |                       |
| PM <sub>10</sub> Fraction   | 91.17%                |
| PM <sub>2.5</sub> Fraction  | 1.26%                 |
| PM Emissions                | 0.0005 lb/hr          |
| PM <sub>10</sub> Emissions  | 0.0004 lb/hr          |
| PM <sub>2.5</sub> Emissions | 0.00001 lb/hr         |

Calculated Particle Size Distribution

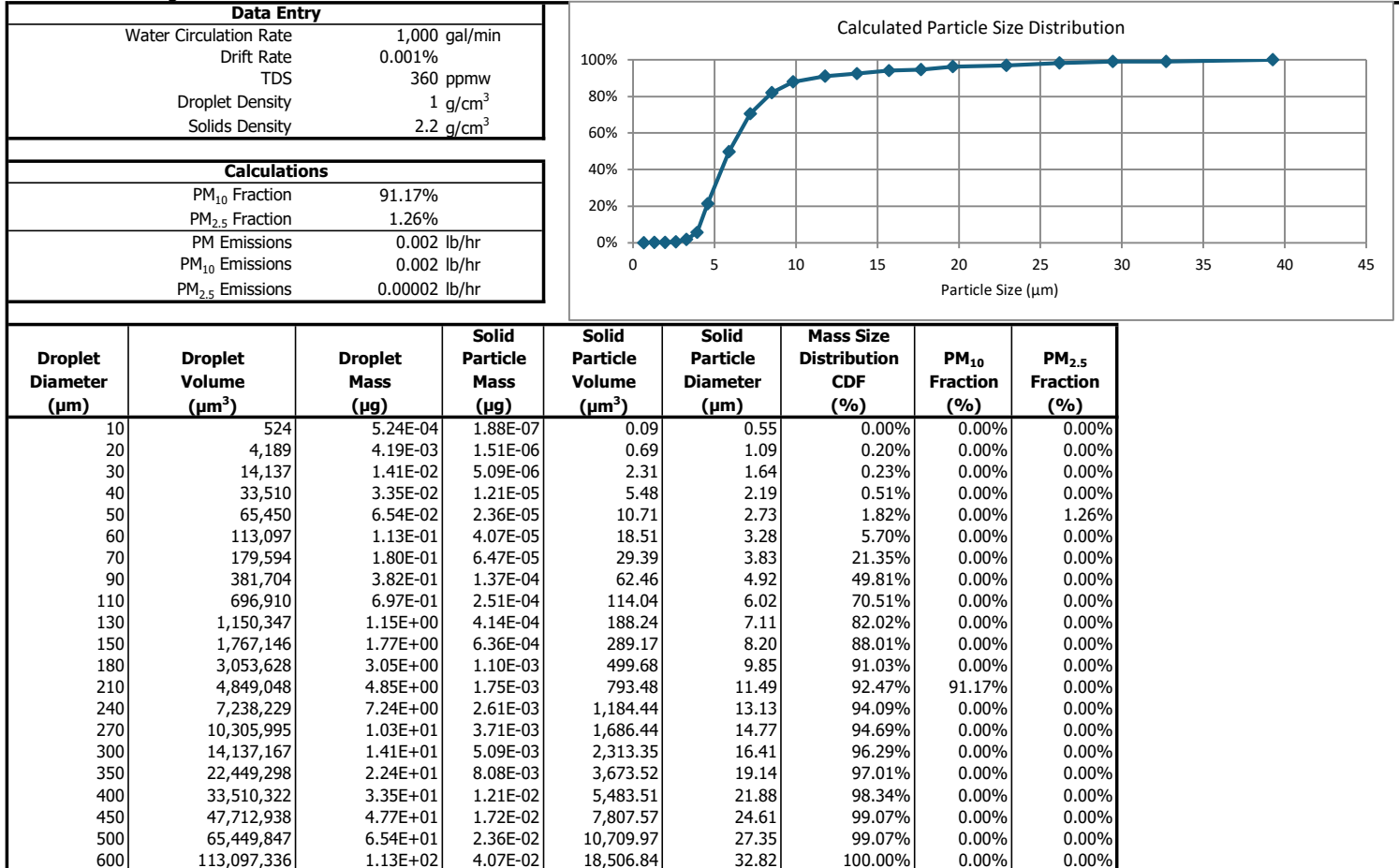
| Particle Size (μm) | Cumulative Fraction (%) |
|--------------------|-------------------------|
| 0                  | 0                       |
| 1                  | 0                       |
| 2                  | 0                       |
| 3                  | 0                       |
| 4                  | 0                       |
| 5                  | 20                      |
| 6                  | 50                      |
| 7                  | 70                      |
| 8                  | 82                      |
| 9                  | 90                      |
| 10                 | 92                      |
| 12                 | 94                      |
| 14                 | 95                      |
| 16                 | 96                      |
| 18                 | 96                      |
| 20                 | 97                      |
| 25                 | 98                      |
| 30                 | 99                      |
| 35                 | 99                      |
| 40                 | 100                     |

| Droplet Diameter (μm) | Droplet Volume (μm <sup>3</sup> ) | Droplet Mass (μg) | Solid Particle Mass (μg) | Solid Particle Volume (μm <sup>3</sup> ) | Solid Particle Diameter (μm) | Mass Size Distribution CDF (%) | PM <sub>10</sub> Fraction (%) | PM <sub>2.5</sub> Fraction (%) |
|-----------------------|-----------------------------------|-------------------|--------------------------|------------------------------------------|------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 10                    | 524                               | 5.24E-04          | 1.88E-07                 | 0.09                                     | 0.55                         | 0.00%                          | 0.00%                         | 0.00%                          |
| 20                    | 4,189                             | 4.19E-03          | 1.51E-06                 | 0.69                                     | 1.09                         | 0.20%                          | 0.00%                         | 0.00%                          |
| 30                    | 14,137                            | 1.41E-02          | 5.09E-06                 | 2.31                                     | 1.64                         | 0.23%                          | 0.00%                         | 0.00%                          |
| 40                    | 33,510                            | 3.35E-02          | 1.21E-05                 | 5.48                                     | 2.19                         | 0.51%                          | 0.00%                         | 0.00%                          |
| 50                    | 65,450                            | 6.54E-02          | 2.36E-05                 | 10.71                                    | 2.73                         | 1.82%                          | 0.00%                         | 1.26%                          |
| 60                    | 113,097                           | 1.13E-01          | 4.07E-05                 | 18.51                                    | 3.28                         | 5.70%                          | 0.00%                         | 0.00%                          |
| 70                    | 179,594                           | 1.80E-01          | 6.47E-05                 | 29.39                                    | 3.83                         | 21.35%                         | 0.00%                         | 0.00%                          |
| 90                    | 381,704                           | 3.82E-01          | 1.37E-04                 | 62.46                                    | 4.92                         | 49.81%                         | 0.00%                         | 0.00%                          |
| 110                   | 696,910                           | 6.97E-01          | 2.51E-04                 | 114.04                                   | 6.02                         | 70.51%                         | 0.00%                         | 0.00%                          |
| 130                   | 1,150,347                         | 1.15E+00          | 4.14E-04                 | 188.24                                   | 7.11                         | 82.02%                         | 0.00%                         | 0.00%                          |
| 150                   | 1,767,146                         | 1.77E+00          | 6.36E-04                 | 289.17                                   | 8.20                         | 88.01%                         | 0.00%                         | 0.00%                          |
| 180                   | 3,053,628                         | 3.05E+00          | 1.10E-03                 | 499.68                                   | 9.85                         | 91.03%                         | 0.00%                         | 0.00%                          |
| 210                   | 4,849,048                         | 4.85E+00          | 1.75E-03                 | 793.48                                   | 11.49                        | 92.47%                         | 91.17%                        | 0.00%                          |
| 240                   | 7,238,229                         | 7.24E+00          | 2.61E-03                 | 1,184.44                                 | 13.13                        | 94.09%                         | 0.00%                         | 0.00%                          |
| 270                   | 10,305,995                        | 1.03E+01          | 3.71E-03                 | 1,686.44                                 | 14.77                        | 94.69%                         | 0.00%                         | 0.00%                          |
| 300                   | 14,137,167                        | 1.41E+01          | 5.09E-03                 | 2,313.35                                 | 16.41                        | 96.29%                         | 0.00%                         | 0.00%                          |
| 350                   | 22,449,298                        | 2.24E+01          | 8.08E-03                 | 3,673.52                                 | 19.14                        | 97.01%                         | 0.00%                         | 0.00%                          |
| 400                   | 33,510,322                        | 3.35E+01          | 1.21E-02                 | 5,483.51                                 | 21.88                        | 98.34%                         | 0.00%                         | 0.00%                          |
| 450                   | 47,712,938                        | 4.77E+01          | 1.72E-02                 | 7,807.57                                 | 24.61                        | 99.07%                         | 0.00%                         | 0.00%                          |
| 500                   | 65,449,847                        | 6.54E+01          | 2.36E-02                 | 10,709.97                                | 27.35                        | 99.07%                         | 0.00%                         | 0.00%                          |
| 600                   | 113,097,336                       | 1.13E+02          | 4.07E-02                 | 18,506.84                                | 32.82                        | 100.00%                        | 0.00%                         | 0.00%                          |

# Bioprocessing Facility Emissions Calculations

April 2026

**Table A-1c. Cooling Towers - Emissions - CT-2**



# Bioprocessing Facility Emissions Calculations

April 2026

**Table A-2a. Emergency Engine Design Parameters**

| Emission Source ID | Emission Source Name  | Engine Rated Output |      | Heat Input <sup>1</sup><br>(MMBtu/hr) | Fuel Flow <sup>1</sup><br>(gal/hr) | EPA Tier Certification | Tier Emissions Standard (g/kW-hr) |      |    |      |                          | Tier Emissions Standard (g/hp-hr) |      |      |      |
|--------------------|-----------------------|---------------------|------|---------------------------------------|------------------------------------|------------------------|-----------------------------------|------|----|------|--------------------------|-----------------------------------|------|------|------|
|                    |                       | (hp)                | (kW) |                                       |                                    |                        | PM <sup>2</sup>                   | NOx  | CO | VOC  | Reference                | PM <sup>2</sup>                   | NOx  | CO   | VOC  |
| EG-1               | Emergency Generator 1 | 268                 | 200  | 1.88                                  | 13.60                              | 4                      | 0.02                              | 0.40 | 5  | 0.19 | 40 CFR 1039.101, Table 1 | 0.015                             | 0.30 | 3.73 | 0.14 |

<sup>1</sup> Distillate Fuel Oil No. 2 heat value per 40 CFR Part 98 Subpart C, Table C-1.

0.138 MMBtu/gal

Average brake-specific fuel consumption (BSFC) per AP-42 Table 3.3-1, dated 10/96

7,000 Btu/hp-hr

<sup>2</sup> Assumes PM = PM<sub>10</sub> = PM<sub>2.5</sub>

**Table A-2b. Emergency Generators - Emission Factors**

| Pollutant         | Small Diesel Engines (< 600 hp) |          |           |
|-------------------|---------------------------------|----------|-----------|
|                   | Value                           | Unit     | Reference |
| SO <sub>2</sub>   | -                               | -        | 1         |
| CO <sub>2</sub>   | 73.96                           | kg/MMBtu | 2         |
| CH <sub>4</sub>   | 3.00E-03                        | kg/MMBtu | 3         |
| N <sub>2</sub> O  | 6.00E-04                        | kg/MMBtu | 3         |
| CO <sub>2</sub> e | 74.21                           | kg/MMBtu | 4         |

<sup>1</sup> Per 40 CFR 1039.801, ultra low-sulfur diesel fuel sulfur content =  
15 ppmw

0.0015%

Per AP-42 Table 7.1-2, dated 06/2020, diesel fuel density

7.1 lb/gal

<sup>2</sup> Per 40 CFR 98 Table C-1 to Subpart C for Distillate Fuel Oil No. 2.

<sup>3</sup> Per 40 CFR 98 Table C-2 to Subpart C for Petroleum Products.

<sup>4</sup> CO<sub>2</sub>e emissions calculated based on Global Warming Potential per 40 CFR 98 Table A-1 to Subpart A.

|                  |     |
|------------------|-----|
| CO <sub>2</sub>  | 1   |
| CH <sub>4</sub>  | 25  |
| N <sub>2</sub> O | 298 |

Table A-2c. Emergency Generators - HAP Emissions

| Pollutant        | CAS       | Emission Factor (lb/MMBtu) <sup>3</sup> | Hourly (lb/hr) | Annual (tpy) <sup>1</sup> |
|------------------|-----------|-----------------------------------------|----------------|---------------------------|
| Benzene          | 71-43-2   | 9.33E-04                                | 1.75E-03       | 4.38E-04                  |
| Toluene          | 108-88-3  | 4.09E-04                                | 7.68E-04       | 1.92E-04                  |
| Xylenes          | 1330-20-7 | 2.85E-04                                | 5.35E-04       | 1.34E-04                  |
| 1,3-Butadiene    | 106-99-0  | 3.91E-05                                | 7.34E-05       | 1.84E-05                  |
| Formaldehyde     | 50-00-0   | 1.18E-03                                | 2.22E-03       | 5.54E-04                  |
| Acetaldehyde     | 75-07-0   | 7.67E-04                                | 1.44E-03       | 3.60E-04                  |
| Acrolein         | 107-02-8  | 9.25E-05                                | 1.74E-04       | 4.34E-05                  |
| Total PAH        | -         | 1.68E-04                                | 3.15E-04       | 7.89E-05                  |
| <b>Total HAP</b> | -         | -                                       | <b>0.0073</b>  | <b>0.0018</b>             |
| <b>Max HAP</b>   | -         | -                                       | <b>0.00077</b> | <b>0.00019</b>            |

<sup>1</sup> Annual hours of operation: 500 hr/yr

<sup>3</sup> HAP emission factors from AP-42 Section 3.3, Table 3.3-2

Table A-2d. Emergency Generators - Emissions

| Pollutant         | Hourly (lb/hr) | Annual (tpy) <sup>1</sup> |
|-------------------|----------------|---------------------------|
| NO <sub>x</sub>   | 0.176          | 0.044                     |
| CO                | 2.20           | 0.55                      |
| PM <sup>2</sup>   | 0.0088         | 0.0022                    |
| SO <sub>2</sub>   | 0.0029         | 0.00072                   |
| VOC               | 0.084          | 0.021                     |
| CO <sub>2</sub>   | 306.1          | 76.53                     |
| HAP               | 7.27E-03       | 1.82E-03                  |
| Max HAP           | 7.68E-04       | 1.92E-04                  |
| CH <sub>4</sub>   | 0.0124         | 0.0031                    |
| N <sub>2</sub> O  | 0.0025         | 0.00062                   |
| CO <sub>2</sub> e | 307.17         | 76.79                     |

<sup>1</sup> Annual hours of operation: 500 hr/yr

<sup>2</sup> Assumes PM = PM<sub>10</sub> = PM<sub>2.5</sub>

**Bioprocessing Facility  
Emissions Calculations**

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**Table A-3a. Natural Gas Boiler Design Parameters**

| Emission Source ID | Emission Source Name | Capacity (MMBtu/hr) | Fuel Use <sup>1</sup> |            |
|--------------------|----------------------|---------------------|-----------------------|------------|
|                    |                      |                     | (MMscf/hr)            | (MMscf/yr) |
| BOL-1              | Boiler 1             | 35                  | 0.034                 | 301        |

<sup>1</sup> Natural gas heating value: 1,020 MMBtu/MMscf  
Annual operation 8,760 hr/yr Per AP-42 Section 1.4

**Table A-3b. Natural Gas Fired Boiler - Emission Factors & Emissions**

| Pollutant         | Emission Factor                |          |           | Emissions      |              |
|-------------------|--------------------------------|----------|-----------|----------------|--------------|
|                   | Small Boilers (< 100 MMBtu/hr) | Unit     | Reference | Hourly (lb/hr) | Annual (tpy) |
| NO <sub>x</sub>   | 100                            | lb/MMscf | 1         | 3.43           | 15.03        |
| CO                | 84                             | lb/MMscf | 1         | 2.88           | 12.62        |
| PM                | 7.6                            | lb/MMscf | 2, 3      | 0.26           | 1.14         |
| PM <sub>10</sub>  | 7.6                            | lb/MMscf | 2, 3      | 0.26           | 1.14         |
| PM <sub>2.5</sub> | 7.6                            | lb/MMscf | 2, 3      | 0.26           | 1.14         |
| SO <sub>2</sub>   | 0.6                            | lb/MMscf | 2         | 0.021          | 0.090        |
| VOC               | 5.5                            | lb/MMscf | 2         | 0.19           | 0.83         |
| CO <sub>2</sub>   | 53.06                          | kg/MMBtu | 4         | 4,094          | 17,933       |
| CH <sub>4</sub>   | 1.0E-03                        | kg/MMBtu | 5         | 0.077          | 0.34         |
| N <sub>2</sub> O  | 1.0E-04                        | kg/MMBtu | 5         | 0.0077         | 0.034        |
| CO <sub>2</sub> e | 53.11                          | kg/MMBtu | 6         | 4,098          | 17,951       |

<sup>1</sup> Per EPA AP-42 Section 1.4, Natural Gas Combustion, Table 1.4-1.  
NO<sub>x</sub> emissions based on "Uncontrolled - small boilers < 100 MMBtu/hr", July 1998.

<sup>2</sup> Per EPA AP-42 Section 1.4, Natural Gas Combustion, Table 1.4-2, July 1998.

<sup>3</sup> Assumes PM = PM<sub>10</sub> = PM<sub>2.5</sub>

<sup>4</sup> Per 40 CFR 98 Table C-1 to Subpart C.

<sup>5</sup> Per 40 CFR 98 Table C-2 to Subpart C.

<sup>6</sup> CO<sub>2</sub>e emissions calculated based on Global Warming Potential per 40 CFR 98 Table A-1 to Subpart A.

|                  |     |
|------------------|-----|
| CO <sub>2</sub>  | 1   |
| CH <sub>4</sub>  | 25  |
| N <sub>2</sub> O | 298 |

**Table A-3c. Natural Gas Fired Boiler - HAP Emission Factors & Emissions**

| Pollutant                | CAS        | Emission Factor | Unit       | Emissions       |                 |
|--------------------------|------------|-----------------|------------|-----------------|-----------------|
|                          |            |                 |            | Hourly (lb/hr)  | Annual (tpy)    |
| Acenaphthene             | 83-32-9    | 1.80E-06        | (lb/MMscf) | 6.18E-08        | 2.71E-07        |
| Acenaphthylene           | 203-96-8   | 1.80E-06        | (lb/MMscf) | 6.18E-08        | 2.71E-07        |
| Anthracene               | 120-12-7   | 2.40E-06        | (lb/MMscf) | 8.24E-08        | 3.61E-07        |
| Benz(a)anthracene        | 56-55-3    | 1.80E-06        | (lb/MMscf) | 6.18E-08        | 2.71E-07        |
| Benzo(a)pyrene           | 50-32-8    | 1.20E-06        | (lb/MMscf) | 4.12E-08        | 1.80E-07        |
| Benzo(b)fluoranthene     | 205-99-2   | 1.80E-06        | (lb/MMscf) | 6.18E-08        | 2.71E-07        |
| Benzo(g,h,i)perylene     | 191-24-2   | 1.20E-06        | (lb/MMscf) | 4.12E-08        | 1.80E-07        |
| Benzo(k)fluoranthene     | 205-82-3   | 1.80E-06        | (lb/MMscf) | 6.18E-08        | 2.71E-07        |
| Chrysene                 | 218-01-9   | 1.80E-06        | (lb/MMscf) | 6.18E-08        | 2.71E-07        |
| Dibenzo(a,h)anthracene   | 53-70-3    | 1.20E-06        | (lb/MMscf) | 4.12E-08        | 1.80E-07        |
| Fluoranthene             | 206-44-0   | 3.00E-06        | (lb/MMscf) | 1.03E-07        | 4.51E-07        |
| Fluorene                 | 86-73-7    | 2.80E-06        | (lb/MMscf) | 9.61E-08        | 4.21E-07        |
| Indeno(1,2,3-cd)pyrene   | 193-39-5   | 1.80E-06        | (lb/MMscf) | 6.18E-08        | 2.71E-07        |
| Phenanthrene             | 85-01-8    | 1.70E-05        | (lb/MMscf) | 5.83E-07        | 2.56E-06        |
| Pyrene                   | 129-00-0   | 5.00E-06        | (lb/MMscf) | 1.72E-07        | 7.51E-07        |
| Benzene                  | 71-43-2    | 2.10E-03        | (lb/MMscf) | 7.21E-05        | 3.16E-04        |
| Dichlorobenzene          | 25321-22-6 | 1.20E-03        | (lb/MMscf) | 4.12E-05        | 1.80E-04        |
| Formaldehyde             | 50-00-0    | 7.50E-02        | (lb/MMscf) | 2.57E-03        | 1.13E-02        |
| Hexane                   | 110-54-3   | 1.80E+00        | (lb/MMscf) | 6.18E-02        | 2.71E-01        |
| Naphthalene              | 91-20-3    | 6.10E-04        | (lb/MMscf) | 2.09E-05        | 9.17E-05        |
| Toluene                  | 108-88-3   | 3.40E-03        | (lb/MMscf) | 1.17E-04        | 5.11E-04        |
| Arsenic compounds        | 7440-38-2  | 2.00E-04        | (lb/MMscf) | 6.86E-06        | 3.01E-05        |
| Beryllium compounds      | 7440-41-7  | 1.20E-05        | (lb/MMscf) | 4.12E-07        | 1.80E-06        |
| Cadmium compounds        | 7440-43-9  | 1.10E-03        | (lb/MMscf) | 3.77E-05        | 1.65E-04        |
| Chromium compounds       | 7440-47-3  | 1.40E-03        | (lb/MMscf) | 4.80E-05        | 2.10E-04        |
| Cobalt compounds         | 7440-48-4  | 8.40E-05        | (lb/MMscf) | 2.88E-06        | 1.26E-05        |
| Lead Compounds           | 7439-92-1  | 5.00E-04        | (lb/MMscf) | 1.72E-05        | 7.51E-05        |
| Manganese compounds      | 7439-96-5  | 3.80E-04        | (lb/MMscf) | 1.30E-05        | 5.71E-05        |
| Mercury compounds        | 7439-97-6  | 2.60E-04        | (lb/MMscf) | 8.92E-06        | 3.91E-05        |
| Nickel compounds         | 7440-02-0  | 2.10E-03        | (lb/MMscf) | 7.21E-05        | 3.16E-04        |
| Selenium compounds       | 7782-49-2  | 2.40E-05        | (lb/MMscf) | 8.24E-07        | 3.61E-06        |
| <b>Total HAPs</b>        |            |                 |            | <b>6.48E-02</b> | <b>2.84E-01</b> |
| <b>Max HAP (Toluene)</b> |            |                 |            | <b>1.17E-04</b> | <b>5.11E-04</b> |

# **Bioprocessing Facility Emissions Calculations**

April 2026

**Table A-4a. Dryer Input Parameters**

| Emission Source ID | Emission Source Name | Dried Pulp Production Rate <sup>1, 2</sup> |                    |                   | Control Type <sup>3</sup> | Control Device ID | Control Device Name | Exhaust Flow Rate <sup>4</sup> |         | Maximum Outlet Grain Loading <sup>5</sup> |
|--------------------|----------------------|--------------------------------------------|--------------------|-------------------|---------------------------|-------------------|---------------------|--------------------------------|---------|-------------------------------------------|
|                    |                      | (OD metric ton/day)                        | (OD metric ton/hr) | OD metric ton/yr) |                           |                   |                     | (acfm)                         | (dscfm) |                                           |
| DRY-1              | Evaporative Dryer    | 30                                         | 2.5                | 10,950            | Wet Scrubber              | SCRUB-1           | Dryer Scrubber      | 39,054                         | 31,285  | 0.006                                     |

<sup>1</sup> Annual operation: 8,760 hr/yr

<sup>2</sup> Maximum daily throughput of 30 oven-dried (OD) metric tons/day provided by Top Quality Products on 9/25/2024 based on operational design. Annual throughput based on operation up to 365 days/year.

<sup>3</sup> A dryer will be used to dry pulp using steam from the natural gas boiler. The dryer exhaust will be vented to a wet scrubber at all times to control particulate emissions that may be generated from the pulp fiber separation that occurs during drying.

<sup>4</sup> The acfm value was converted to dscfm based on the following conversions:

|     |    |                                                                                                                                              |
|-----|----|----------------------------------------------------------------------------------------------------------------------------------------------|
| 180 | °F | Exhaust temperature provided by the design vendor on 2/28/2025.                                                                              |
| 68  | °F | Standard temperature                                                                                                                         |
| 2.9 | %  | Exhaust gas moisture content was based on internal testing performed on the dryer at a different pulp mill and provided by TQP on 9/25/2024. |

<sup>5</sup> Values for maximum outlet grain loading and air flow were provided by the design vendor on 2/28/2025.

**Table A-4b. Dryer Scrubber Particulate Matter Emissions**

| Pollutant         | SCRUB-1 Emissions <sup>1,2</sup> |              |
|-------------------|----------------------------------|--------------|
|                   | Hourly (lb/hr)                   | Annual (tpy) |
| PM                | 3.2                              | 14.09        |
| PM <sub>10</sub>  | 3.2                              | 14.09        |
| PM <sub>2.5</sub> | 3.2                              | 14.09        |

<sup>1</sup> Total controlled PM emissions based on proposed emissions limit of 3.2 lb/hr. The limit includes a margin for performance variation.

<sup>2</sup> Conservatively assumes PM=PM<sub>10</sub>=PM<sub>2.5</sub>.

**Table A-4c. Dryer Scrubber HAP and VOC Emissions**

| Pollutant         | CAS      | SCRUB-1 Emissions <sup>1,2,3</sup> |              |
|-------------------|----------|------------------------------------|--------------|
|                   |          | Hourly (lb/hr)                     | Annual (tpy) |
| Methanol          | 67-56-1  | 0.13                               | 0.27         |
| Formaldehyde      | 50-00-0  | 0.05                               | 0.11         |
| Toluene           | 108-88-3 | 0.15                               | 0.33         |
| VOC               | -        | 0.33                               | 0.71         |
| <b>Total HAPs</b> | <b>-</b> | <b>0.33</b>                        | <b>0.71</b>  |

<sup>1</sup> HAP Pollutants were identified from internal testing using EPA methods performed on the dryer (no control device) at a different pulp mill and provided by TQP on 9/25/2024. Measured uncontrolled emission rates were scaled for the TQP Yuma facility based on the HAP measured values, as follows:

| Pollutant    | Uncontrolled emission factor (lbs/OD metric ton of dried pulp) |
|--------------|----------------------------------------------------------------|
| Methanol     | 0.05                                                           |
| Formaldehyde | 0.02                                                           |
| Toluene      | 0.06                                                           |

<sup>2</sup> SCRUB-1 HAP emissions (lb/hr) = Uncontrolled Emission factor (lbs/OD metric ton) x maximum hourly throughput (metric tons/hour)

SCRUB-1 Annual HAP emissions (tpy) = Uncontrolled Hourly HAP emissions (lb/hr) x Hours of Operation per Year / 2,000 (lbs/ton)

<sup>3</sup> VOC emissions are conservatively assumed to be the sum of organic HAP constituents for which emission factor data documented in footnote 3.

**Bioprocessing Facility  
Emissions Calculations**

April 2026

**Table A-5. Chemical Usage Emission Summary**

|       | Annual Usage |           | Constituent <sup>2</sup>                             | CAS Number <sup>2</sup> | Maximum Constituent Composition <sup>2</sup><br>(% wt) | Contains solids?<br>(Y/N) | HAP?<br>(Y/N) | VOC?<br>(Y/N)  | Annual Emissions (tpy)                                                                                                   |                |                |
|-------|--------------|-----------|------------------------------------------------------|-------------------------|--------------------------------------------------------|---------------------------|---------------|----------------|--------------------------------------------------------------------------------------------------------------------------|----------------|----------------|
|       | Value        | Units     |                                                      |                         |                                                        |                           |               |                | PM <sub>10</sub> /PM <sub>2.5</sub>                                                                                      | HAP            | VOC            |
|       |              | 6,482,000 | lb                                                   | Hydrogen peroxide       | 7722-84-1                                              | 50%                       | N             | N              | N                                                                                                                        | -              | -              |
|       | 2,161,544    | lb        | Sodium hydroxide                                     | 1310-73-2               | 51%                                                    | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       | 2,131,990    | lb        | Sodium silicate                                      | 01344-09-8              | 38%                                                    | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       | 21,700       | lb        | Diethylenetriaminepentaacetic acid, pentasodium salt | 140-01-2                | 50%                                                    | N                         | N             | N <sup>4</sup> | -                                                                                                                        | -              | -              |
|       |              |           | Ntrilotriacetic acid, trisodium salt                 | 5064-31-3               | 2.5%                                                   | N                         | N             | N <sup>5</sup> | -                                                                                                                        | -              | -              |
|       |              |           | Sodium hydroxide                                     | 1310-73-2               | 2%                                                     | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       | 8,050        | lb        | Sulfuric Acid <sup>3</sup>                           | 7664-93-9               | 93%                                                    | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       | 14,000       | lb        | Aliphatic hydrocarbon                                | N/A                     | 30%                                                    | N                         | N             | Y              | -                                                                                                                        | -              | 2.10           |
|       |              |           | Alcohol alkoxylates                                  | N/A                     | 1.5%                                                   | N                         | N             | Y              | -                                                                                                                        | -              | 0.11           |
|       |              |           | Acrylamide                                           | 79-06-1                 | 0.04%                                                  | N                         | Y             | N              | -                                                                                                                        | 0 <sup>6</sup> | 0 <sup>6</sup> |
|       | 171,500      | lb        | Sodium benzoate                                      | 532-32-1                | 50%                                                    | N                         | N             | N <sup>7</sup> | -                                                                                                                        | -              | -              |
|       | 6,650        | lb        | oxirane, methyl-, polymer with oxirane               | 9003-11-6               | 60%                                                    | N                         | N             | Y              | -                                                                                                                        | -              | 2.00           |
|       | 1,400        | lb        | Phosphoric acid                                      | 7664-38-2               | 5%                                                     | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       |              |           | Sulfuric acid <sup>3</sup>                           | 7664-93-9               | 5%                                                     | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       | 2800         | lb        | Sodium bromide                                       | 7647-15-6               | 9%                                                     | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       |              |           | Sodium hypochlorite                                  | 7681-52-9               | 6%                                                     | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       |              |           | Sodium chloride                                      | 7647-14-5               | 5%                                                     | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       |              |           | Sodium hydroxide                                     | 1310-73-2               | 5%                                                     | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       | 12,250       | lb        | Hydrotreated Heavy Paraffinic Distillate             | 64742-54-7              | 95%                                                    | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       |              |           | Amorphous silica                                     | 7631-86-9               | 10%                                                    | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       |              |           | Propoxylated butanol                                 | 9003-13-8               | 5%                                                     | N                         | N             | N              | -                                                                                                                        | -              | -              |
|       |              |           | Vendor tested VOC content                            | N/A                     | 2.12%                                                  | N                         | N             | Y              | -                                                                                                                        | -              | 0.13           |
|       | 12,250       | lb        | N/A                                                  | -                       | -                                                      | N                         | N             | N              | No VOC emissions are anticipated from the boiler water treatment chemicals because these are used in closed loop piping. |                |                |
|       | 17,500       | lb        | Diethylethanolamine                                  | 100-37-8                | 30%                                                    | N                         | N             | Y              |                                                                                                                          |                |                |
|       |              |           | Morpholine                                           | 110-91-8                | 5%                                                     | N                         | N             | Y              |                                                                                                                          |                |                |
|       | 7,000        | lb        | Sodium Bisulfite                                     | 7631-90-5               | 30%                                                    | N                         | N             | N              |                                                                                                                          |                |                |
|       |              |           | Potassium Bisulfite                                  | 7773037                 | 5%                                                     | N                         | N             | N              |                                                                                                                          |                |                |
| Total |              |           |                                                      |                         |                                                        |                           |               |                | 0.0                                                                                                                      | 0.0            | 4.33           |

<sup>1</sup> Provided via VOC and HAP Annual Usage , received 09/25/2024 from Top Quality Products.

<sup>2</sup> Speciated composition provided in SDS sheets, received 09/25/2024 from Top Quality Products.

# Bioprocessing Facility Emissions Calculations

April 2026

**Table A-6. Site-Wide Potential to Emit Summary**

| Emission Source Name                                                    | Annual Potential to Emit (tpy) |                  |                   |              |                 |             |                 |                   |             |                   |
|-------------------------------------------------------------------------|--------------------------------|------------------|-------------------|--------------|-----------------|-------------|-----------------|-------------------|-------------|-------------------|
|                                                                         | PM                             | PM <sub>10</sub> | PM <sub>2.5</sub> | CO           | NO <sub>x</sub> | VOC         | SO <sub>2</sub> | CO <sub>2</sub> e | HAPs        | Max HAP (Toluene) |
| <b>Permitted Emissions</b>                                              |                                |                  |                   |              |                 |             |                 |                   |             |                   |
| Cooling Tower 1                                                         | 0.0020                         | 0.0018           | 0.000025          | -            | -               | 0.13        | -               | -                 | -           | -                 |
| Cooling Tower 2                                                         | 0.0079                         | 0.0072           | 0.00010           | -            | -               |             | -               | -                 | -           | -                 |
| Emergency Generator 1                                                   | 0.0022                         | 0.0022           | 0.0022            | 0.55         | 0.044           | 0.021       | 0.00072         | 76.79             | 1.82E-03    | 1.92E-04          |
| Boiler 1                                                                | 1.14                           | 1.14             | 1.14              | 12.62        | 15.03           | 0.83        | 0.090           | 17,951            | 0.28        | 5.11E-04          |
| Evaporative Dryer                                                       | 14.09                          | 14.09            | 14.09             | -            | -               | 0.71        | -               | -                 | 0.71        | 0.33              |
| Other Chemical Usage                                                    | 0.00                           | 0.00             | 0.00              | -            | -               | 4.20        | -               | -                 | 0.0000      | 0.6               |
| <b>Revised Facility-wide Total</b>                                      | <b>15.25</b>                   | <b>15.25</b>     | <b>15.24</b>      | <b>13.18</b> | <b>15.07</b>    | <b>5.89</b> | <b>0.091</b>    | <b>18,028</b>     | <b>1.00</b> | <b>0.33</b>       |
| ADEQ Permitting Exemption Thresholds <sup>1</sup>                       | -                              | 7.5              | 5                 | 50           | 20              | 20          | 20              | -                 | -           | -                 |
| Does the Project Emissions exceed ADEQ Permitting Exemption Thresholds? | -                              | Yes              | Yes               | No           | No              | No          | No              | -                 | -           | -                 |
| ADEQ Major Source Thresholds <sup>2</sup>                               | 100                            | 100              | 100               | 100          | 100             | 100         | 100             | 100,000           | 25          | 10                |
| Does the Project Emissions exceed ADEQ Major Source Thresholds?         | No                             | No               | No                | No           | No              | No          | No              | Not Applicable    | No          | No                |

<sup>1</sup> Per A.A.C R18-2-101.101 definition of "permitting exemption thresholds".

<sup>2</sup> Per A.A.C R18-2-101.75 definition of "Major source".

**Bioprocessing Facility  
Emissions Calculations**

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**Table A-7. Site-Wide HAP Potential to Emit Summary**

| HAP Pollutant            | CAS        | HAP Annual Emissions (tpy) |                  |           |          |         |                      |             |
|--------------------------|------------|----------------------------|------------------|-----------|----------|---------|----------------------|-------------|
|                          |            | Cooling towers             | Emergency Engine | NG Boiler | Dryer    | Pulping | Other Chemical Usage | Total       |
| Acenaphthene             | 83-32-9    | --                         | --               | 2.71E-07  | --       | --      | --                   | 2.71E-07    |
| Acenaphthylene           | 203-96-8   | --                         | --               | 2.71E-07  | --       | --      | --                   | 2.71E-07    |
| Anthracene               | 120-12-7   | --                         | --               | 3.61E-07  | --       | --      | --                   | 3.61E-07    |
| Benz(a)anthracene        | 56-55-3    | --                         | --               | 2.71E-07  | --       | --      | --                   | 2.71E-07    |
| Benzo(a)pyrene           | 50-32-8    | --                         | --               | 1.80E-07  | --       | --      | --                   | 1.80E-07    |
| Benzo(b)fluoranthene     | 205-99-2   | --                         | --               | 2.71E-07  | --       | --      | --                   | 2.71E-07    |
| Benzo(g,h,i)perylene     | 191-24-2   | --                         | --               | 1.80E-07  | --       | --      | --                   | 1.80E-07    |
| Benzo(k)fluoranthene     | 205-82-3   | --                         | --               | 2.71E-07  | --       | --      | --                   | 2.71E-07    |
| Chrysene                 | 218-01-9   | --                         | --               | 2.71E-07  | --       | --      | --                   | 2.71E-07    |
| Dibenzo(a,h)anthracene   | 53-70-3    | --                         | --               | 1.80E-07  | --       | --      | --                   | 1.80E-07    |
| Fluoranthene             | 206-44-0   | --                         | --               | 4.51E-07  | --       | --      | --                   | 4.51E-07    |
| Fluorene                 | 86-73-7    | --                         | --               | 4.21E-07  | --       | --      | --                   | 4.21E-07    |
| Indeno(1,2,3-cd)pyrene   | 193-39-5   | --                         | --               | 2.71E-07  | --       | --      | --                   | 2.71E-07    |
| Phenanthrene             | 85-01-8    | --                         | --               | 2.56E-06  | --       | --      | --                   | 2.56E-06    |
| Pyrene                   | 129-00-0   | --                         | --               | 7.51E-07  | --       | --      | --                   | 7.51E-07    |
| Benzene                  | 71-43-2    | --                         | 4.38E-04         | 3.16E-04  | --       | --      | --                   | 7.54E-04    |
| Dichlorobenzene          | 25321-22-6 | --                         | --               | 1.80E-04  | --       | --      | --                   | 1.80E-04    |
| Formaldehyde             | 50-00-0    | --                         | 5.54E-04         | 1.13E-02  | 1.10E-01 | --      | --                   | 1.21E-01    |
| Hexane                   | 110-54-3   | --                         | --               | 2.71E-01  | --       | --      | --                   | 2.71E-01    |
| Naphthalene              | 91-20-3    | --                         | --               | 9.17E-05  | --       | --      | --                   | 9.17E-05    |
| Toluene                  | 108-88-3   | --                         | 1.92E-04         | 5.11E-04  | 3.29E-01 | --      | --                   | 3.29E-01    |
| Lead Compounds           | 7439-92-1  | --                         | --               | 7.51E-05  | --       | --      | --                   | 7.51E-05    |
| Xylenes                  | 1330-20-7  | --                         | 1.34E-04         | --        | --       | --      | --                   | 1.34E-04    |
| 1,3-Butadiene            | 106-99-0   | --                         | 1.84E-05         | --        | --       | --      | --                   | 1.84E-05    |
| Acetaldehyde             | 75-07-0    | --                         | 3.60E-04         | --        | --       | --      | --                   | 3.60E-04    |
| Acrolein                 | 107-02-8   | --                         | 4.34E-05         | --        | --       | --      | --                   | 4.34E-05    |
| Total PAH                | -          | --                         | 7.89E-05         | --        | --       | --      | --                   | 7.89E-05    |
| Methanol                 | 67-56-1    | --                         | --               | --        | 2.74E-01 | --      | --                   | 2.74E-01    |
| Acrylamide               | 79-06-1    | --                         | --               | --        | --       | --      | 0.0                  | 0.00E+00    |
| Arsenic Compounds        | 7440-38-2  | --                         | --               | 3.01E-05  | --       | --      | --                   | 3.01E-05    |
| Beryllium Compounds      | 7440-41-7  | --                         | --               | 1.80E-06  | --       | --      | --                   | 1.80E-06    |
| Cadmium Compounds        | 7440-43-9  | --                         | --               | 1.65E-04  | --       | --      | --                   | 1.65E-04    |
| Chromium Compounds       | 7440-47-3  | --                         | --               | 2.10E-04  | --       | --      | --                   | 2.10E-04    |
| Cobalt Compounds         | 7440-48-4  | --                         | --               | 1.26E-05  | --       | --      | --                   | 1.26E-05    |
| Manganese Compounds      | 7439-96-5  | --                         | --               | 5.71E-05  | --       | --      | --                   | 5.71E-05    |
| Mercury Compounds        | 7439-97-6  | --                         | --               | 3.91E-05  | --       | --      | --                   | 3.91E-05    |
| Nickel Compounds         | 7440-02-0  | --                         | --               | 3.16E-04  | --       | --      | --                   | 3.16E-04    |
| Selenium Compounds       | 7782-49-2  | --                         | --               | 3.61E-06  | --       | --      | --                   | 3.61E-06    |
| <b>Total HAP</b>         |            |                            |                  |           |          |         |                      | <b>1.00</b> |
| <b>Max HAP (Toluene)</b> |            |                            |                  |           |          |         |                      | <b>0.33</b> |

## **ATTACHMENT 3**

### **Regulatory Applicability Review**

## 3. REGULATORY APPLICABILITY

---

The following sections provide an overview of federal and state regulations potentially applicable to the emission units being modified as a part of this significant permit revision. The regulatory applicability analysis does not discuss other permitted emission sources not associated with this significant permit revision.

### 3.1 Permit Applicability Analysis

#### 3.1.1 Major NSR Applicability

The TQP facility is located in the area of Yuma County classified as moderate nonattainment for the 1987 PM<sub>10</sub> NAAQS and is in attainment or unclassified for all other criteria pollutants. Accordingly, all regulated NSR pollutants except PM<sub>10</sub> are evaluated for applicability under the federal Prevention of Significant Deterioration (PSD) program, whereas PM<sub>10</sub> is evaluated for applicability under the nonattainment NSR (NNSR) program.

Under PSD permitting rules, the major source threshold is 250 tpy unless the facility is listed as a categorical source in A.A.C. R18-2-101.23. The NSR major source threshold (MST) for the bioprocessing facility is 250 tpy for any individual regulated NSR pollutant (see A.A.C. R18-2-401.13.b), except PM<sub>10</sub>. Note that because the Yuma facility is not a categorical source, only non-fugitive emissions are assessed against the MST for each relevant pollutant; fugitive emissions are excluded from the PSD major source applicability determination.

Under the NNSR program, the major source threshold for PM<sub>10</sub> in a moderate nonattainment area is 100 tpy.

As summarized in Table A-6 of Attachment 2, the Project PTE will be less than the corresponding MST for each Project NSR pollutant emitted.

#### 3.1.2 Minor NSR Applicability

Per A.A.C. R18-2-334.A, minor NSR requirements shall apply when:

- ▶ *The project involves:*
  - *Construction of any new Class I or Class II source, including the construction of any source requiring a Class II permit under R18-2-302.01(C)(4); or*
  - *any minor NSR modification to a Class I or Class II source.*

The proposed changes at the facility meet the criteria for a "minor NSR modification" as defined in A.A.C. R18-2-301.15 because the Project PTE increase exceeds the ADEQ permitting exemption thresholds for PM<sub>10</sub> and PM<sub>2.5</sub>. As such, TQP has included a modeling report in Attachment 8 to satisfy the requirements of the minor NSR program pursuant to A.A.C. R18-2-334.C(2).

### 3.2 Permit Revision Provisions

To assess whether the proposed changes could be processed as a minor permit revision (MPR), an evaluation was conducted in accordance with A.A.C. R18-2-320.B, which identifies the changes at a facility which do not qualify as an MPR. One such condition Pursuant to A.A.C. R18-2-320.B(1) is noted below:

*"Establishing or revising a voluntarily accepted emission limitation or standard as described by R18-2-306.01, R18-2-306.02, or R18-2-306.03, except a decrease in the limitation authorized by R18-2-319(B)(5)."*

The proposed modification seeks to revise existing voluntary limits in the permit and also constitutes a minor NSR change. Accordingly, TQP is submitting an application for SPR to authorize the requested changes.

### **3.3 Federal and State Applicability Analysis**

This section provides an applicability analysis of federal and state requirements for the Project, including the following:

- ▶ New Source Performance Standards (NSPS)
- ▶ National Emission Standards for Hazardous Air Pollutants (NESHAP)
- ▶ Chemical Accident Prevention
- ▶ Arizona Administrative Code

#### ***3.3.1 New Source Performance Standards***

NSPS have been established under 40 CFR Part 60 to regulate emissions of air pollutants from new, modified, or reconstructed stationary sources in specific industrial sectors. All applicable requirements to the Project have already been identified in the existing permit 106248.

#### ***3.3.2 National Emission Standards for Hazardous Air Pollutants***

NESHAPs have been established in 40 CFR Part 61 and Part 63 to regulate emissions of HAPs from stationary sources. The Facility is currently classified as an area source of HAPs because it has potential HAP emissions less than the major source thresholds. TQP is not proposing any changes to existing NESHAP applicability. All applicable requirements to the Project have already been identified in the existing permit No. 106248.

#### ***3.3.3 Arizona Administrative Code (A.A.C.)***

TQP will continue to comply with all applicable A.A.C. regulations in the current air permit. There are no new applicable requirements as a result of the Project.

## **ATTACHMENT 4**

### **Confidentiality Statement**

April 30, 2026

Mr. Daniel Czecholinski  
Director, Air Quality Division  
Arizona Department of Environmental Quality  
1110 West Washington Street  
Phoenix, Arizona 85007

*RE: Top Quality Products, LLC – Initial Class II Permit Application  
Chemicals and Throughputs Confidentiality Claim*

Dear Mr. Czecholinski,

Top Quality Products, LLC (TQP) is submitting an application for a significant permit revision (SPR) to Class II Permit No. 106248 to the Arizona Department of Environmental Quality (ADEQ). The Yuma bioprocessing facility would serve as a demonstration plant for TQP's proposed pulping process and also perform research and development (R&D) operations. On behalf of TQP, Trinity Consultants (Trinity) is providing this notice of confidentiality claim to request that ADEQ maintain confidentiality of the chemical and process material throughput data provided in Attachment 2 of the application.

Individual product and equipment information is not trade secret. However, the implementation of these in proposed Facility processes in the amounts and concentrations identified in this application is company-specific knowledge that is not publicly known. Public disclosure would give TQP's competitors a competitive business advantage over TQP if the data were publicly available, ultimately resulting in economic harm.

TQP believes this confidentiality request meets the criteria in Arizona Revised Statute (A.R.S.) §49-432 and Arizona Administrative Code (A.A.C.) R18-2-305.B. TQP is therefore submitting two versions of the documents mentioned above; 1) A redacted, public version and 2) An unredacted confidential version.

If you have questions about the information presented in this letter, please contact me at [alrayes@trinityconsultants.com](mailto:alrayes@trinityconsultants.com).

Sincerely,



Eddie Al-Rayes  
Regional Director, Trinity Consultants

cc: Camille Ponce, Trinity Consultants  
Michael Todd, Top Quality Products

## **ATTACHMENT 5**

### **Redline Permit**

CLASS II AIR QUALITY PERMIT

PERMIT No. 106248

**PERMITTEE:** Top Quality Products, LLC  
**FACILITY:** Yuma Bioprocessing Facility  
**PLACE ID:** 245471  
**DATE ISSUED:** July 17, 2025  
**EXPIRY DATE:** July 16, 2025

2030 SUMMARY

This Class II air quality permit is issued to Top Quality Products, LLC, the Permittee, for the operation of a bioprocessing facility. The facility will process agricultural crop to produce dry pulp bales. The facility is located at 2992 S. Rebecca Avenue, Yuma, AZ 85365 in Yuma County.

The facility has the potential to emit (PTE) particulate matter less than 10 micrometers (PM<sub>10</sub>) greater than its major source threshold under Arizona Administrative Code (A.A.C.) R18-2-101.75. The facility has accepted to install a wet scrubber to reduce these emissions below its major source threshold. Therefore, the facility qualifies for a synthetic minor permit as allowed under A.A.C. R18-2-306.01.A.

This permit is issued in accordance with Arizona Revised Statutes (A.R.S.) § 49-426. It contains requirements from Title 18, Chapter 2 of the A.A.C. and Title 40 of the Code of Federal Regulations (CFR). All definitions, terms, and conditions used in this permit conform to those in the A.A.C. R18-2-101 et. seq. and Title 40 of the CFR, except as otherwise defined in this permit.

Significant Permit Revision

This Significant Permit Revision authorizes Top Quality Products, LLC with PTE increases of PM<sub>10</sub> and PM<sub>2.5</sub> from the evaporative dryer DRY-1 which is exhausted via wet spray scrubber SCRUB-1. The changes qualify as a minor New Source Review modification that triggered the requirements in A.A.C. R18-2-334.A.3. In order to satisfy the requirements of Minor New Source Review, the Permittee developed an ambient air impact analysis to demonstrate that the emissions resulting from the increase in potential emissions would not interfere with attainment of the National Ambient Air Quality Standards in accordance with A.A.C. R18-2-334.C.2.

Additionally, this Significant Permit Revision authorizes revisions to voluntary emissions limits associated with the SCRUB-1 to reflect the proposed PTE increase and revisions to the permit's compliance demonstration methods to better represent the facility's novel operations.

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**ATTACHMENT "A": GENERAL PROVISIONS**

**I. PERMIT EXPIRATION AND RENEWAL**

- A.** This permit is valid for a period of five (5) years from the date of issuance.  
[A.R.S. § 49-426.F, A.A.C. R18-2-306.A.1]
- B.** The Permittee shall submit an application for renewal of this permit at least six (6) months, but not more than eighteen (18) months, prior to the date of permit expiration.  
[A.A.C. R18-2-304.D.2]

**II. COMPLIANCE WITH PERMIT CONDITIONS**

- A.** The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona Revised Statutes (A.R.S.) Title 49, Chapter 3, and the air quality rules under Title 18, Chapter 2 of the Arizona Administrative Code. Any permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.  
[A.A.C. R18-2-306.A.8.a]
- B.** It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.  
[A.A.C. R18-2-306.A.8.b]

**III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE**

- A.** The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.  
[A.A.C. R18-2-306.A.8.c]
- B.** The permit shall be reopened and revised under any of the following circumstances:
1. The Director or the EPA Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; and  
[A.A.C. R18-2-321.A.1.c]
  2. The Director or the EPA Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.  
[A.A.C. R18-2-321.A.1.d]
- C.** Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall affect only those sections of the permit for which cause to reopen exists. Such

reopening shall be made as expeditiously as practicable. Permit reopenings shall not result in a resetting of the five-year permit term.

[A.A.C. R18-2-321.A.2]

#### **IV. POSTING OF PERMIT**

- A.** The Permittee shall post this permit or a certificate of permit issuance on location where the equipment is installed in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:

[A.A.C. R18-2-315.A]

1. Current permit number; or

[A.A.C. R18-2-315.A.1]

2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.

[A.A.C. R18-2-315.A.2]

- B.** A copy of the complete permit shall be kept on site.

[A.A.C. R18-2-315.B]

#### **V. FEE PAYMENT**

The Permittee shall pay fees to the Director pursuant to A.R.S. § 49-426(E) and A.A.C. R18-2-326.

[A.A.C. R18-2-306.A.9 and -326]

#### **VI. EMISSIONS INVENTORY QUESTIONNAIRE**

- A.** The Permittee shall complete and submit to the Director an emissions inventory questionnaire no later than June 1 every three years beginning June 1, 2021. At the Director's request, the Permittee may be required to complete and submit emissions inventory questionnaires in addition to the triennial emissions inventory questionnaire. The Director shall notify the Permittee in writing of the decision to require additional emissions inventory questionnaires.

[A.A.C. R18-2-327.A.1.b]

- B.** The emissions inventory questionnaire shall be on an electronic or paper form provided by the Director and shall include the information required by A.A.C. R18-2-327.A.3 for the previous calendar year.

[A.A.C. R18-2-327.A.3]

- C.** The Permittee shall submit to the Director an amendment to an emissions inventory questionnaire, containing the documentation required by A.A.C. R18-2-327.A.3, whenever the Permittee discovers or receives notice, within two (2) years of the original submittal, that incorrect or insufficient information was submitted to the Director by a previous emissions inventory questionnaire. The amendment shall be submitted to the Director within 30 days of discovery or receipt of notice. If the incorrect or insufficient information resulted in an incorrect annual emissions fee, the Director shall require that additional payment be made or shall apply an amount as a credit to a future annual emissions fee. The submittal of an amendment shall not subject the Permittee to an enforcement action or a

civil or criminal penalty if the original submittal of incorrect or insufficient information was not due to willful neglect.

[A.A.C. R18-2-327.A.4]

## **VII. COMPLIANCE CERTIFICATION**

- A.** The Permittee shall submit a compliance certification to the Director annually which describes the compliance status of the source with respect to each permit condition. The certification shall be submitted no later than September 15th, and shall report the compliance status of the source during the period between August 1st of the previous year and July 31st of the current year.

[A.A.C. R18-2-309.2.a]

- B.** The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;  
[A.A.C. R18-2-309.2.c.i]
2. Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period;  
[A.A.C. R18-2-309.2.c.ii]
3. Status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certifications shall identify each deviation (including any deviations reported pursuant to Condition XII.B of this Attachment) during the period covered by the certification and take it into account for consideration in the compliance certification  
[A.A.C. R18-2-309.2.c.iii]
4. Other facts the Director may require in determining the compliance status of the source.  
[A.A.C. R18-2-309.2.c.iv]

## **VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS**

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

[A.A.C. R18-2-309.3]

## **IX. INSPECTION AND ENTRY**

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

- A.** Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;

[A.A.C. R18-2-309.4.a]

- B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;  
[A.A.C. R18-2-309.4.b]
- C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;  
[A.A.C. R18-2-309.4.c]
- D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and  
[A.A.C. R18-2-309.4.d]
- E. Record any inspection by use of written, electronic, magnetic and photographic media.  
[A.A.C. R18-2-309.4.e]

**X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD**

If this source becomes subject to a standard promulgated by the EPA Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

[A.A.C. R18-2-304.D.3]

**XI. ACCIDENTAL RELEASE PROGRAM**

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.

[40 CFR Part 68]

**XII. EXCESS EMISSIONS AND PERMIT DEVIATIONS**

**A. Excess Emissions Reporting**

[A.A.C. R18-2-310.01.A, B, and C]

**1. Excess emissions shall be reported as follows:**

- a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

[A.A.C. R18-2-310.01.A]

- (1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.

[A.A.C. R18-2-310.01.A.1]

- (2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a(1) above.  
[A.A.C. R18-2-310.01.A.2]
- b. The report shall contain the following information:
  - (1) Identity of each stack or other emission point where the excess emissions occurred;  
[A.A.C. R18-2-310.01.B.1]
  - (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;  
[A.A.C. R18-2-310.01.B.2]
  - (3) Time and duration, or expected duration, of the excess emissions;  
[A.A.C. R18-2-310.01.B.3]
  - (4) Identity of the equipment from which the excess emissions emanated;  
[A.A.C. R18-2-310.01.B.4]
  - (5) Nature and cause of the emissions;  
[A.A.C. R18-2-310.01.B.5]
  - (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions;  
[A.A.C. R18-2-310.01.B.6]
  - (7) Steps that were or are being taken to limit the excess emissions; and  
[A.A.C. R18-2-310.01.B.7]
  - (8) If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures governing source operation during periods of startup or malfunction.  
[A.A.C. R18-2-310.01.B.8]
2. In the case of continuous or recurring excess emissions, the notification requirements shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.  
[A.A.C. R18-2-310.01.C]

**B. Permit Deviations Reporting**

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Where the applicable requirement contains a definition of prompt or otherwise specifies a timeframe for reporting deviations, that definition or timeframe shall govern. Where the applicable requirement does not address the timeframe for reporting deviations, the Permittee shall submit reports of deviations according to the following schedule:

1. Notice that complies with Condition XII.A above is prompt for deviations that constitute excess emissions;  
[A.A.C. R18-2-306.A.5.b.i]
2. Notice that is submitted within two (2) working days of discovery of the deviation is prompt for deviations of permit conditions identified by Condition I.B.1 of Attachment “B”;  
[A.A.C. R18-2-306.A.5.b.ii]
3. Except as provided in Conditions XII.B.1 and 2, prompt notification of all other types of deviations shall be made annually, concurrent with the annual compliance certifications required in Section VII, and can be submitted via myDEQ, the Arizona Department of Environmental Quality’s online portal.  
[A.A.C. R18-2-306.A.5.b.ii]  
[State Enforceable Only]

### C. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

#### 1. Applicability

A.A.C. R18-2-310 establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

- a. Promulgated pursuant to Sections 111 or 112 of the Act;  
[A.A.C. R18-2-310.A.1]
- b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;  
[A.A.C. R18-2-310.A.2]
- c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;  
[A.A.C. R18-2-310.A.3]
- d. Contained in A.A.C. R18-2-715.F; or  
[A.A.C. R18-2-310.A.4]
- e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.  
[A.A.C. R18-2-310.A.5]

#### 2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are

due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

[A.A.C. R18-2-310.B]

a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;

[A.A.C. R18-2-310.B.1]

b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

[A.A.C. R18-2-310.B.2]

c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;

[A.A.C. R18-2-310.B.3]

d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

[A.A.C. R18-2-310.B.4]

e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

[A.A.C. R18-2-310.B.5]

f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

[A.A.C. R18-2-310.B.6]

g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

[A.A.C. R18-2-310.B.7]

h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;

[A.A.C. R18-2-310.B.8]

i. All emissions monitoring systems were kept in operation if at all practicable; and

[A.A.C. R18-2-310.B.9]

j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records.

[A.A.C. R18-2-310.B.10]

3. Affirmative Defense for Startup and Shutdown

a. Except as provided in Condition XII.C.3 below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

[A.A.C. R18-2-310.C.1]

(1) The excess emissions could not have been prevented through careful and prudent planning and design;

[A.A.C. R18-2-310.C.1.a]

(2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;

[A.A.C. R18-2-310.C.1.b]

(3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

[A.A.C. R18-2-310.C.1.c]

(4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

[A.A.C. R18-2-310.C.1.d]

(5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

[A.A.C. R18-2-310.C.1.e]

(6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

[A.A.C. R18-2-310.C.1.f]

(7) All emissions monitoring systems were kept in operation if at all practicable; and

[A.A.C. R18-2-310.C.1.g]

(8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.

[A.A.C. R18-2-310.C.1.h]

b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.C.2 above.

[A.A.C. R18-2-310.C.2]

4. Affirmative Defense for Malfunctions During Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.D.2 above.

[A.A.C. R18-2-310.D]

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.C.2 or XII.C.3, the Permittee shall demonstrate, through submission of the data and information required by this Condition XII.C and Condition XII.A.1 above, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

[A.A.C. R18-2-310.E]

**XIII. RECORDKEEPING REQUIREMENTS**

- A.** The Permittee shall keep records of all required monitoring information including, but not limited to, the following:
1. The date, place as defined in the permit, and time of sampling or measurements;  
[A.A.C. R18-2-306.A.4.a.i]
  2. The date(s) any analyses were performed;  
[A.A.C. R18-2-306.A.4.a.ii]
  3. The name of the company or entity that performed the analyses;  
[A.A.C. R18-2-306.A.4.a.iii]
  4. A description of the analytical techniques or methods used;  
[A.A.C. R18-2-306.A.4.a.iv]
  5. The results of analyses; and  
[A.A.C. R18-2-306.A.4.a.v]
  6. The operating conditions as existing at the time of sampling or measurement.  
[A.A.C. R18-2-306.A.4.a.vi]
- B.** The Permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records

and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

[A.A.C. R18-2-306.A.4.b]

#### **XIV. DUTY TO PROVIDE INFORMATION**

- A.** The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the EPA Administrator along with a claim of confidentiality.

[A.A.C. R18-2-304.G and -306.A.8.e]

- B.** If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

[A.A.C. R18-2-304.H]

#### **XV. PERMIT AMENDMENT OR REVISION**

The Permittee shall apply for a permit amendment or revision for changes to the facility which does not qualify for a facility change without revision under Section XVII below, as follows:

- A.** Facility Changes that Require a Permit Revision;

[A.A.C. R18-2-317.01]

- B.** Administrative Permit Amendment;

[A.A.C. R18-2-318]

- C.** Minor Permit Revision; and

[A.A.C. R18-2-319]

- D.** Significant Permit Revision.

[A.A.C. R18-2-320]

The applicability and requirements for such action are defined in the above referenced regulations.

#### **XVI. FACILITY CHANGE WITHOUT A PERMIT REVISION**

- A.** Except for a physical change or change in the method of operation at a Class II source requiring a permit revision under A.A.C. R18-2-317.01, or a change subject to logging or notice requirements in Condition XVI.B, a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Section.

[A.A.C. R18-2-317.02.A]

- B.** The following changes may be made if the source keeps on site records of the changes according to Condition XVI.H below:

[A.A.C. R18-2-317.02.B]

1. Implementing an alternative operating scenario, including raw materials changes;  
[A.A.C. R18-2-317.02.B.1]
  2. Changing process equipment, operating procedures, or making any other physical change if the permit requires the change to be logged;  
[A.A.C. R18-2-317.02.B.2]
  3. Engaging in any new insignificant activity listed in A.A.C. R18-2-101.68 but not listed in the permit;  
[A.A.C. R18-2-317.02.B.3]
  4. Replacing an item of air pollution control equipment listed in the permit with an identical (same model, different serial number) item. The Director may require verification of efficiency of the new equipment by performance tests; and  
[A.A.C. R18-2-317.02.B.4]
  5. A change that results in a decrease in actual emissions if the source wants to claim credit for the decrease in determining whether the source has a net emissions increase for any purpose. The logged information shall include a description of the change that will produce the decrease in actual emissions. A decrease that has not been logged is creditable only if the decrease is quantifiable, enforceable, and otherwise qualifies as a creditable decrease.  
A.A.C. R18-2-317.02.B.5]
- C. The following changes may be made if the source provides written notice to the Department in advance of the change as provided below:  
[A.A.C. R18-2-317.02.C]
1. Replacing an item of air pollution control equipment listed in the permit with one that is not identical but that is substantially similar and has the same or better pollutant removal efficiency: seven days. The Director may require verification of efficiency of the new equipment by performance tests;  
[A.A.C. R18-2-317.02.C.1]
  2. A physical change or change in the method of operation that increases actual emissions more than 10% of the major source threshold for any conventional pollutant but does not require a permit revision: seven days;  
[A.A.C. R18-2-317.02.C.2]
  3. Replacing an item of air pollution control equipment listed in the permit with one that is not substantially similar but that has the same or better efficiency: 30 days. The Director may require verification of efficiency of the new equipment by performance tests;  
[A.A.C. R18-2-317.02.C.3]
  4. A change that would trigger an applicable requirement that already exists in the permit: 30 days unless otherwise required by the applicable requirement;  
[A.A.C. R18-2-317.02.C.4]
  5. A change that amounts to reconstruction of the source or an affected facility: seven days. For purposes of this subsection, reconstruction of a source or an affected

facility shall be presumed if the fixed capital cost of the new components exceeds 50% of the fixed capital cost of a comparable entirely new source or affected facility and the changes to the components have occurred over the 12 consecutive months beginning with commencement of construction; and

[A.A.C. R18-2-317.02.C.5]

6. A change that will result in the emissions of a new regulated air pollutant above an applicable regulatory threshold but that does not trigger a new applicable requirement for that source category: 30 days. For purposes of this requirement, an applicable regulatory threshold for a conventional air pollutant shall be 10% of the applicable major source threshold for that pollutant.

- D.** For each change under Condition XVI.C, the written notice shall be by certified mail or hand delivery and shall be received by the Director the minimum amount of time in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided with less than required notice, but must be provided as far in advance of the change, or if advance notification is not practicable, as soon after the change as possible. The written notice shall include:

[A.A.C. R18-2-317.02.D]

1. When the proposed change will occur,

[A.A.C. R18-2-317.02.D.1]

2. A description of the change,

[A.A.C. R18-2-317.02.D.2]

3. Any change in emissions of regulated air pollutants, and

[A.A.C. R18-2-317.02.D.3]

4. Any permit term or condition that is no longer applicable as a result of the change.

[A.A.C. R18-2-317.02.D.4]

- E.** The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate operating scenario under Condition XVI.B.1.

[A.A.C. R18-2-317.02.F]

- F.** Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the Permittee under this Section over the term of the permit, constitutes a change under subsection A.A.C. R18-2-317.01.A.

[A.A.C. R18-2-317.02.G]

- G.** A copy of all logs required under Condition XVI.B shall be filed with the Director within 30 days after each anniversary of the permit issuance date. If no changes were made at the source requiring logging, a statement to that effect shall be filed instead.

[A.A.C. R18-2-317.02.I]

- H.** Logging Requirements

[Arizona Administrative Code, Appendix 3]

1. Each log entry required by a change under Condition XVI.B shall include at least the following information:
  - a. A description of the change, including:
    - (1) A description of any process change;
    - (2) A description of any equipment change, including both old and new equipment descriptions, model numbers, and serial numbers, or any other unique equipment ID number; and
    - (3) A description of any process material change.
  - b. The date and time that the change occurred.
  - c. The provisions of Condition XVI.B that authorizes the change to be made with logging.
  - d. The date the entry was made and the first and last name of the person making the entry.
2. Logs shall be kept for five (5) years from the date created. Logging shall be performed in indelible ink in a bound log book with sequentially number pages, or in any other form, including electronic format, approved by the Director.

## **XVII. TESTING REQUIREMENTS**

- A.** The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

[A.A.C. R18-2-312.A]

- B.** Operational Conditions During Performance Testing

Performance tests shall be conducted under such conditions as the Director shall specify to the plant operator based on representative performance of the source. The Permittee shall make available to the Director such records as may be necessary to determine the conditions of the performance tests. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative conditions of performance tests unless otherwise specified in the applicable standard.

[A.A.C. R18-2-312.C]

- C.** Performance Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

[A.A.C. R18-2-312.B]

- D.** Test Plan

At least 14 working days prior to performing a test, the Permittee shall submit a test plan to the Director, which must include the following, in addition to all other applicable requirements, as identified in the Arizona Testing Manual:

[A.A.C. R18-2-312.B]

1. Test duration;
2. Test location(s);
3. Test method(s); and
4. Source operation and other parameters that may affect test results.

**E. Stack Sampling Facilities**

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

[A.A.C. R18-2-312.E]

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platform(s);
3. Safe access to sampling platform(s); and
4. Utilities for sampling and testing equipment.

**F. Interpretation of Final Results**

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

[A.A.C. R18-2-312.F]

**G. Report of Final Test Results**

A written report of the results of performance tests conducted pursuant to 40 CFR 60 or 63, shall be submitted to the Director within 60 days after the test is performed. A written report of the results of all other performance tests shall be submitted within four (4) weeks after the test is performed, or as otherwise provided in the Arizona Testing Manual. All performance testing reports shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

[A.A.C. R18-2-312.A and B]

**H. Extension of Performance Test Deadline**

For performance testing required under Condition XVII.A above, the Permittee may request an extension to a performance test deadline due to a force majeure event as follows:

[A.A.C. R18-2-312.J]

1. If a force majeure event is about to occur, occurs, or has occurred for which the Permittee intends to assert a claim of force majeure, the Permittee shall notify the Director in writing as soon as practicable following the date the Permittee first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline. The notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall be given as soon as practicable.

[A.A.C. R18-2-312.J.1]

2. The Permittee shall provide to the Director a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the Permittee proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure event occurs.

[A.A.C. R18-2-312.J.2]

3. The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Director. The Director shall notify the Permittee in writing of approval or disapproval of the request for an extension as soon as practicable.

[A.A.C. R18-2-312.J.3]

4. Until an extension of the performance test deadline has been approved by the Director under Conditions XVII.H.1, 2, and 3 above, the Permittee remains subject to the requirements of Section XVII.

[A.A.C. R18-2-312.J.4]

5. For purposes of this Section XVII, a “force majeure event” means an event that will be or has been caused by circumstances beyond the control of the Permittee, its contractors, or any entity controlled by the Permittee that prevents it from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the Permittee's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the Permittee.

[A.A.C. R18-2-312.J.5]

**XVIII. PROPERTY RIGHTS**

This permit does not convey any property rights of any sort, or any exclusive privilege.

[A.A.C. R18-2-306.A.8.d]

**XIX. SEVERABILITY CLAUSE**

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

[A.A.C. R18-2-306.A.7]

**XX. PERMIT SHIELD**

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to minor revisions pursuant to Condition XV.C of this Attachment and any facility changes without a permit revision pursuant to Section XVI of this Attachment.

[A.A.C. R18-2-317.F, - 320, and -325]

**XXI. PROTECTION OF STRATOSPHERIC OZONE**

If this source becomes subject to the provisions of 40 CFR Part 82, then the Permittee shall comply with these provisions accordingly.

[40 CFR Part 82]

**XXII. APPLICABILITY OF NSPS/NESHAP GENERAL PROVISIONS**

For all equipment subject to a New Source Performance Standard or a National Emission Standard for Hazardous Air Pollutants, the Permittee shall comply with all applicable requirements contained in Subpart A of Title 40, Chapter 60 and Chapter 63 of the Code of Federal Regulation.

[40 CFR Part 60 Subpart A and Part 63 Subpart A]

**ATTACHMENT "B": SPECIFIC CONDITIONS**

**I. FACILITY-WIDE REQUIREMENTS**

**A. Applicability**

This Section applies to facility-wide requirements.

**B. Operational Limitations**

1. The Permittee shall not process more than 30 bone dry metric tons of pulp per day.  
[A.A.C. R18-2-306.01 and -331.A.3.a]  
[Material Permit Conditions are indicated by underlines and italics]

2. The Permittee shall not process pulp that is produced from wood as described in 40 CFR 60.281(a).  
[A.A.C. R18-2-306.01 and -331.A.3.a]  
[Material Permit Conditions are indicated by underlines and italics]

**C. Opacity**

1. Instantaneous Surveys and Six-Minute Observations

a. Instantaneous Surveys

Any instantaneous survey required by this permit shall be determined by either option listed in Conditions I.C.1.a(1) and (2):  
[A.A.C. R18-2-311.B]

(1) Alternative Method ALT-082 (Digital Camera Operating Technique)

(a) The Permittee, or Permittee representative, shall be certified in the use of Alternative Method ALT-082.

(b) The results of all instantaneous surveys and six-minute observations shall be obtained within 2 hours.

(2) EPA Reference Method 9 Certified Observer.  
[A.A.C. R18-2-306.A.3.c]

b. Six-Minute Observations

Any six-minute observation required by this permit shall be determined by either option listed in Conditions I.C.1.b(1) and (2):  
[A.A.C. R18-2-311.B]

(1) Alternative Method ALT-082 (Digital Camera Operating Technique)

- (a) The Permittee, or Permittee representative, shall be certified in the use of Alternative Method ALT-082.
      - (b) The results of all instantaneous surveys and six-minute observations shall be obtained within 2 hours.
    - (2) EPA Reference Method 9 Certified Observer.
  - c. The Permittee shall have on site or on call a person certified in EPA Reference Method 9 unless all six-minute Method 9 observations required by this permit are conducted as a six-minute Alternative Method ALT-082 (Digital Camera Operating Technique) and all instantaneous visual surveys required by this permit are conducted as an instantaneous ALT-082 camera survey. Any six-minute Method 9 observation required by this permit can be conducted as a six-minute Alternative Method ALT-082 and any instantaneous visual survey required by this permit can be conducted as an instantaneous ALT-082 camera survey.

[A.A.C. R18-2-306.A.3.c]
2. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c]
- a. At the frequency specified in the following sections of this permit, the Permittee shall conduct an instantaneous survey of visible emissions from both process stack sources, when in operation, and fugitive dust sources.
  - b. If the visible emissions on an instantaneous basis appears less than or equal to the applicable opacity standard, then the Permittee shall keep a record of the name of the observer, the date on which the instantaneous survey was made, and the results of the instantaneous survey.
  - c. If the visible emissions on an instantaneous basis appears greater than the applicable opacity standard, then the Permittee shall immediately conduct a six-minute observation of the visible emissions.
    - (1) If the six-minute observation of the visible emissions is less than or equal to the applicable opacity standard, then the Permittee shall record the name of the observer, the date on which the six-minute observation was made, and the results of the six-minute observation.
    - (2) If the six-minute observation of the visible emissions is greater than the applicable opacity standard, then the Permittee shall do the following:
      - (a) Adjust or repair the controls or equipment to reduce opacity to less than or equal to the opacity standard;

- (b) Record the name of the observer, the date on which the six-minute observation was made, the results of the six-minute observation, and all corrective action taken; and
- (c) Report the event as an excess emission for opacity in accordance with Condition XII.A of Attachment "A".
- (d) Conduct another six-minute observation to document the effectiveness of the adjustments or repairs completed.

**D. Monitoring, Recordkeeping and Reporting Requirements**

1. The Permittee shall keep records of the bone dry metric tons of pulp processed per day.  
[A.A.C. R18-2-306.A.4]
2. Deviations from the following Attachment "B" permit conditions shall be promptly reported in accordance with Condition XII.B.2 of Attachment "A":  
[A.A.C. R18-2-306.A.5.b]
  - a. Condition I.B.2;
  - b. Condition II.D.2;
  - c. Condition IV.B.2.b; and
  - d. Condition IV.B.3.a.
3. The Permittee shall submit reports of all monitoring activities required in Attachment "B" along with the annual compliance certification required by Section VII of Attachment "A."  
[A.A.C. R18-2-306.A.5.a]
4. Nothing in this permit shall alter or affect the following:  
[A.A.C. R18-2-325.B]
  - a. The provisions of Section 303 of the Clean Air Act, including the authority of the EPA Administrator under that Section;
  - b. The liability of the facility for any violation of applicable requirements prior to or at the time of permit issuance;
  - c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act;
  - d. The ability of the EPA Administrator or the Director to obtain information from the facility pursuant to Section 114 of the Clean Air Act, or any provision of state law; and
  - e. The authority of the Director to require compliance with new applicable requirements adopted after the permit is issued.

**II. EMERGENCY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINE REQUIREMENTS**

**A. Applicability**

This Section is applicable to the emergency compression ignition (CI) internal combustion engine (ICE) that is subject to New Source Performance Standards (NSPS) Part 60 Subpart IIII for Stationary Compression Ignition Internal Combustion Engines identified in Attachment "C".

Emergency CI ICE includes Equipment ID EG-1.

**B. Emission Standards**

For 2007 model year and later emergency CI ICE with a displacement of less than 30 liters per cylinder, the Permittee must comply with the emission standards in 40 CFR 60.4202.  
[40 CFR 60.4205(b)]

**C. Fuel Requirements**

1. Diesel fuel must meet the requirements of 40 CFR 1090.305 below for emergency CI ICEs:  
[40 CFR 60.4207(b)]

a. Maximum sulfur content of 15 ppm; and  
[40 CFR 1090.305(b)]

b. Minimum cetane index of 40; or  
[40 CFR 1090.305(c)(1)]

c. Maximum aromatic content of 35 volume percent.  
[40 CFR 1090.305(c)(2)]

**D. Operation and Maintenance Requirements**

1. The Permittee shall operate and maintain the emergency CI ICE to achieve the emission standards as required in 40 CFR 60.4205 over the entire life of the emergency CI ICE.  
[40 CFR 60.4206]

2. The Permittee must install a non-resettable hour meter prior to startup of the engine, if one is not already installed.  
[40 CFR 60.4209(a) and A.A.C. R18-2-331.A.3.c]  
[Material Permit Conditions are indicated by underlines and italics]

3. The Permittee shall do all of the following, except as permitted under Condition II.D.6:  
[40 CFR 60.4211(a)]

a. Operate and maintain the emergency CI ICE and control devices according to the manufacturer's emission-related written instructions;  
[40 CFR 60.4211(a)(1)]

- b. Change only those emission-related settings that are permitted by the manufacturer; and  
[40 CFR 60.4211(a)(2)]
- c. Meet the requirements of 40 CFR part 1068, as they apply.  
[40 CFR 60.4211(a)(3)]
- 4. The Permittee shall comply by purchasing an emergency CI ICE certified to the emission standards in 40 CFR 60.4205(b) for the same model year and maximum engine power. It must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition II.D.6.  
[40 CFR 60.4211(c)]
- 5. The Permittee shall operate the emergency CI ICE according to the requirements in Condition II.D.5.a through c. To be considered an emergency CI ICE, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in Condition II.D.5.a through c below, is prohibited. If the emergency CI ICE is not operated according to the requirements in Condition II.D.5.a through c, it will not be considered an emergency CI ICE and must meet all requirements for non-emergency CI ICEs.  
[40 CFR 60.4211(f)]
  - a. There is no time limit on the use of emergency CI ICE in emergency situations.  
[40 CFR 60.4211(f)(1)]
  - b. The Permittee may operate the emergency CI ICE for the purpose specified in below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed below counts as part of the 100 hours per calendar year allowed by this Condition:  
[40 CFR 60.4211(f)(2)]

The Permittee may operate the emergency CI ICE for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the emergency CI ICE. The Permittee may petition the EPA Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency CI ICE beyond 100 hours per calendar year.

[40 CFR 60.4211(f)(2)(i)]

- c. The Permittee may operate the emergency CI ICE for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in Condition II.D.5.b. Except as provided in Condition II.D.5.c(1), the 50 hours per calendar year for

non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 CFR 60.4211(f)(3)]

- (1) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

[40 CFR 60.4211(f)(3)(i)]

- (a) The emergency CI ICE is dispatched by the local balancing authority or local transmission and distribution system operator.

[40 CFR 60.4211(f)(3)(i)(A)]

- (b) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

[40 CFR 60.4211(f)(3)(i)(B)]

- (c) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

[[40 CFR 60.4211(f)(3)(i)(C)]]

- (d) The power is provided only to the facility itself or to support the local transmission and distribution system.

[40 CFR 60.4211(f)(3)(i)(D)]

- (e) The Permittee identifies and records the entity that dispatches the emergency CI ICE and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the Permittee.

[40 CFR 60.4211(f)(3)(i)(E)]

6. If the Permittee does not install, configure, operate, and maintain the emergency CI ICE and control device according to the manufacturer's emission-related written instructions, or the Permittee changes emission-related settings in a way that is not permitted by the manufacturer, the Permittee must demonstrate compliance by keeping a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the emergency CI ICE in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the Permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured,

operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the Permittee changes emission-related settings in a way that is not permitted by the manufacturer.

[40 CFR 60.4211(g)(2)]

7. If the Permittee demonstrates compliance according to Condition II.D.6, the Permittee shall conduct a performance test that follows the procedures in 40 CFR 60.4212.

[40 CFR 60.4212]

**E. Monitoring, Recordkeeping and Reporting Requirements**

1. The Permittee must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The Permittee must record the time of operation of the engine and the reason the engine was in operation during that time.

[40 CFR 60.4214(b)]

2. If the emergency CI ICE operates for the purpose specified in Condition II.D.5.c(1), the Permittee must submit an annual report containing the following information:

[40 CFR 60.4214(d)]

- a. Company name and address where the emergency CI ICE is located.

[40 CFR 60.4214(d)(1)(i)]

- b. Date of the report and beginning and ending dates of the reporting period.

[40 CFR 60.4214(d)(1)(ii)]

- c. Emergency CI ICE site rating and model year.

[40 CFR 60.4214(d)(1)(iii)]

- d. Latitude and longitude of the emergency CI ICE in decimal degrees reported to the fifth decimal place.

[40 CFR 60.4214(d)(1)(iv)]

- e. Hours spent for operation for the purposes specified in Condition II.D.5.c(1), including the date, start time, and end time for engine operation for the purposes specified in Condition II.D.5.c(1). The report must also identify the entity that dispatched the emergency CI ICE and the situation that necessitated the dispatch of the emergency CI ICE.

[40 CFR 60.4214(d)(1)(vii)]

3. Annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

[40 CFR 60.4214(d)(2)]

4. The annual report must be submitted electronically using the reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). However, if the reporting form is not available in CEDRI at the time that the report is due, the

written report must be submitted to the EPA Administrator at the appropriate address listed in 40 CFR 60.4. Beginning on February 26, 2025, submit annual report electronically according to Condition II.E.6.

[40 CFR 60.4214(d)(3)]

5. Beginning on February 26, 2025, within 60 days after the date of completing each performance test required by Condition II.D.7, the Permittee must submit the results of the performance test required under this Subsection following the procedures specified in Conditions II.E.5.a and b.

[40 CFR 60.4214(f)]

- a. ***Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website*** (<https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert>) ***at the time of the test.*** Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). The data must be submitted in a file format generated using the EPA's ERT. Alternatively, the Permittee may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website.

[40 CFR 60.4214(f)(1)]

- b. ***Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test.*** The results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI according to Condition II.E.6.

[40 CFR 60.4214(f)(2)]

6. If the Permittee is required to submit notifications or reports following the procedure specified in this Section, the Permittee must submit notifications or reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). The EPA will make all the information submitted through CEDRI available to the public without further notice to the Permittee. Do not use CEDRI to submit information claimed to be confidential business information (CBI). Although EPA does not expect facilities to assert a claim of CBI, if the Permittee wishes to assert a CBI claim for some of the information in the report or notification, the Permittee must submit a complete file in the format specified, including information claimed to be CBI, to the EPA following the procedures in Conditions II.E.6.a and b. Clearly mark the part or all of the information that is claimed to be CBI. Information not marked as CBI may be authorized for public release without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR Part 2. All CBI claims must be asserted at the time of submission. Anything submitted using CEDRI cannot later be claimed CBI. Furthermore, under Clean Air Act Section 114(c), emissions data is not entitled to confidential treatment, and the EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available. The Permittee must submit

the same file submitted to the CBI office with the CBI omitted to the EPA via the EPA's CDX as described earlier in this Condition.

[40 CFR 60.4214(g)]

- a. The preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol, or other online file sharing services. Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address [oaqpscbi@epa.gov](mailto:oaqpscbi@epa.gov), and as described in Condition II.E.6, should include clear CBI markings. ERT files should be flagged to the attention of the Group Leader, Measurement Policy Group; all other files should be flagged to the attention of the Stationary Compression Ignition Internal Combustion Engine Sector Lead. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if the Permittee does not have their own file sharing service, please email [oaqpscbi@epa.gov](mailto:oaqpscbi@epa.gov) to request a file transfer link.

[40 CFR 60.4214(g)(1)]

- b. If the Permittee cannot transmit the file electronically, the Permittee may send CBI information through the postal service to the following address: OAQPS Document Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, 109 T.W. Alexander Drive, P.O. Box 12055, Research Triangle Park, North Carolina 27711. ERT files should be sent to the attention of the Group Leader, Measurement Policy Group, and all other files should be sent to the attention of the Stationary Compression Ignition Internal Combustion Engine Sector Lead. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

[40 CFR 60.4214(g)(2)]

7. If the Permittee is required to electronically submit a report through CEDRI in the EPA's CDX, the Permittee may assert a claim of EPA system outage for failure to timely comply with that reporting requirement. To assert a claim of EPA system outage, the Permittee must meet the requirements outlined in 40 CFR 60.4214(h)(1) through 40 CFR 60.4214(h)(7).

[40 CFR 60.4214(h)]

8. If the Permittee is required to electronically submit a report through CEDRI in the EPA's CDX, the Permittee may assert a claim of force majeure for failure to timely comply with that reporting requirement. To assert a claim of force majeure, you must meet the requirements outlined in 40 CFR 60.4214(i)(1) through 40 CFR 60.4214(i)(5).

[40 CFR 60.4214(i)]

## **F. Permit Shield**

Compliance with the Conditions of this Section shall be deemed compliance with 40 CFR 60.4205(b), 40 CFR 60.4207(b), 40 CFR 60.4206, 40 CFR 60.4209(a), 40 CFR 60.4211(a), 40 CFR 60.4211(c), 40 CFR 60.4211(f), 40 CFR 60.4211(g)(2), 40 CFR 60.4212, 40 CFR

60.4214(b), 40 CFR 60.4214(d), 40 CFR 60.4214(f), 40 CFR 60.4214(g), 40 CFR 60.4214(h), 40 CFR 60.4214(i), 40 CFR 1090.305(b), and 40 CFR 1090.305(c).

### III. BOILER REQUIREMENTS

#### A. Applicability

This Section is applicable to the boiler that is subject to New Source Performance Standards (NSPS) Part 60 Subpart Dc for Small Industrial-Commercial-Institutional Steam Generating Units identified in Attachment "C".

The boiler includes Equipment ID BOL-1.

#### B. Monitoring, Recordkeeping and Reporting Requirements

1. The Permittee shall submit notification of the date of construction or reconstruction and actual startup of the boiler, as provided by 40 CFR 60.7. This notification shall include:

[40 CFR 60.48c(a)]

- a. The design heat input capacity of the boiler and identification of fuels to be combusted in the boiler.

[40 CFR 60.48c(a)(1)]

- b. The annual capacity factor at which the Permittee anticipates operating the boiler based on all fuels fired and based on each individual fuel fired.

[40 CFR 60.48c(a)(3)]

2. Except as provided under Condition III.B.3, the Permittee shall record and maintain records of the amount of each fuel combusted during each operating day.

[40 CFR 60.48c(g)(1)]

3. As an alternative to meeting the requirements of Condition III.B.2, the Permittee may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

[40 CFR 60.48c(g)(2)]

4. All records required under this Section shall be maintained by the Permittee for a period of two (2) years following the date of such record.

[40 CFR 60.48c(i)]

#### C. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with 40 CFR 60.48c(a)(1), 40 CFR 60.48c(a)(3), 40 CFR 60.48c(g)(1), 40 CFR 60.48c(g)(2) and 40 CFR 60.48c(i).

### IV. UNCLASSIFIED SOURCE REQUIREMENTS

#### A. Applicability

This Section applies to each piece of equipment identified as an unclassified source in Attachment "C" as subject to A.A.C. R18-2-730 for Unclassified Sources.

This includes Equipment IDs CT-1, CT-2, DRY-1 and SCRUB-1.

**B. Particulate Matter**

**1. Emission Limitations and Standards**

- a. *The Permittee shall not allow ~~the maximum outlet grain loading to be emitted into the atmosphere~~ from the wet scrubber stack (SCRUB-1) any gases which contain particulate matter in excess of 3.2 pounds per hour to exceed 0.006 grains per dry standard cubic foot.*

[A.A.C. R18-2-306.01 and A.A.C. R18-2-331.A.3.a]

[Material Permit Conditions are indicated by underlines and italics]

- b. The Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any unclassified sources in total quantities in excess of the amounts calculated by the following equation:

$$E = 4.10P^{0.67}$$

where:

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

P = the process weight rate in tons-mass per hour.

[A.A.C. R18-2-730.A.1.a]

- c. The Permittee shall use the total process weight from all similar units employing a similar type process to determine the maximum allowable emissions of particulate matter.

[A.A.C. R18-2-730.B]

- d. The actual values shall be calculated from the applicable equations and rounded off to two decimal places.

[A.A.C. R18-2-730.C]

**2. Air Pollution Control Requirements**

- a. *The Permittee shall install, maintain, and operate the wet scrubber (SCRUB-1) on the evaporative dryer (DRY-1) in accordance with manufacturer specifications in a manner consistent with good air pollution control practices for minimizing particulate matter emissions.*

[A.A.C. R18-2-306.01 and A.A.C. R18-2-331.A.3.d and e]

[Material Permit Conditions are indicated by underlines and italics]

- b. *At all times when the evaporative dryer (DRY-1) is in operation, the Permittee shall ensure emissions are vented to the wet scrubber (SCRUB-1).*

[A.A.C. R18-2-306.01 and A.A.C. R18-2-331.A.3.d]

[Material Permit Conditions are indicated by underlines and italics]

- c. *The Permittee shall maintain a minimum flowrate of 90 gallons per minute for the inlet header and a minimum flowrate of 337 gallons per minute for the central header of wet scrubber (SCRUB-1) to have a control efficiency of up to 98% for PM/PM<sub>10</sub>. The Permittee shall maintain a pressure drop of at least 6.8 inches of H<sub>2</sub>O across the wet scrubber (SCRUB-1) to achieve a minimum control efficiency of 85% for PM<sub>2.5</sub> and 98% for PM<sub>10</sub>.*

[A.A.C. R18-2-306.01 and A.A.C. R18-2-331.A.3.e]

[Material Permit Conditions are indicated by underlines and italics]

### 3. Performance Test Requirements

- a. Within 60 days after the facility has achieved its maximum manufacturing rate but no later than 180 days after the initial startup, the Permittee shall conduct a performance test on the wet scrubber to demonstrate compliance with the emission limitation in Condition IV.B.1.a. After the initial performance test, the Permittee shall conduct a performance test on the wet scrubber once per permit term. Performance tests shall be conducted in accordance with Section XVII of Attachment "A".

[A.A.C. R18-2-312.A]

- b. The Permittee shall conduct performance tests to demonstrate compliance with Condition IV.B.1.a in accordance with EPA Reference Method 201A.5 and 202 (or any other method as proposed by the Permittee and approved by the Director).

[A.A.C. R18-2-312.B]

### 4. Monitoring, Recordkeeping and Reporting Requirements

- a. The Permittee shall keep a record of the maximum outlet grain loading provided by the manufacturer for the wet scrubber.

[A.A.C. R18-2-306.A.4]

- b. The Permittee shall keep records of all performance tests conducted on the wet scrubber.

[A.A.C. R18-2-306.A.4]

- c. The Permittee shall inspect, document and maintain daily records of the pressure drop across flowrate at the inlet header and at the central header of the wet scrubber.

[A.A.C. R18-2-306.A.3.c and R18-2-306.A.4]

## C. Gaseous Matter

1. The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under the facility's control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730.D]

2. Materials including solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or

IV. UNCLASSIFIED SOURCE REQUIREMENTS

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be otherwise discharged into the ambient air so as to cause or contribute to air

pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory.

[A.A.C. R18-2-730.F]

3. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the Permittee thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.

[A.A.C. R18-2-730.G]

**D. Permit Shield**

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-730.A.1.a, A.A.C. R18-2-730.B, A.A.C. R18-2-730.C, A.A.C. R18-2-730.D, A.A.C. R18-2-730.F, and A.A.C. R18-2-730.G.

**V. FUGITIVE DUST REQUIREMENTS**

**A. Applicability**

This Section applies to any non-point source of fugitive dust in the facility.

**B. Particulate Matter and Opacity**

Open Areas, Roadways & Streets, Storage Piles, and Material Handling

**1. Emission Limitations and Standards**

- a. Opacity of emissions from any fugitive dust non-point source shall not be greater than 40%.

[A.A.C. R18-2-614]

- b. The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

- (1) Keep dust and other types of air contaminants to a minimum in an open area where construction operations, repair operations, demolition activities, clearing operations, leveling operations, or any earth moving or excavating activities are taking place, by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means;

[A.A.C. R18-2-604.A]

- (2) Keep dust to a minimum from driveways, parking areas, and vacant lots where motor vehicular activity occurs by using an

approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means;

[A.A.C. R18-2-604.B]

- (3) Keep dust and other particulates to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway or alley is used, repaired, constructed, or reconstructed;

[A.A.C. R18-2-605.A]

- (4) Take reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust. Earth or other material that is deposited by trucking or earth moving equipment shall be removed from paved streets by the person responsible for such deposits;

[A.A.C. R18-2-605.B]

- (5) Take reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods when crushing, screening, handling, transporting or conveying of materials or other operations likely to result in significant amounts of airborne dust;

[A.A.C. R18-2-606]

- (6) Take reasonable precautions such as chemical stabilization, wetting, or covering when organic or inorganic dust producing material is being stacked, piled, or otherwise stored;

[A.A.C. R18-2-607.A]

- (7) Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material, or with the use of spray bars and wetting agents;

[A.A.C. R18-2-607.B]

- (8) Any other method as proposed by the Permittee and approved by the Director.

[A.A.C. R18-2-306.A.3.c]

## 2. Monitoring and Recordkeeping Requirements

- a. The Permittee shall maintain records of the dates on which any of the activities listed in Condition V.B.1.b above were performed and the control measures that were adopted.

[A.A.C. R18-2-306.A.3.c]

- b. Opacity

Each quarter, the Permittee shall monitor visible emissions from fugitive sources in accordance with Condition I.C of Attachment "B".

[A.A.C. R18-2-306.A.3.c]

**C. Permit Shield**

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-604, -605, -606, 607, and -614.

[A.A.C. R18-2-325]

**VI. OTHER PERIODIC ACTIVITIES**

**A. Abrasive Blasting**

**1. Particulate Matter and Opacity**

**a. Emission Limitations and Standards**

The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:

[A.A.C. R18-2-726]

- (1) Wet blasting;
- (2) Effective enclosures with necessary dust collecting equipment; or
- (3) Any other method approved by the Director.

**b. Opacity**

The Permittee shall not cause, allow or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 20% opacity.

[A.A.C. R18-2-702.B.3]

**2. Monitoring and Recordkeeping Requirements**

**a. Each time an abrasive blasting project is conducted, the Permittee shall make a record of the following:**

[A.A.C. R18-2-306.A.3.c]

- (1) The date the project was conducted;
- (2) The duration of the project; and
- (3) Type of control measures employed.

**b. Each time an abrasive blasting project is conducted, the Permittee shall monitor visible emissions from the project in accordance with Condition I.C of Attachment "B".**

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with Condition VI.A.1.a shall be deemed compliance with A.A.C. R18-2-702.B.3 and -726.

[A.A.C. R18-2-325]

**B.** Use of Paints

1. Volatile Organic Compounds

a. Emission Limitations and Standards

While performing spray painting operations, the Permittee shall comply with the following requirements:

- (1) The Permittee shall not conduct or cause to be conducted any spray painting operation without minimizing organic solvent emissions. Such operations, other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray.

[A.A.C. R18-2-727.A]

- (2) The Permittee or their designated contractor shall not either:

- (a) Employ, apply, evaporate, or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or
- (b) Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C. R18-2-727.B]

- (3) For the purposes of Condition VI.B.1.a(1), a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in Condition VI.B.1.a(2), or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

[A.A.C. R18-2-727.C]

- (a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation-hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5 percent.
- (b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.

[A.A.C. R18-2-727.C.2]

- (c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

[A.A.C. R18-2-727.C.3]

- (4) Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups of organic compounds described in Condition VI.B.1.a(3), it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C. R18-2-727.D]

b. Monitoring and Recordkeeping Requirements

- (1) Each time a spray painting project is conducted, the Permittee shall make a record of the following:

[A.A.C. R18-2-306.A.3.c]

- (a) The date the project was conducted;
  - (b) The duration of the project;
  - (c) Type of control measures employed;
  - (d) Safety Data Sheets (SDS) for all paints and solvents used in the project; and
  - (e) The amount of paint consumed during the project.
- (2) Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of Condition VI.B.1.b(1).

c. Permit Shield

Compliance with Condition VI.B.1.a shall be deemed compliance with A.A.C. R18-2-727.

[A.A.C. R18-2-325]

2. Opacity

a. Emission Limitation and Standard

The Permittee shall not cause, allow or permit visible emissions from painting operations in excess of 20% opacity.

[A.A.C. R18-2-702.B.3]

b. Monitoring, Recordkeeping and Reporting Requirements

Each time a spray painting project is conducted, the Permittee shall monitor visible emissions in accordance with Condition I.C of Attachment “B”.

c. Permit Shield

Compliance with Condition VI.B.2.a shall be deemed compliance with A.A.C. R18-2-702.B.3.

[A.A.C. R18-2-325]

C. Demolition/Renovation - Hazardous Air Pollutants

1. Emission Limitation and Standard

The Permittee shall comply with all of the requirements of 40 CFR 61 Subpart M for National Emission Standards for Hazardous Air Pollutants - Asbestos.

[A.A.C. R18-2-1101.A.12]

2. Monitoring and Recordkeeping Requirement

The Permittee shall keep all required records in a file. The required records shall include the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the Condition VI.C.1 shall be deemed compliance with A.A.C. R18-2-1101.A.12.

[A.A.C. R18-2-325]

**ATTACHMENT “C”: EQUIPMENT LIST**

| <b>EQUIPMENT TYPE</b>    | <b>MAXIMUM<br/>RATED<br/>CAPACITY</b> | <b>MAKE</b> | <b>MODEL</b> | <b>SERIAL<br/>NUMBER</b> | <b>INSTALLATION/<br/>MFG. DATE</b> | <b>EQUIPMENT<br/>ID NUMBER</b> | <b>A.A.C. / NSPS /<br/>NESHAP</b>     |
|--------------------------|---------------------------------------|-------------|--------------|--------------------------|------------------------------------|--------------------------------|---------------------------------------|
| Cooling Tower            | 250 gpm                               | TBD         | TBD          | TBD                      | TBD                                | CT-1                           | A.A.C R18-2-730                       |
| Cooling Tower            | 1,000 gpm                             | TBD         | TBD          | TBD                      | TBD                                | CT-2                           | A.A.C R18-2-730                       |
| Emergency Generator      | 268 hp                                | TBD         | TBD          | TBD                      | TBD                                | EG-1                           | NSPS 40 CFR<br>Part 60 Subpart<br>III |
| Natural Gas Fired Boiler | 35 MMBtu/hr                           | TBD         | TBD          | TBD                      | TBD                                | BOL-1                          | NSPS 40 CFR<br>Part 60 Subpart<br>Dc  |
| Evaporative Dryer        | 30 metric tons/day                    | TBD         | TBD          | TBD                      | TBD                                | DRY-1                          | A.A.C R18-2-730                       |
| Wet Scrubber             | 39,054 acfm                           | TBD         | TBD          | TBD                      | TBD                                | SCRUB-1                        | A.A.C R18-2-730                       |

## **ATTACHMENT 6**

### **Proposed TSD**

**TECHNICAL REVIEW AND EVALUATION  
OF APPLICATION FOR  
AIR QUALITY PERMIT No. 106248**

**I. INTRODUCTION**

This Class II Significant Permit Revision addresses the request from Top Quality Products, LLC (the Permittee) to increase the Potential-to-Emit (PTE) of coarse particulate matter with a diameter 10 micrometers or less (PM<sub>10</sub>) and fine particulate matter with a diameter of 2.5 microns or less (PM<sub>2.5</sub>) above the permitting exemption thresholds in A.A.C. R18-2-101.101 at the facility located at 2992 S. Rebecca Avenue, Yuma, Arizona 85365, in Yuma County. The proposed PTE increases constitute a minor New Source Review (NSR) modification subject to the requirements of A.A.C. R18-2-334.A.3. To satisfy minor NSR requirements, the Permittee elected to perform an ambient air impact analysis in accordance with A.A.C. R18-2-334.C.2.

A significant permit revision is also required because the Permittee voluntarily accepted the emissions limitations pursuant to A.A.C. R18-2-306.01.A to limit the PTE of PM<sub>10</sub> and PM<sub>2.5</sub> from an evaporative dryer (DRY-1) vented to a wet scrubber (SCRUB-1). As part of this revision, the Permittee proposes to update the applicable emission limit and the associated conditions establishing compliance demonstration methods to provide operational flexibility for this research and development facility.

**A. Company Information**

Facility Name: Top Quality Products, LLC.  
Yuma Bioprocessing Facility  
Mailing Address: 1209 Orange Street  
Wilmington, Delaware 19801  
Facility Location: 2992 South Rebecca Ave.  
Yuma, Arizona 85365

**B. Attainment Classification**

The facility is located in Yuma County. An area that is in moderate non-attainment for PM<sub>10</sub>.

**II. PROCESS DESCRIPTION**

The facility will produce dry pulp bales from agricultural biomass. It will begin production by operating a variety of mechanical steps including pressing, centrifuging and filtering to remove water. The biomass then enters the wet pulping process, where the biomass is diluted into a slurry, washed, and screened to remove unwanted material. Next, the slurry is thickened by removing water with a disc thickener. The thickened slurry is then bleached with the addition of inorganic chemicals and steam. A wet lapping machine and evaporative dryer further reduce the pulp moisture before the dry pulp bales are ready for packaging and storage.

**A. Process Equipment**

The facility will generate emissions from a natural gas boiler (BOL-1), an evaporative dryer (DRY-1), an emergency generator (EG-1) and two (2) cooling towers (CT-1 and CT-2). The boiler will supply steam to support the evaporative dryer. The emergency generator will be a 268 hp compression ignition engine that will support the facility during emergency situations. The cooling towers will be used produce cooling water for process equipment and the HVAC system.

**B. Control Devices**

The evaporative dryer will be vented to a wet scrubber (SCRUB-1) to control particulate matter (PM) emissions.

**C. Process Flow Diagrams**

Process flow diagrams are provided in Appendix A.

**III. EMISSIONS**

The facility's PTE was calculated using various methods.

Compilation of Air Emissions Factors from Stationary Sources, AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4, were used to calculate emissions from the natural gas boiler (BOL-1). 40 CFR 1039.101, AP-42 Section 3.3, Tables 3.3-1 and 3.3-2, were used to calculate emissions from the emergency generator (EG-1). Emissions from chemical usage were derived using a mass balance approach. Reisman and Frisbie (2003) methodology was used to calculate emissions from the two cooling towers (CT-1 and CT-2). Emissions from the evaporative dryer (DRY-1) are calculated at the outlet of the wet scrubber (SCRUB-1) using vendor supplied equipment specifications and a safety factor of 2.

The facility's PTE is provided in Table 1:

**Table 1: Potential to Emit (tpy)**

| Pollutant         | Pre-Project PTE with Elective Controls | Change in PTE | Post-Project PTE | Permitting Exemption Threshold | mNSR Triggered? |
|-------------------|----------------------------------------|---------------|------------------|--------------------------------|-----------------|
| NO <sub>x</sub>   | 15.07                                  | 0.00          | 15.07            | 20                             | No              |
| PM <sub>10</sub>  | 3.90                                   | +11.35        | 15.25            | 7.5                            | Yes             |
| PM <sub>2.5</sub> | 2.41                                   | +12.83        | 15.24            | 5                              | Yes             |
| CO                | 13.18                                  | 0.00          | 13.18            | 50                             | No              |
| SO <sub>2</sub>   | 0.091                                  | 0.00          | 0.091            | 20                             | No              |
| VOCs              | 5.89                                   | 0.00          | 5.89             | 20                             | No              |
| Pb                | 7.51E-05                               | 0.00          | 7.51E-05         | 0.3                            | N/A             |
| HAPs              | 1.00                                   | 0.00          | 1.00             | N/A                            | N/A             |

#### IV. MINOR NEW SOURCE REVIEW (NSR)

Existing stationary sources are required to satisfy the requirements of minor new source review prior to beginning construction of any physical change or change in the method of operation at the source that results in an increase in PTE for any regulated minor new source review pollutant that is greater than the thresholds identified in Table 1 above.

To satisfy minor new source review requirements, an applicant may elect to evaluate and implement Reasonably Available Control Technology (RACT) for each emissions unit with PTE of regulated pollutants greater than 20 percent of the applicable permitting exemption threshold, or alternatively conduct an ambient air impact analysis demonstrating that operation of the proposed emissions units will not interfere with attainment of the National Ambient Air Quality Standards (NAAQS).

The increase in the facility's PTE for PM<sub>10</sub> and PM<sub>2.5</sub> above the applicability threshold therefore triggers minor new source review for the facility. For this revision, the Permittee elected to conduct an ambient air impact analysis in accordance with A.A.C. R18-2-334.C.2 to demonstrate that facility emissions will not interfere with attainment of the NAAQS.

#### V. VOLUNTARILY ACCEPTED EMISSION LIMITATIONS AND STANDARDS

The facility voluntarily accepted an emission limitation on the evaporative dryer. The facility must install a wet scrubber on the evaporative dryer in order for PM<sub>10</sub> emissions to remain below its major source threshold. The particulate matter emissions must not exceed 3.2 pounds per hour on the wet scrubber outlet. The facility must maintain a minimum flowrate of 90 gallons per minute for the inlet header and a minimum flowrate 337 gallons per minute for the central header of the wet scrubber.

#### VI. APPLICABLE REGULATIONS

Table 2 identifies applicable regulations and verification as to why that standard applies. The table also contains a discussion of any regulations the emission unit is exempt from.

**Table 2: Applicable Regulations**

| Emission Unit                      | Control Device                        | A.A.C. / NSPS / NESHAP | Discussion                                                                                                             |
|------------------------------------|---------------------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------|
| Evaporative Dryer & Cooling Towers | Wet Scrubber (Evaporative Dryer Only) | A.A.C. R18-2-730       | These standards are applicable to all unclassified sources of emissions like the evaporative dryer and cooling towers. |

| Emission Unit            | Control Device                                              | A.A.C. / NSPS / NESHAP                      | Discussion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------|-------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency Generator      | N/A                                                         | NSPS 40 CFR 60 Subpart IIII                 | <p>NSPS 40 CFR 60 Subpart IIII for Stationary Compression Ignition (CI) Internal Combustion Engines (ICEs) is applicable to the emergency generator at the facility.</p> <p>NSPS 40 CFR 60 Subpart JJJJ for Stationary Spark Ignition Internal Combustion Engines is not applicable since this is not a spark ignition engine.</p> <p>NESHAP 40 CFR 63 Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines is not applicable since the emergency generator is already subject to NSPS 40 CFR 60 Subpart IIII.</p> |
| Natural Gas Fired Boiler | N/A                                                         | NSPS 40 CFR 60 Subpart Dc                   | NSPS 40 CFR 60 Subpart Dc for Small Industrial-Commercial-Institutional Steam Generating Units is applicable to the natural gas fired boiler which has a maximum design heat input of 35 MMBtu/hr.                                                                                                                                                                                                                                                                                                                                  |
| Fugitive Dust            | Water Trucks;<br>Dust Suppressants                          | A.A.C. R18-2 Article 6;<br>A.A.C. R18-2-702 | These standards are applicable to all fugitive dust sources at the facility.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Abrasive Blasting        | Wet Blasting;<br>Dust Collectors;<br>Other Approved Methods | A.A.C. R-18-2-702;<br>A.A.C. R-18-2-726     | These standards are applicable to any abrasive blasting operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Spray Painting           | Enclosures                                                  | A.A.C. R18-2-702;<br>A.A.C. R-18-2-727      | These standards are applicable to any spray painting operation outside of architectural coating and spot painting projects.                                                                                                                                                                                                                                                                                                                                                                                                         |
| Demolition/Renovation    | N/A                                                         | A.A.C. R18-2-1101.A.12                      | These standards are applicable to any asbestos related demolition or renovation operations.                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## VII. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

Table 3 contains an inclusive but not an exhaustive list of the monitoring, recordkeeping and reporting requirements prescribed by the air quality permit. The table below is intended to provide insight to the public for how the facility is required to demonstrate compliance with the emission limits in the permit. Records are required be kept for a minimum of five (5) years as outlined in Section XII of Attachment “A” of the permit.

**Table 3: Monitoring, Recordkeeping and Reporting Requirement**

| Emission Unit                       | Pollutant | Emission Limitation                       | Monitoring Requirements                                                                                                                                                                                                                                                                                                                         | Recordkeeping Requirements                                                                                                       | Reporting Requirements                                              |
|-------------------------------------|-----------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Evaporative Dryer with Wet Scrubber | PM        | 3.2 lb/hr                                 | <p>Conduct a performance test within 60 days after facility is at maximum manufacturing rate, but no later than 180 days after initial startup.</p> <p>Conduct a performance test once per permit term after the initial performance test.</p> <p>Monitor flowrate at the inlet header and central header of the wet scrubber once per day.</p> | <p>Keep records of all performance tests and maintenance activities. Record the flowrates for the wet scrubber once per day.</p> | <p>Submit excess emissions and deviation reports as applicable.</p> |
| Cooling Towers (CT-1 and CT-2)      | PM        | Process Equations in A.A.C. R18-2-730.A.1 | N/A                                                                                                                                                                                                                                                                                                                                             | N/A                                                                                                                              | N/A                                                                 |
| Emergency Generator (EG-1)          |           | Sulfur content: 15 ppm maximum; and       | N/A                                                                                                                                                                                                                                                                                                                                             | Keep records of fuel supplier specifications: name of fuel supplier,                                                             | N/A                                                                 |

| Emission Unit | Pollutant              | Emission Limitation                                                                  | Monitoring Requirements                                                                 | Recordkeeping Requirements                                                   | Reporting Requirements                                                                                     |
|---------------|------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|               |                        | a minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.    |                                                                                         | sulfur content, and either the cetane index or aromatic content in the fuel. |                                                                                                            |
|               |                        | 100 hours per year of non-emergency operation.                                       | Install and operate a non-resettable hour meter to monitor hours of operation.          | Record duration, time of day, and reason for operation.                      | If operated as part of an agreement to supply power to another entity, an annual report must be submitted. |
|               | NO <sub>x</sub> + NMHC | 4.0 g/kW-hr                                                                          | Operate and maintain according to manufacturer's emission-related written instructions. | Purchase one that is certified to emission standards.                        | Submit excess emissions and deviation reports as applicable.                                               |
|               | CO                     | 3.5 g/kW-hr                                                                          |                                                                                         |                                                                              |                                                                                                            |
|               | PM                     | 0.20 g/kW-hr                                                                         |                                                                                         |                                                                              |                                                                                                            |
|               | Smoke                  | 20% Opacity (Acceleration Mode); 15% Opacity (Lugging Mode); 50% Opacity (Peak Mode) |                                                                                         |                                                                              |                                                                                                            |

| Emission Unit                    | Pollutant | Emission Limitation                         | Monitoring Requirements                          | Recordkeeping Requirements                                                                                                                                                                      | Reporting Requirements                                                                                                                                                              |
|----------------------------------|-----------|---------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural Gas Fired Boiler (BOL-1) |           |                                             | N/A                                              | Record and maintain a record of the amount of fuel combusted.                                                                                                                                   | Submit notification of start date of construction and actual startup, as well as design heat input capacity, identification of fuel, and anticipated capacity factor of fuel fired. |
| Fugitive Dust                    | PM        | 40% Opacity                                 | Conduct a quarterly survey of visible emissions. | Record the dates and types of dust control measures employed, and if applicable, the results of any observations, and any corrective action taken to lower the opacity of any excess emissions. | N/A                                                                                                                                                                                 |
| Abrasive Blasting                | PM        | 20% Opacity                                 | N/A                                              | Record the date, duration and any pollution control measures of any abrasive blasting operation.                                                                                                | N/A                                                                                                                                                                                 |
| Spray Painting                   | VOCs      | 20% Opacity<br>Control 96% of the Overspray | N/A                                              | Maintain records of the date, duration, quantity of paint used, any applicable material safety data sheets, and pollution control measures of any spray painting operation.                     | N/A                                                                                                                                                                                 |
| Demolition/<br>Renovation        | Asbestos  | N/A                                         | N/A                                              | Maintain records of all asbestos related demolition or renovation projects                                                                                                                      | N/A                                                                                                                                                                                 |

| Emission Unit | Pollutant | Emission Limitation | Monitoring Requirements | Recordkeeping Requirements                                                                                      | Reporting Requirements |
|---------------|-----------|---------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------|
|               |           |                     |                         | including the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents. |                        |

## VIII. LEARNING SITE EVALUTATION

In accordance with ADEQ's Environmental Permits and Approvals near Learning Sites Policy, the Department is required to conduct an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools in the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

Since the facility will be within two (2) miles of a learning site, initial HAPs modeling was conducted using AERSCREEN. The results demonstrated that the modeled concentrations from the evaporative dryer, emergency generator and natural gas fired boiler would be below the Acute and Chronic Ambient Air Concentrations. Refined modeling using AERMOD was submitted by TQP in support of its application for a Class II significant permit revision to ensure modeled concentrations from the facility sources will remain below the Acute and Chronic Ambient Air Concentrations.

## IX. AMBIENT AIR QUALITY IMPACTS ANALYSIS

### A. General Overview

ADEQ reviewed the ambient air quality assessment submitted by TQP in support of its application for a Class II significant permit revision to the Yuma bioprocessing facility. The assessment evaluated emissions of the criteria pollutants regulated under the applicable provisions of the Minor NSR of the A.A.C. R18-2-334. Under the Minor NSR program, an ambient air quality assessment must demonstrate either of the following:

- The emissions from the source or minor modification will have an ambient impact below the significant impact levels (SILs);
- The ambient concentrations resulting from the source or minor modification combined with representative background concentrations of criteria pollutants will not interfere with attainment or maintenance of the NAAQS.

TQP conducted an air dispersion modeling analysis for PM<sub>10</sub> and PM<sub>2.5</sub>.

### B. Model Selection

For the proposed project, the pollutants subject to the Minor NSR program are PM<sub>10</sub> and PM<sub>2.5</sub>. Guidance for performing air quality dispersion modeling analyses is set forth in the EPA's Guideline on Air Quality Models (40 CFR Part 51 Appendix W) <sup>1</sup> and the Air Dispersion Modeling Guidelines for Arizona Air Quality Permits, November 1, 2019 (ADEQ's Modeling Guidelines). <sup>2</sup>

### C. Source Inputs

#### 1. Project Overview

Top Quality Products is constructing a bioprocessing facility that would treat and process an agricultural crop to produce dry pulp bales for further processing at other facilities.

<sup>1</sup> US. EPA. 2017. Guidelines on Air Quality Models.

[https://www.epa.gov/sites/default/files/2020-09/documents/appw\\_17.pdf](https://www.epa.gov/sites/default/files/2020-09/documents/appw_17.pdf)

<sup>2</sup> Arizona Department of Environmental Quality. 2019. Air Quality Modeling Guidelines for Arizona Air Quality Permits.

[http://static.azdeq.gov/aqd/modeling\\_guidance.pdf](http://static.azdeq.gov/aqd/modeling_guidance.pdf)

Processing at the facility will include a series of mechanical pulping, total chlorine free bleaching, and drying.

## 2. Emissions Sources

- The modeled emission in the ambient air impact analyses are listed below.
- One (1) 250-gpm cooling tower (CT-1);
- One (1) 1,000-gpm cooling tower (CT-2);
- One (1) 268-hp emergency generator diesel engine (EG-1);
- One (1) 35 MMBtu/hr natural gas boiler (BOL-1); and
- One (1) steam evaporative dryer (DRY-1) exhausted via a 39,054 acfm wet spray scrubber (SCRUB-1).

Table 4 summarizes the modeled emission rates.

**Table 4. Modeled Emission Rates for Each Unit**

| Source ID  | Description                             | Emission Rates (g/s) |            |              |
|------------|-----------------------------------------|----------------------|------------|--------------|
|            |                                         | PM10 24hr            | PM2.5 24hr | PM2.5 Annual |
| CT1        | Cooling Tower 1 (Demo)                  | 5.18E-05             | 7.14E-07   | 7.14E-07     |
| CT2        | Cooling Tower 2 (Demo)                  | 2.07E-04             | 2.85E-06   | 2.85E-06     |
| EG1        | Emergency Generator (Demo)              | 1.11E-03             | 1.11E-03   | 6.34E-05     |
| NGB backup | NG Boiler (Demo) Stack                  | 3.29E-02             | 3.29E-02   | 3.29E-02     |
| SCRUB1     | Evaporative Dryer Scrubber (Demo) Stack | 4.05E-01             | 4.05E-01   | 4.05E-01     |

## D. Meteorological Data

For regulatory dispersion modeling analyses, 5 years of National Weather Station (NWS) meteorological data, or at least 1 year of site-specific meteorological data, or at least 3 years of prognostic meteorological data should be used. The nearest NWS station to the Yuma bioprocessing facility is located at the Yuma Marine Corps Air Station NWS station, located approximately 4.8 kilometers southwest of the project site. Due to the proximity, the Department has determined that the Yuma Marine Corps Air Station NWS station representative of the current meteorological conditions at the Yuma bioprocessing facility.

## E. Ambient Air Boundary and Receptor Network

Applicants are required to demonstrate compliance with the SIL and NAAQS at receptors spaced along and outside the ambient air boundary (AAB). According to the EPA's revised policy on exclusion from "Ambient Air", *"the atmosphere over land owned or controlled by the stationary source may be excluded from ambient air where the source employs measures, which may include physical barriers, that are effective in precluding access to the land by the general public"*.<sup>3</sup> TQP established the AAB, aligning it with the facility's fence line.

TQP set up a receptor network to determine areas of maximum predicted concentrations. The grid spacing utilized for the receptors are as follows:

<sup>3</sup> U.S. EPA. 2019. Revised Policy on Exclusion from "Ambient Air"  
[https://www.epa.gov/sites/default/files/2019-12/documents/ambient\\_air2019.pdf](https://www.epa.gov/sites/default/files/2019-12/documents/ambient_air2019.pdf)

- Fenceline grid set at 25 m intervals;
- A receptor grid of 100 m, extending from AAB to 1 km;
- A receptor grid of 350 m, extending from 1 km to 5 km;
- A receptor grid of 750 m, extending from 5 km to 20 km; and
- A receptor grid of 1,750 m, extending from 20 km to 50 km; and
- A receptor grid of 2,500 m, extending from 20 km to 50 km.

TQP used the AERMAP terrain processor (v24142) to process the 2024 USGD National Elevation Data (NED) 1/3 arc second data to generate the receptor elevations and hill heights.

#### F. Downwash and Good Engineering Practice (GEP)

The facility stacks are subject to downwash. All stacks are also below the minimum 65-meter allowable GEP height, therefore all stack heights are fully creditable for air quality modeling. TQP evaluated building downwash effects based on building and stack location and dimensions, and the EPA's Building Profile Input Program Plume Rise Model Enhancements (BPIP-PRME), version 04274.

#### G. Land Use Classification

The rural/urban classification of an area is determined by either the dominance of a specific land use or by population data in the study area. The land-use procedure specifies that the land-use within a three-kilometer radius of the source should be determined using the typing scheme developed by Auer.<sup>4</sup> TQP determined the project site area as "Rural" based on the land use method.

#### H. Background Concentrations for PM<sub>2.5</sub>

Background concentrations should be representative of regional air quality in the vicinity of a facility. Typically, background concentrations should be determined based on the air quality data collected in the vicinity of the proposed project site. However, if there are no monitors located in the vicinity of the project, a "regional site" may be used to determine background concentrations. Per Appendix W Section 8.3.2 b, a regional site is "*one that is located away from the area of interest but is impacted by similar or adequately representative sources.*"

The closest PM<sub>2.5</sub> monitoring station to the Yuma bioprocessing facility is the Yuma Supersite monitor, located approximately 6 kilometers away. The Yuma monitor has complete data for the years 2023-2025 that was used in determining the representative background concentration. Due to the proximity of the monitor to the site, the Yuma monitor represents expected PM<sub>2.5</sub> background concentrations at the site.

#### I. Modeling Results

##### 1. Significant Impact Analysis Model Results for PM<sub>10</sub>

As shown in Table 5, the 24-hour concentration of PM<sub>10</sub> is below Class II SIL, exempting them from a cumulative impact compliance analysis under minor NSR. However, the proposed project results in significant impacts for 24-hour PM<sub>2.5</sub> and annual PM<sub>2.5</sub>. Therefore, a cumulative impact analysis was conducted for the 24-hour PM<sub>2.5</sub> and annual

<sup>4</sup> Auer, A.H. 1978. Correlation of Land Use and Cover with Meteorological Anomalies, Journal of Applied Meteorology, 17:636-643.

**PM<sub>2.5</sub> NAAQS.****Table 5. Significant Impact Analysis Results**

| <b>Pollutant</b>  | <b>Averaging Period</b> | <b>Modeled Concentration<br/>(<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Class II<br/>SIL<br/>(<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Exceeds SIL?<br/>(Yes/No)</b> |
|-------------------|-------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------|
| PM <sub>10</sub>  | 24-hour                 | 3.2                                                                    | 5                                                                 | No                               |
| PM <sub>2.5</sub> | Annual                  | 0.3                                                                    | 0.13                                                              | Yes                              |
|                   | 24-hour                 | 2.8                                                                    | 1.2                                                               | Yes                              |

**2. Cumulative Impact Analysis Model Results for PM<sub>2.5</sub>**

Table 6 summarizes the NAAQS modeled results for 24-hour PM<sub>2.5</sub> and annual PM<sub>2.5</sub>. Representative background concentrations were added to modeled concentration, and the total concentrations were then compared to the NAAQS. As shown in the table, emissions from the proposed project will not cause or contribute to a violation of the NAAQS, consistent with the operating limitations and conditions in the permit.

**Table 6. NAAQS Full Impact Analysis Results**

| <b>Pollutant</b>  | <b>Averaging Period</b> | <b>Modeled Concentration<sup>1</sup><br/>(<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Background Concentration<sup>2</sup><br/>(<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Total Concentration<br/>(<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>NAAQS<br/>(<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Exceeds<br/>NAAQS?<br/>(Yes/No)</b> | <b>Form of the<br/>Standard<sup>3,4</sup></b> |
|-------------------|-------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------|-----------------------------------------------|
| PM <sub>2.5</sub> | Annual                  | 0.3                                                                                | 7.89                                                                                  | 8.2                                                                  | 9                                                      | No                                     | Annual mean                                   |
|                   | 24-hour                 | 1.9                                                                                | 19.0                                                                                  | 20.9                                                                 | 35                                                     | No                                     | 98th percentile, averaged over 5 years        |

<sup>1</sup> Modeled concentration includes emission sources at the TQP Facility. The concentration is reported as the highest receptor in the form of the standard.

<sup>2</sup> The total concentration for comparison to the NAAQS is the modeled impacts plus the background concentration.

<sup>3</sup> Guideline on Air Quality Models; Final Rule, 40 CFR Part 51, Appendix W, January 17, 2017.

<sup>4</sup> EPA Memo, Modeling Procedures for Demonstrating Compliance with PM<sub>2.5</sub> NAAQS, March 23, 2010.

**X. LIST OF ABBREVIATIONS**

|        |                                             |
|--------|---------------------------------------------|
| A.A.C  | Arizona Administrative Code                 |
| ADEQ   | Arizona Department of Environmental Quality |
| A.R.S. | Arizona Revised Statutes                    |
| CFR    | Code of Federal Regulations                 |
| CI     | Compression Ignition                        |
| CO     | Carbon Monoxide                             |
| dscf   | Dry Standard Cubic Feet                     |
| EPA    | Environmental Protection Agency             |
| g      | Gram                                        |
| HAPs   | Hazardous Air Pollutants                    |
| hp     | Horsepower                                  |
| hr     | Hour                                        |
| ICE    | Internal Combustion Engine                  |
| kW     | Kilowatt                                    |
| MMBtu  | Million British Thermal Units               |
| NAAQS  | National Ambient Air Quality Standards      |

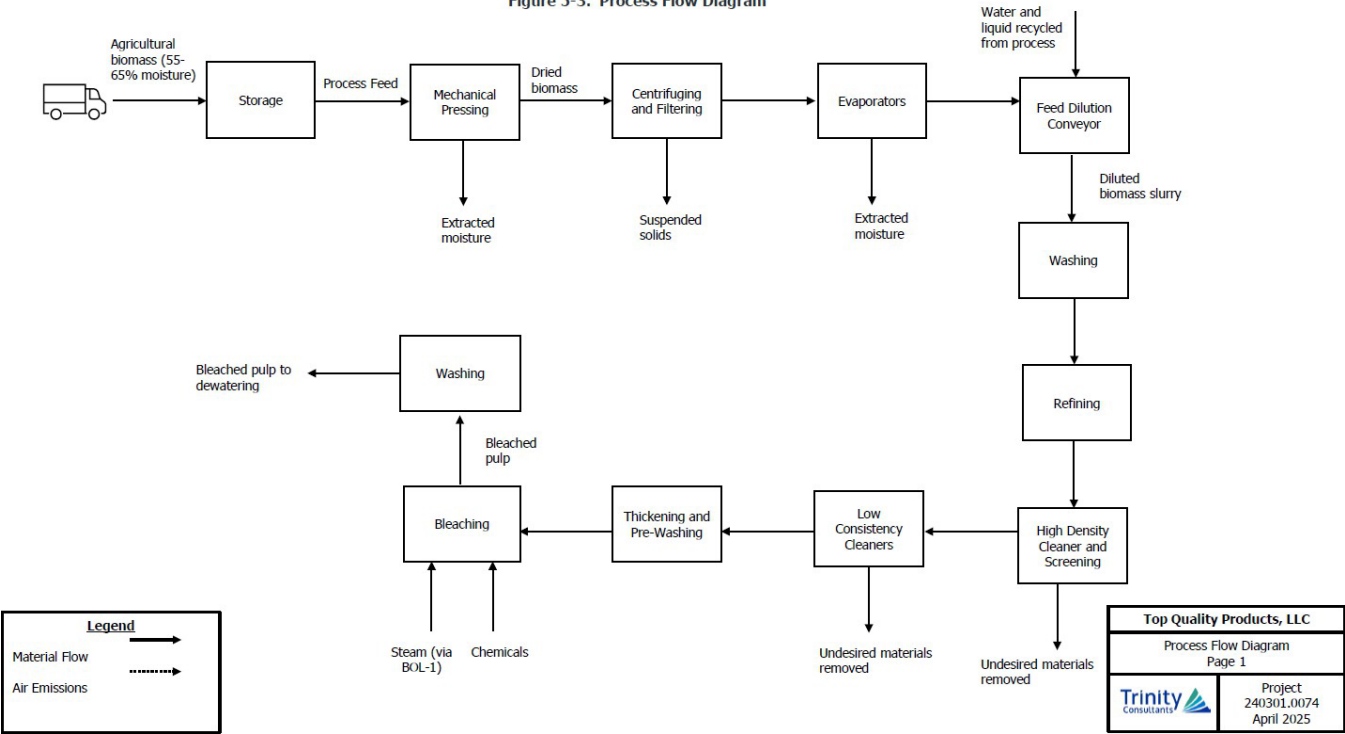
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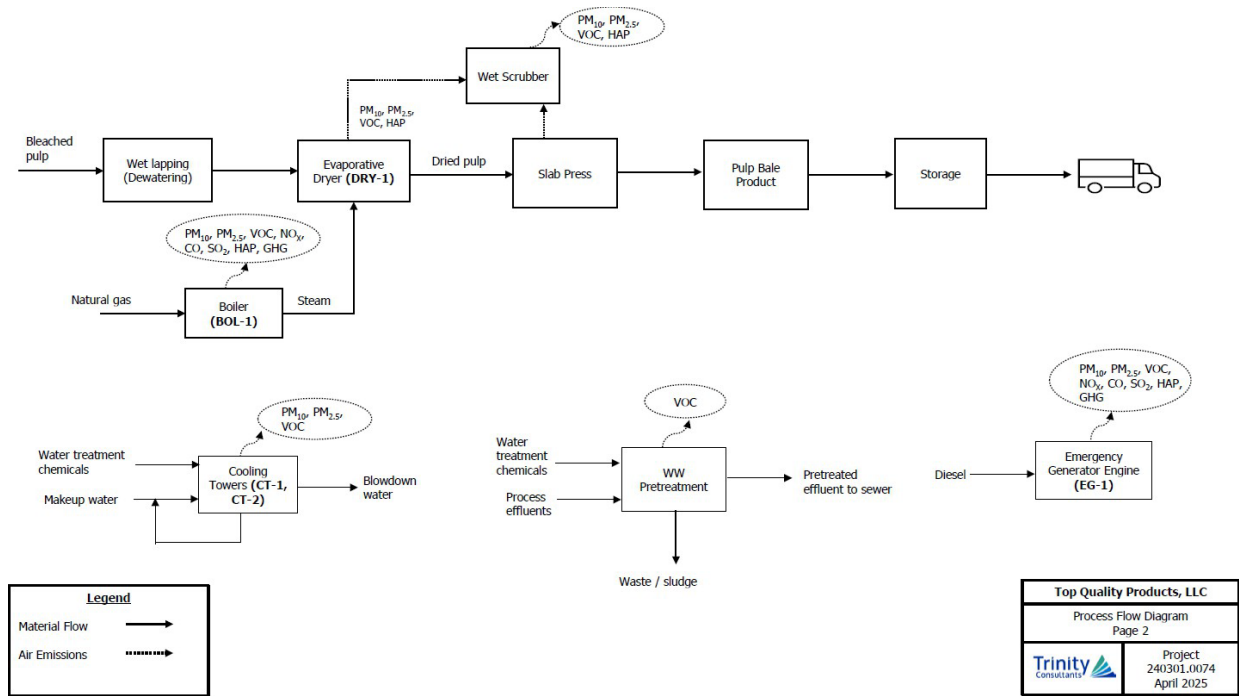
|              |                                                                  |
|--------------|------------------------------------------------------------------|
| NESHAP ..... | National Emission Standards for Hazardous Air Pollutants         |
| NMHC.....    | Nonmethane Hydrocarbon                                           |
| NOX.....     | Nitrogen Oxides                                                  |
| NSR.....     | New Source Review                                                |
| NSPS .....   | New Source Performance Standards                                 |
| Pb .....     | Lead                                                             |
| PET.....     | Permitting Exemption Thresholds                                  |
| PM.....      | Particulate Matter                                               |
| PM10.....    | Particulate Matter Less Than 10 µm Nominal Aerodynamic Diameter  |
| PM2.5.....   | Particulate Matter Less Than 2.5 µm Nominal Aerodynamic Diameter |
| PTE.....     | Potential to Emit                                                |
| SO2.....     | Sulfur Dioxide                                                   |
| TPY .....    | Tons per Year                                                    |
| VOCs.....    | Volatile Organic Compounds                                       |

APPENDIX A

PROCESS FLOW DIAGRAM\*

Figure 5-3. Process Flow Diagram





**\*PROCESS FLOW DIAGRAMS PROVIDED BY TOP QUALITY PRODUCTS IN THEIR APPLICATION (PAGES 20-21)**

**Attachment 7**  
**Draft Public Notice**

## **PUBLIC NOTICE**

### **YOU HAVE A VOICE IN AIR POLLUTION CONTROL IN ARIZONA**

The Arizona Department of Environmental Quality (ADEQ) proposes to issue a Significant Permit Revision to Air Quality Control Permit No. 106248 to Top Quality Products, LLC to authorize potential to emit (PTE) increases of coarse particulate matter with a diameter 10 micrometers or less (PM<sub>10</sub>) and fine particulate matter with a diameter of 2.5 microns or less (PM<sub>2.5</sub>) and revisions to permit conditions for the Yuma Bioprocessing Facility. The dry pulp bale production facility is being constructed at 2992 South Rebecca Ave, Yuma, AZ 85365. The mailing address for the facility is 1209 Orange Street, Wilmington, Delaware 19801. The facility is subject to the requirements of the Federal Clean Air Act, Code of Federal Regulations (CFR), Arizona Revised Statute (A.R.S.) § 49-426, and the Arizona Administrative Code (A.A.C.), Title 18, Chapter 2. The facility emits the following air contaminants: PM<sub>10</sub>, PM<sub>2.5</sub>, volatile organic compounds (VOCs), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), and hazardous air pollutants (HAPs).

This public notice provides information to help you participate in the decision-making process. You have an opportunity to submit written comments about this permit. To submit written comments, include your name, mailing address, signature (and/or your agent or attorney signature) and clearly explain why the permit should or should not be issued. Grounds for comment are limited to whether the permit meets the criteria for issuance spelled out in the state air pollution control laws or rules. The public notice period is in effect from August 4, 2026 to September 3, 2026. Comments may be submitted in writing to: Karla Murrieta, Air Permits Unit, ADEQ, 1110 W. Washington St., 3415A-1, Phoenix, AZ 85007 or via email to [airpermits@azdeq.gov](mailto:airpermits@azdeq.gov). Comments must be received by September 3, 2026.

The draft permit and related documentation are available for review online at [azdeq.gov/publicnotices](http://azdeq.gov/publicnotices) by searching for the date of this public notice, or in person at the ADEQ Records Center by scheduling an appointment at least 48 hours in advance. For ADEQ Records Center information, visit [azdeq.gov/records](http://azdeq.gov/records), call 602-771-4380 or email [recordscenter@azdeq.gov](mailto:recordscenter@azdeq.gov). The documents are also available at One City Plaza, Yuma, AZ 85364.

In addition, ADEQ will hold a virtual public hearing via GoToWebinar on September 3, 2026 at 3:00 PM. If you wish to verbally comment on this permit, you may join the virtual public hearing using a computer, tablet or phone. You must pre-register to attend the virtual public hearing by using the following registration link: [\[ADEQ to include\]](#). If you do not wish to verbally comment on this permit, you are invited to listen in by calling 213-929-4212 and entering Access Code 745-825-158.

ADEQ will consider all comments received in making a final decision on the proposed permit. Everyone commenting will receive notification of the final decision. People who file comment on the permit will have the right to appeal the final decision as an appealable agency action to the Office of Administrative Hearing (OAH) pursuant to A.R.S. § 41.1092.03, and the appeal must be filed within thirty (30) days after the issuance of the final decision. The OAH may sustain, modify, or reverse the final decision.

*ADEQ will take reasonable measures to provide access to department services to individuals with limited ability to speak, write or understand English and/or to those with disabilities. Requests for language translation, ASL interpretation, CART captioning services or disability accommodations must be made at least 48 hours in advance by contacting the Title VI Nondiscrimination Coordinator, Joaquin Marruffo Ruiz, at 520-628-6744 or Marruffo.Joaquin@azdeq.gov. For a TTY or other device, Telecommunications Relay Services are available by calling 711.*

*ADEQ tomará las medidas razonables para proveer acceso a los servicios del departamento a personas con capacidad limitada para hablar, escribir o entender inglés y/o para personas con discapacidades. Las solicitudes de servicios de traducción de idiomas, interpretación ASL (lengua de signos americano), subtitulado de CART, o adaptaciones por discapacidad deben realizarse con al menos 48 horas de anticipación comunicándose con el Coordinador de Anti-Discriminación del Título VI, Joaquin Marruffo Ruiz, al 520-628-6744 o Marruffo.Joaquin@azdeq.gov. Para un TTY u otro dispositivo, los servicios de retransmisión de telecomunicaciones están disponible llamando al 711.*

## **ATTACHMENT 8**

### **Modeling Report**

**CLASS II – SIGNIFICANT PERMIT REVISION  
AIR DISPERSION MODELING REPORT**  
Yuma Bioprocessing Facility

**Top Quality Products, LLC.**

**Prepared By:**

**TRINITY CONSULTANTS**  
702 E. Osborn Rd., Suite 160  
Phoenix, AZ 85014  
(602) 274-2900

April 2026



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## 1. INTRODUCTION

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### 1.1 Background

Top Quality Products LLC (TQP) is constructing a bioprocessing facility located at 2992 S. Rebecca Avenue, Yuma, AZ 85365 (the Facility). The Facility will conduct research and development (R&D) and produce dry pulp bales from treated and processed agricultural crop. The Facility is authorized to operate under Arizona Department of Environmental Quality (ADEQ) Class II air quality permit No. 106248 issued on July 17, 2025. Pursuant to Arizona Administrative Code (A.A.C.) R18-2-320, TQP is submitting a Significant Permit Revision (SPR) application to revise Permit No. 106248. As part of the application, TQP is submitting this modeling report for the ambient air quality assessment associated with proposed changes to the Facility.

### 1.2 Purpose

As part of the minor New Source Review (mNSR) process under A.A.C. R18-2-334, an ambient air quality assessment was conducted via air dispersion modeling to demonstrate that potential impacts from the Yuma bioprocessing facility will not interfere with attainment or maintenance of the PM<sub>10</sub> and PM<sub>2.5</sub> National Ambient Air Quality Standard (NAAQS). The NAAQS are protective of the general public and “at risk” populations. In addition, TQP has revised the initial hazardous air pollutant (HAP) modeling assessment performed under the ADEQ “Learning Site Policy” based on the proposed changes to the Facility.

### 1.3 Pollutants

The following pollutants with NAAQS standards were evaluated in the air dispersion modeling analysis as the Facility has Potential-to-Emit (PTE) estimates above minor NSR thresholds for these pollutants based on the proposed changes to the Facility as detailed in **Section 2.1**:

- ▶ Particulate matter less with an aerodynamic diameter less than 10 microns (PM<sub>10</sub>);
- ▶ Particulate matter less with an aerodynamic diameter less than 2.5 microns (PM<sub>2.5</sub>);

Corresponding averaging periods and standards are included in detail in **Section 3.1**.

### 1.4 Modeling Approach

This modeling demonstration serves as the first ambient air impact analysis for the Facility. Refined dispersion modeling was performed consistent with the *Air Quality Modeling Guidelines for Arizona Air Quality Permits* published by ADEQ and the *Guideline on Air Quality Models* as codified in Title 40 Code of Federal Regulations (CFR) Part 51, Appendix W.

## 2. PROJECT AND SITE INFORMATION

---

### 2.1 Project Description

TQP is seeking to modify the existing air quality permit to increase the PTE of PM<sub>10</sub> and PM<sub>2.5</sub> from the evaporative dryer (Equipment ID: DRY-1) which is controlled and exhausted via the wet scrubber (Equipment ID: SCRUB-1). TQP proposes to reflect a conservative estimate of both the filterable and condensable fractions of particulate potentially generated by the process (the Project). During the initial air permit development, air emissions from the Facility were below minor NSR thresholds, hence refined air dispersion modeling was not performed. Due to the proposed changes, the Project PTE now exceeds the ADEQ permitting exemption thresholds for PM<sub>10</sub> and PM<sub>2.5</sub> in A.A.C. R18-2-101.101, therefore qualifying the Project as a mNSR modification that triggers the requirements in A.A.C. R18-2-334.A(3). Accordingly, TQP is submitting this ambient air impact analysis.

### 2.2 Site Location & Description

The TQP facility is located in Yuma, Arizona in Yuma County. The Facility is located on private land east of the Yuma town center. The Facility is located in an area of Yuma County that is classified as moderate nonattainment for the PM<sub>10</sub> NAAQS. The area is in attainment for all other criteria air pollutants.

**Figure 2-1** provides the general location of the property boundary and emission sources, as well as the surrounding city and highways. The land use near the Facility is comprised of nearby industrial facilities as well as surrounding farmland and residential areas. A detailed land use analysis is included in **Section 4.6**. Per ADEQ's "Learning Site Policy," if a facility is within 2 miles or less of a learning site, the facility should submit a modeling analysis to demonstrate compliance with the NAAQS, and Acute/Chronic Ambient Air Concentrations (AAAC and CAAC) for listed air toxics. The Facility is located within two miles of several learning sites requiring a HAP modeling analysis under the Arizona Learning Site Policy, as further discussed in **Section 3.3**.

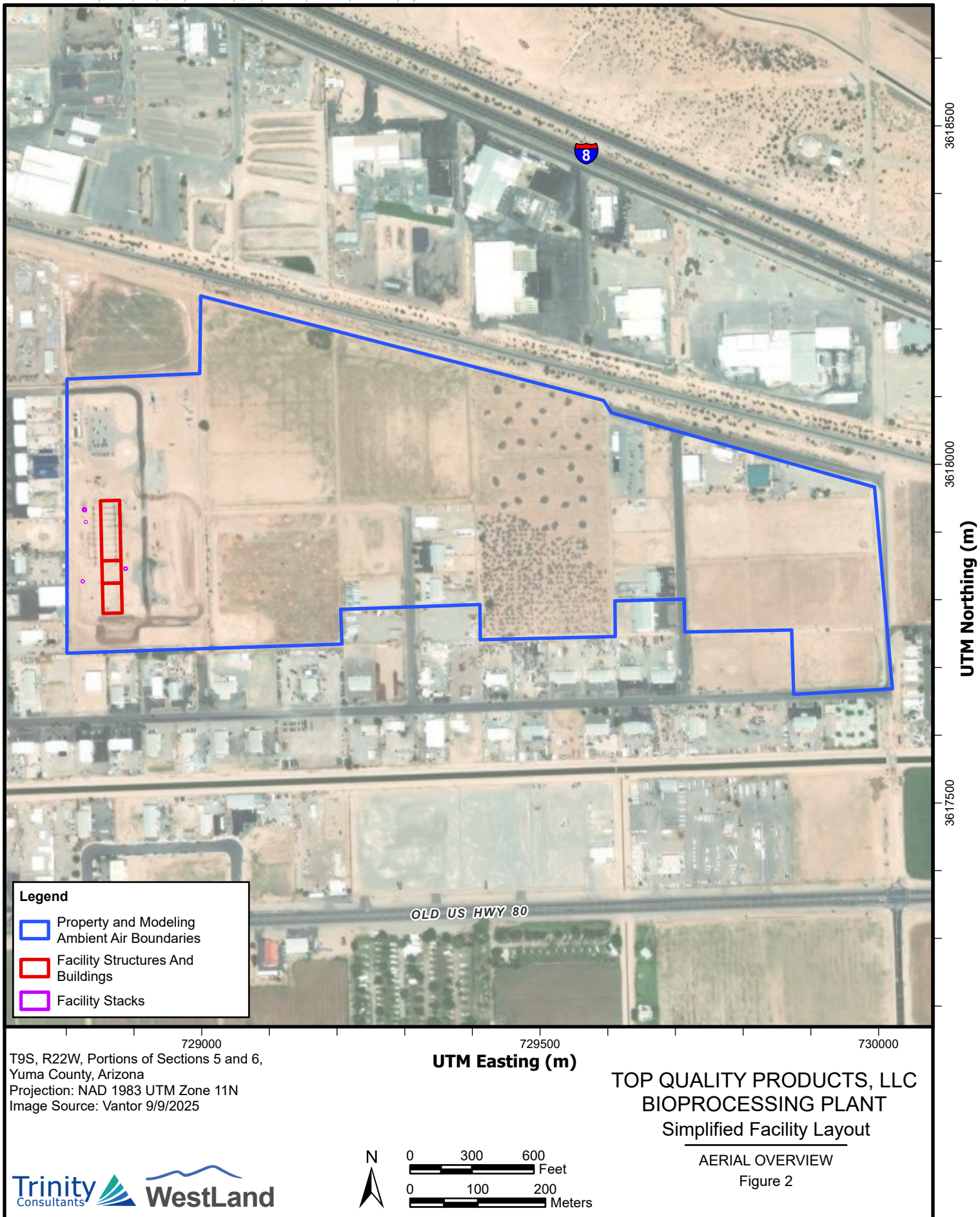
The proposed ambient air boundary (AAB) has also been identified in **Figure 2-1**. The AAB reflects the area in which public access to the Facility will be restricted.

# Figure 2-1. Yuma Bioprocessing Facility – Location Map

Path: G:\24\301174\Trinity\ArcGISpro\TopQualityProducts\TopQualityProducts.aprx: 02 Simplified Facility Layout

Date: 4/25/2026

User: thieriot



### 3. AIR DISPERSION MODELING APPROACH

As part of the mNSR process under A.A.C. R18-2-334, an ambient air quality assessment was conducted via air dispersion modeling to demonstrate that potential impacts from the Yuma bioprocessing facility will not cause or contribute to a violation of any applicable NAAQS. The NAAQS are standards set by the U.S. Environmental Protection Agency (EPA) to protect public health and the environment. Primary standards protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards protect public welfare, including visibility and damage to animals, crops, vegetation, and buildings. According to the ADEQ modeling guidelines, the modeling analysis was performed in the following two steps:

- ▶ Step 1 – A significant impact analysis and, if required.
- ▶ Step 2 – A full impact analysis

TQP is submitting this air dispersion modeling to support the Class II SPR application.

#### 3.1 Significance Impact Analysis

In the Significant Impact Analysis, the Facility emission sources were modeled to determine if the proposed emissions have a significant impact on the surrounding areas. The maximum modeled concentrations from the significant impact analysis were compared to the applicable significant impact levels (SILs), for each pollutant and averaging period. **Table 3-1** contains the applicable Class II SILs for each pollutant modeled. If the maximum modeled concentration is less than the corresponding SIL, no further analysis is required to demonstrate compliance with the NAAQS. If the maximum modeled concentration exceeds the applicable SIL, a full impact analysis is performed to demonstrate compliance with the NAAQS.

**Table 3-1 Class II Significant Impact Levels**

| Pollutant         | Period  | Class II SIL<br>( $\mu\text{g}/\text{m}^3$ ) | Notes                                      |
|-------------------|---------|----------------------------------------------|--------------------------------------------|
| PM <sub>10</sub>  | 24-hour | 5                                            |                                            |
| PM <sub>2.5</sub> | 24-hour | 1.2                                          | SILs may be used under some circumstances. |
|                   | Annual  | 0.13                                         |                                            |

#### 3.2 Full Impact Analysis

For pollutants with maximum concentrations above the SIL, a full impact analysis was performed to demonstrate that ambient concentrations from the Facility combined with representative background concentrations for that pollutant will not cause or contribute to a violation of any applicable NAAQS.

The full impact NAAQS analysis accounts for ambient background concentration of pollutants determined from ambient monitoring data. Per ADEQ’s guidance, an evaluation of off-site inventory sources was not conducted because the TQP Facility does not trigger the PSD program.<sup>1</sup> The results from direct modeling of Facility emissions and ambient background concentration were compared to the NAAQS. The pollutants and averaging

<sup>1</sup> Per Arizona Department of Environmental Quality, *Air Dispersion Modeling Guidelines for Arizona Air Quality Permits*, Section 5, November 1, 2019. There are no significant sources in the vicinity of the TQP facility that would likely cause concentrations to diverge from the representative background values chosen.

periods, the corresponding NAAQS used, and the form of the model result to be used for comparison are summarized in **Table 3-2** below based on a five-year meteorological dataset.

**Table 3-2. NAAQS Thresholds**

| Pollutant         | Averaging Period | Class II NAAQS ( $\mu\text{g}/\text{m}^3$ ) | Modeling Result <sup>1,2,3</sup> |
|-------------------|------------------|---------------------------------------------|----------------------------------|
| PM <sub>2.5</sub> | Annual           | 9                                           | H1H                              |
|                   | 24-hour          | 35                                          | H8H                              |

<sup>1</sup> Guideline on Air Quality Models; Final Rule, 40 CFR Part 51, Appendix W, January 17, 2017.

<sup>2</sup> EPA Memo, Modeling Procedures for Demonstrating Compliance with PM<sub>2.5</sub> NAAQS, March 23, 2010.

### 3.3 Hazardous Air Pollutants Analysis

Per ADEQ's "Learning Site Policy," if a facility is within 2 miles or less of a learning site, the facility should submit a modeling analysis to demonstrate compliance with the NAAQS and Acute/Chronic Ambient Air Concentrations for listed air toxics.<sup>2</sup> A HAP screening modeling analysis was submitted with the initial Class II permit application as the Facility is located within 2 miles of a learning site.<sup>3</sup> These initial model results demonstrated HAP emissions will not exceed the AAAC or CAAC standards.

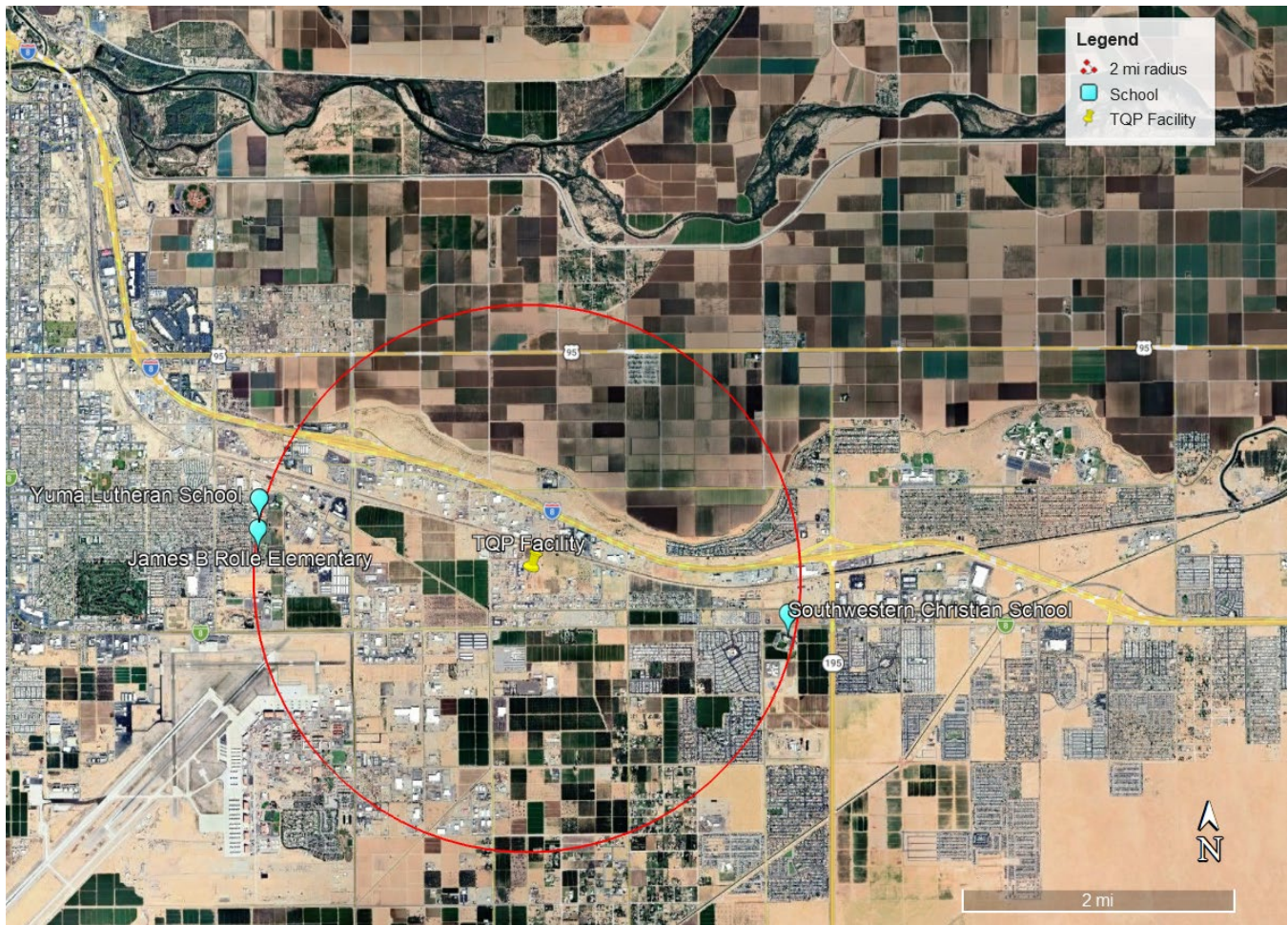
As part of this modeling analysis, updated refined HAP modeling was performed to demonstrate the proposed changes to the Facility will not cause an exceedance of AAAC or CAAC standards. The modeled concentrations of HAPs were compared against the CAACs and AAACs to identify any potential exceedances of standards for air toxics. A single model with a normalized emission rate of 1 g/s from each emission source was modeled, consistent with the initial screening model. The maximum (H1H) impact from each individual source in the 1 g/s model was found and scaled by the emission rate of individual HAP emission sources in units of g/s. The resulting emission impacts were compared to AAACs and CAACs. Source groups were created for each modeled source to determine the maximum concentration possible from each source. This analysis offers a conservative approach, by using the maximum impacts at different receptors on different days depending on the model source.

All modeling for this analysis was conducted consistent with the NAAQS modeling compliance demonstration outlined in the sections above, with exception to the modeled receptor grid. As the learning site policy is applicable to the nearby schools, discrete receptors were added for schools within 2 miles of the Facility. This includes Southwestern Christian School, James B Rolle Elementary, and Yuma Lutheran School as depicted in **Figure 3-1** below.

<sup>2</sup> Per Arizona Department of Environmental Quality, *Air Dispersion Modeling Guidelines for Arizona Air Quality Permits*, Section 7.8, November 1, 2019. A "learning site" consists of all existing public schools, charter schools, and private schools at the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board.

<sup>3</sup> As included in Appendix E to the permit application, last revised April 10, 2025.

**Figure 3-1. Yuma Bioprocessing Facility - Nearby Learning Sites**



### 3.4 Voluntary Limits

No voluntary limits have been proposed as a result of modeling. The following voluntary limits from the permit application have been incorporated into the air dispersion modeling analysis:

- ▶ As part of the SPR application, TQP is proposing an hourly emissions limitation of 3.2 lb/hr of PM<sub>10</sub> and PM<sub>2.5</sub> for the dryer scrubber exhaust.
- ▶ It is assumed the emergency engine (Equipment ID: EG-1) will operate a maximum of 500 hours per year.

## 4. MODEL OVERVIEW

---

This section contains a description of the model selection and the meteorological data, terrain data, building wake effects, and receptors that were used in the air dispersion modeling analysis.

### 4.1 Dispersion Model Selection

On November 9, 2005, the U.S. EPA promulgated the American Meteorological Society / Environmental Protection Agency Regulatory Model (AERMOD) for adoption into the Guideline on Air Quality Models (Guidelines).<sup>4</sup> AERMOD includes a state-of-the-science downwash algorithm and utilizes AERMET, a meteorological data preprocessor that utilizes current planetary boundary layer (PBL) theory to calculate the dispersion coefficients ( $\sigma_y$  and  $\sigma_z$ ).<sup>5</sup> The most current version of the AERMOD model (version 24142) was used in conducting the modeling analysis. The modeling was performed using the regulatory default option, except as discussed in the sections below.

### 4.2 Meteorological Data

EPA modeling guidance recommends the use of five years of off-site meteorological data or at least one year of on-site meteorological data. TQP utilized 5 years of meteorological data collected at the Yuma Marine Corps Air Station National Weather Service station (station identifier KNYL, WBAN ID: 3145) for the air quality dispersion modeling analysis. Preprocessed surface meteorological files were provided by ADEQ for the period of 2019 to 2023<sup>6</sup>. The Yuma Air Station meteorological station is located 4.8 kilometers southwest of the Yuma bioprocessing facility. Due to the proximity of the TQP facility to the Yuma Air Station meteorological station, the KNYL station has been determined to be representative of the Facility based on the criteria in Section 8.4.1(b) of Appendix W. Upper-air meteorological data collected by the NWS in Tucson was used in the modeling analysis.

### 4.3 Terrain

Terrain elevation for each modeled receptor was determined using the USGS National Elevation Dataset (NED). Specifically, 2024 USGS NED 1/3 arc second (approximately 10-meter resolution) files were used. Where site grading data was available, elevation was determined using that data. This included elevations for the building and stacks. The terrain height for each modeled receptor was calculated using the latest AERMOD terrain processor (AERMAP version 24142).

For boundary and discrete receptors, in addition to terrain elevation, an additional parameter called the hill height scale is required for each receptor to execute AERMOD's terrain modeling algorithms. AERMOD computes the impact at a receptor as a weighted interpolation between horizontal and terrain-following states using a critical dividing streamline approach. This scheme assumes that part of the plume mass had enough energy to ascend and traverse over a terrain feature and the remainder would impinge and traverse around a terrain feature under certain meteorological conditions. The hill height scale was computed by the AERMAP terrain preprocessor for each receptor as a measure of the one terrain feature in the modeling domain that will have the greatest effect on plume behavior at that receptor.

---

<sup>4</sup> Code of Federal Regulations, Title 40-Protection of the Environment, Part 51, Appendix W.

<sup>5</sup> U.S. EPA, User's Guide for the AMS/EPA Regulatory Model-AERMOD, September 2004.

<sup>6</sup> AERMET Data Files | ADEQ ([azdeq.gov](https://azdeq.gov)).

The hill height scale does not represent the critical dividing streamline height itself but supplies the computational algorithms with an indication of the relative relief within the modeling domain for the determination of the critical dividing streamline height for each hour of meteorological data.

The NED array boundary used for AERMAP includes all terrain features that exceed a 10 percent elevation slope from any given receptor to properly calculate the hill height scale at each receptor. The domain for the hill height analysis was set to the minimum coverage required for proper handling of elevation slope.

#### 4.4 Building Wake Effects (Downwash)

The emission sources considered in this analysis were evaluated in terms of their proximity to nearby structures. The purpose of this evaluation was to determine if stack discharge might become caught in the turbulent wakes of these structures. Wind blowing around a building creates zones of turbulence that are greater than if the building was absent. Plumes entrained in the zones of turbulence experience enhanced plume growth and restricted plume rise. AERMOD incorporates the Plume Rise Model Enhancements (PRIME) algorithms using dimensions from the EPA's Building Profile Input Program (BPIP) for estimating plumes affected by building wakes.

The effects of downwash were limited to stacks located within a distance defined as five times "L" of a structure, where "L" is the lesser of a structure's height or direction-specific projected width. Stacks located at a distance greater than 5L are not subject to the wake effects of the structure.

The Yuma Bioprocessing Facility site layout was reviewed to determine the buildings or structures that have stacks within 5L. No offsite buildings were included in the model due to their dimensions and distances to the Facility stacks. Direction-specific building dimensions and the dominant downwash structure parameters were determined using the *BREEZE®* BPIP software, developed by Trinity Consultants, Inc. This software incorporates the algorithms of the U.S. EPA-sanctioned Building Profile Input Program with PRIME enhancement (BPIP-PRIME), version 04274.<sup>7</sup>

#### 4.5 Receptor Grid

A receptor grid was developed for the air dispersion analyses to encompass a region extending up to 50 km beyond the Facility ambient air boundary. The receptor grid was developed to ensure that the maximum pollutant concentrations are captured by the model. It should be noted that the receptor grid does not extend into Mexico; the receptor grid generation follows the above except that receptors were not placed outside of the United States. Note that all receptor coordinates were established using the UTM NAD83 coordinate system. The primary receptor grids include the following<sup>8</sup>:

1. The "fenceline grid" is a discrete receptor grid with the receptors spaced at 25-meter intervals along the Facility ambient air boundary.

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<sup>7</sup> U.S. Environmental Protection Agency, *User's Guide to the Building Profile Input Program*, Research Triangle Park, NC, EPA-454/R-93-038.

<sup>8</sup> Per Arizona Department of Environmental Quality, *Air Dispersion Modeling Guidelines for Arizona Air Quality Permits*, Section 3.6, September 23, 2013.

2. The “fine grid” contains 100-meter spaced receptors extending from the ambient air boundary to approximately 1 kilometers from the ambient air boundary, excluding the receptors within the ambient air boundary.
3. The “medium grid” contains 350-meter spaced receptors extending from 1 kilometer to 5 kilometers the ambient air boundary, excluding the receptors within the ambient air boundary and fine grids.
4. The “coarse grid” contains 750-meter spaced receptors extending from 5 kilometers to 20 kilometers from the ambient air boundary, excluding the receptors within the ambient air boundary, fine, and medium grids.
5. The “very coarse grid” contains 1,750-meter spaced receptors extending from 20 kilometers to 50 kilometers from the ambient air boundary, excluding the receptors within the ambient air boundary, fine, medium, and coarse grids.

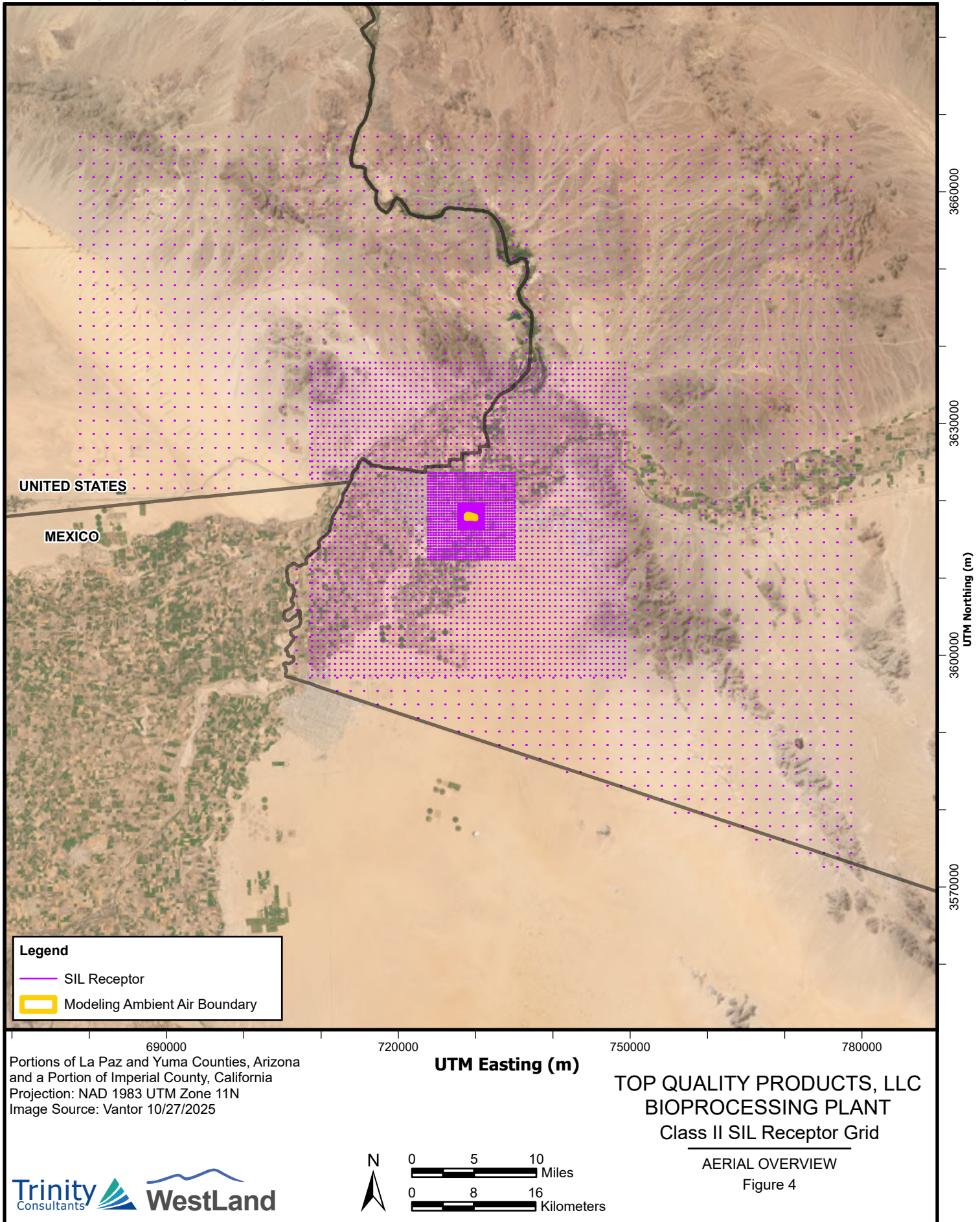
The ambient air boundary for the Facility was determined by the extent of the TQP facility that will be fenced to preclude public access. The full 50 km receptor grid used in the SIL and NAAQS modeling analysis can be seen in **Figure 4-1** below.

Figure 4-1. Yuma Bioprocessing Facility - Receptor Grid

Path: G:\24\301174\Trinity\ArcGISpro\TopQualityProducts\TopQualityProducts.aprx: 04 SIL Receptor Grid

Date: 4/25/2026

User: ttheriot



## 4.6 Land Use Classification

As shown in **Figure 2-1**, the TQP Facility is located in an area with cultivated crop as the dominant land cover. According to EPA guidance, a land-use typing analysis was performed to determine the predominant land usage classification between urban and rural areas.

To determine the land usage surrounding the TQP facility, the AERSURFACE application was used. The process that was used to determine the land use classification is discussed in Section 5.1 of the AERMOD Implementation Guide (also referring therein to Section 7.2.1.1.b.i. of the Guideline on Air Quality Models, Appendix W) and is called the “land use” procedure because it examines the various land use within 3 km of a source and quantifies the percentage of area in various land use categories.<sup>9</sup> If greater than 50% of the land use in the prescribed area is considered urban, then the urban option should be used in AERMOD. Version 24142 of the AERSURFACE program was used in conducting the TQP land use classification analysis. The 2021 National Land Cover Data (NLCD) obtained from the U.S. Geological Survey for the state of Arizona was input into AERSURFACE. Results from the AERSURFACE analysis for the 3 km circle surrounding the site are displayed in

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<sup>9</sup> EPA, AERMOD Implementation Guide, November 2024, available at [aermod\\_implementation\\_guide.pdf](#).

**Table 4-1.** Since the majority of the land surrounding the TQP facility is classified as rural, the Facility emission sources were not treated as urban sources in the AERMOD model based on the land use classification procedure.

**Table 4-1. Land Cover Analysis**

| <b>Category No.</b>       | <b>Category Description</b>      | <b>Class</b> | <b>Counts</b>    | <b>% of Total</b> |
|---------------------------|----------------------------------|--------------|------------------|-------------------|
| 0                         | Missing, Out-of-Bounds, or Unde: | Undefined    | 0                | 0.00%             |
| 11                        | Open Water:                      | Rural        | 1                | 0.00%             |
| 12                        | Perennial Ice/Snow:              | Rural        | 0                | 0.00%             |
| 21                        | Developed, Open Space:           | Rural        | 2359             | 7.51%             |
| 22                        | Developed, Low Intensity:        | Urban        | 3200             | 10.19%            |
| 23                        | Developed, Medium Intensity:     | Urban        | 4485             | 14.28%            |
| 24                        | Developed, High Intensity:       | Urban        | 2309             | 7.35%             |
| 31                        | Barren Land (Rock/Sand/Clay):    | Rural        | 1375             | 4.38%             |
| 32                        | Unconsolidated Shore:            | Rural        | 0                | 0.00%             |
| 41                        | Deciduous Forest:                | Rural        | 0                | 0.00%             |
| 42                        | Evergreen Forest:                | Rural        | 0                | 0.00%             |
| 43                        | Mixed Forest:                    | Rural        | 0                | 0.00%             |
| 51                        | Dwarf Scrub:                     | Rural        | 0                | 0.00%             |
| 52                        | Shrub/Scrub:                     | Rural        | 2916             | 9.28%             |
| 71                        | Grasslands/Herbaceous:           | Rural        | 14               | 0.04%             |
| 72                        | Sedge/Herbaceous:                | Rural        | 0                | 0.00%             |
| 73                        | Lichens:                         | Rural        | 0                | 0.00%             |
| 74                        | Moss:                            | Rural        | 0                | 0.00%             |
| 81                        | Pasture/Hay:                     | Rural        | 27               | 0.09%             |
| 82                        | Cultivated Crops:                | Rural        | 14732            | 46.89%            |
| 90                        | Woody Wetlands:                  | Rural        | 0                | 0.00%             |
| 91                        | Palustrine Forested Wetland:     | Rural        | 0                | 0.00%             |
| 92                        | Palustrine Scrub/Shrub Wetland:  | Rural        | 0                | 0.00%             |
| 93                        | Estuarine Forested Wetland:      | Rural        | 0                | 0.00%             |
| 94                        | Estuarine Scrub/Shrub Wetland:   | Rural        | 0                | 0.00%             |
| 95                        | Emergent Herbaceous Wetland:     | Rural        | 0                | 0.00%             |
| 96                        | Palustrine Emergent Wetland (Pe: | Rural        | 0                | 0.00%             |
| 97                        | Estuarine Emergent Wetland:      | Rural        | 0                | 0.00%             |
| 98                        | Palustrine Aquatic Bed:          | Rural        | 0                | 0.00%             |
| 99                        | Estuarine Aquatic Bed:           | Rural        | 0                | 0.00%             |
| <b>Total:</b>             |                                  |              | <b>31,418</b>    | <b>100%</b>       |
| <b>Percentage - Rural</b> |                                  |              | <b>24,624.00</b> | <b>78.4%</b>      |
| <b>Percentage - Urban</b> |                                  |              | <b>6,794.00</b>  | <b>21.6%</b>      |

## 5. BACKGROUND CONCENTRATIONS

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“Background concentrations” refer to the monitored existing concentrations of a regulated pollutant in an area. A “representative” background concentration is required for each modeled pollutant and averaging period to complete the Full Impact NAAQS modeling analysis. The background concentration accounts for sources of air pollution other than those explicitly modeled. These sources may include:

- ▶ Natural sources.
- ▶ Nearby, non-modeled sources; and,
- ▶ Unidentified sources of air pollution (e.g., long-range transport).

Typically, background concentrations are obtained from air quality data measured at a representative monitoring station. Section 8.3.2 of 40 CFR Part 51, Appendix W discusses the requirements for obtaining “representative” background concentrations for single isolated sources. Because background concentrations are influenced by surrounding man-made emissions (i.e., industrial impacts), the selection of the “representative” background concentrations for the project was performed as follows:

- ▶ Step 1 – Evaluate monitor distance from proposed Project.
- ▶ Step 2 – Evaluate data completeness at monitor.
- ▶ Step 3 – Identify monitors closest to the TQP Facility with the most complete data set.
- ▶ Step 4 – Compare and contrast chosen monitors to identify the most representative monitor.

Per ADEQ guidance for determining background concentrations, the quality and age of the data collected must be considered. Therefore, the analysis utilized the most recent three years of data, in which the background data is more than 75% complete<sup>10</sup>, for each regional site.

### 5.1 Particulate Matter

TQP evaluated the active Yuma Supersite monitor (AQS ID: 04-027-8011) for representativeness. The Yuma monitor is located 6 km from the Facility. The location of the monitor can be seen in **Figure 5-1** below. The Yuma monitor has complete data for the years 2023-2025 that was used in determining the representative background concentration. Due to the proximity of the monitor to the Facility, the Yuma monitor represents expected PM<sub>2.5</sub> background concentrations at the Facility.

As such the PM<sub>2.5</sub> background concentrations to be used in the NAAQS modeling analysis are the following:

- ▶ 19.0 µg/m<sup>3</sup> for the PM<sub>2.5</sub> 24-hour standard, and;
- ▶ 7.89 µg/m<sup>3</sup> for the PM<sub>2.5</sub> annual standard.

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<sup>10</sup> Data completeness per 40 CFR Part 50, Appendix K, Sections 2.3(a) and (b); 40 CFR Part 50, Appendix N, Section 3.0(c); 40 CFR Part 50, Appendix R, Section 4(b) and 4(c)(i); and 40 CFR Part 50, Appendix S, Section 3.1(b) and Section 3.2(b).

**Figure 5-1. Proposed PM<sub>2.5</sub> Monitor Location**



## 6. EMISSIONS MODELED & SOURCE CHARACTERIZATION

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The following sections discuss the TQP Facility emission sources included in the modeling demonstration.

### 6.1 Source Characterization

PM<sub>10</sub> and PM<sub>2.5</sub> emissions at the TQP facility will be emitted from non-fugitive emission sources. The modeled emission point sources at the Facility include the following:

- ▶ Cooling Towers:
  - Stack parameters were based on the characteristics of the cooling tower fan. Release height was based on the height of the cooling tower cells, diameter was based on the area cross section for the cooling tower exhaust fans, and the vertical velocity was determined by the fan flow rate. The mill cooling tower exhausts at a temperature of 311 K (100 °F).
- ▶ Evaporative Dryer Scrubber
  - Stack parameters were determined by vendor provided specifications for stack height, diameter, flowrate, and temperature. The scrubber stack has been modeled as a vertical unobstructed stack.
- ▶ Natural Gas Boiler
  - Stack parameters were determined by vendor provided specifications for stack height, diameter, flowrate, and temperature. The natural gas boiler stack exhaust will include a rain cap, thus has been modeled as a capped point source.
- ▶ Emergency Generator Engine
  - Stack parameters were determined by vendor provided specifications for stack height, diameter, flowrate, and temperature.

### 6.2 Secondary Pollutant Formation

Precursor pollutants for ozone (i.e., NO<sub>x</sub>, and VOC) and PM<sub>2.5</sub> (i.e., NO<sub>x</sub>, and SO<sub>2</sub>) can undergo photochemical reactions with gases in the atmosphere, resulting in the formation of secondary ozone and PM<sub>2.5</sub> downwind of an emission source, which can add to concentrations resulting from direct (or primary) emissions. Two of the largest constituents of secondary PM<sub>2.5</sub> in the U.S. are sulphates (SO<sub>4</sub><sup>2-</sup>) and nitrates (NO<sub>3</sub><sup>-</sup>), both of which are formed from their respective precursor pollutants (i.e., SO<sub>2</sub> for SO<sub>4</sub><sup>2-</sup>, NO<sub>x</sub> for NO<sub>3</sub><sup>-</sup>).

As emissions of NO<sub>x</sub>, SO<sub>2</sub>, and VOC will remain below the Significant Emission Rates (SER), a secondary analysis was not performed for this modeling analysis.

## 7. MODELING RESULTS

### 7.1 Minor NSR Modeling

The Significance and Full Impact Analysis was conducted for the full 50 km receptor grid. Results of the analyses are presented in **Table 7-1** and **Table 7-2**. The results of the significant impact modeling analysis are summarized below and the results are compared to the corresponding SIL. The table summarizes the maximum model concentrations for each pollutant and averaging period. As shown below, the modeled impacts for PM<sub>10</sub> are below the SIL and do not require a full NAAQS compliance analysis. However, 24-hr and annual PM<sub>2.5</sub> modeling impacts are above the SILs, therefore, a full impact analysis is required for those pollutants. As shown in **Table 7-2**, there are no NAAQS exceedances.

**Table 7-1. Significance Analysis Results**

| Pollutant                      | Averaging Period | Modeled Concentration (µg/m <sup>3</sup> ) | SIL (µg/m <sup>3</sup> ) | Exceeds SIL? (Yes/No) |
|--------------------------------|------------------|--------------------------------------------|--------------------------|-----------------------|
| PM <sub>10</sub>               | 24-hour          | 3.2                                        | 5                        | No                    |
| PM <sub>2.5</sub> <sup>4</sup> | Annual           | 0.3                                        | 0.13                     | Yes                   |
|                                | 24-hour          | 2.8                                        | 1.2                      | Yes                   |

**Table 7-2. NAAQS Full Impact Analysis Results**

| Pollutant         | Averaging Period | Modeled Concentration <sup>1</sup> (µg/m <sup>3</sup> ) | Background Concentration <sup>2</sup> (µg/m <sup>3</sup> ) | Total Concentration <sup>3</sup> (µg/m <sup>3</sup> ) | NAAQS (µg/m <sup>3</sup> ) | Exceeds NAAQS? (Yes/No) | Form of the Standard <sup>4,5</sup>    |
|-------------------|------------------|---------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------|----------------------------|-------------------------|----------------------------------------|
| PM <sub>2.5</sub> | Annual           | 0.3                                                     | 7.89                                                       | 8.2                                                   | 9                          | No                      | Annual mean                            |
|                   | 24-hour          | 1.9                                                     | 19.0                                                       | 20.9                                                  | 35                         | No                      | 98th percentile, averaged over 5 years |

<sup>1</sup> Modeled concentration includes emission sources at the TQP Facility. The concentration is reported as the highest receptor in the form of the standard.

<sup>2</sup> Refer to Section 5 for a detailed analysis concerning the background concentration.

<sup>3</sup> The total concentration for comparison to the NAAQS is the modeled plus the background concentration.

<sup>4</sup> Guideline on Air Quality Models; Final Rule, 40 CFR Part 51, Appendix W, January 17, 2017.

<sup>5</sup> EPA Memo, Modeling Procedures for Demonstrating Compliance with PM<sub>2.5</sub> NAAQS, March 23, 2010.

## 7.2 HAPs Modeling

The HAP modeling analysis was conducted to determine possible HAP impacts as a result of the proposed changes. The following tables display the modeled concentrations for the normalized HAP model for the learning sites. As discussed in **Section 3.3**, the normalized HAP model used an emission rate of 1 g/s for each source, and this value was scaled to an approximate concentration using the actual emission rate of each HAP.

**Table 7-3 HAP Learning Sites Results**

| HAP             | Emission Unit | Maximum Hourly Emission Rate (lb/hr) | Maximum Annual Emission Rate (tpy) | Maximum Annual Emissions Rate (g/s) | Acute Nominal Concentration (µg/m³) | Chronic Nominal Concentration (µg/m³) | Acute Modeled Concentration (µg/m³) | Chronic Modeled Concentration (µg/m³) | AAAC (µg/m³) | CAAC (µg/m³) | Greater than AAAC? | Greater than CAAC? |
|-----------------|---------------|--------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--------------|--------------|--------------------|--------------------|
| Benzene         | Engine        | 1.75E-03                             | 4.38E-04                           | 2.21E-04                            | 28.36                               | 0.31                                  | 6.30E-03                            | 6.96E-05                              | 1.28E+06     | 2.43E-01     | NO                 | NO                 |
|                 | Boiler        | 7.21E-05                             | 3.16E-04                           | 9.08E-06                            | 4.278                               | 0.1030                                |                                     |                                       |              |              |                    |                    |
| Toluene         | Engine        | 7.68E-04                             | 1.92E-04                           | 9.67E-05                            | 28.36                               | 0.311                                 | 5.85E-02                            | 1.65E-03                              | 1.92E+06     | 5.21E+03     | NO                 | NO                 |
|                 | Boiler        | 1.17E-04                             | 5.11E-04                           | 1.47E-05                            | 4.278                               | 0.1030                                |                                     |                                       |              |              |                    |                    |
|                 | Dryer         | 1.50E-01                             | 3.29E-01                           | 2.76E-02                            | 2.95                                | 0.059                                 |                                     |                                       |              |              |                    |                    |
| Xylenes         | Engine        | 5.35E-04                             | 1.34E-04                           | 6.74E-05                            | 28.36                               | 0.311                                 | 1.91E-03                            | 2.10E-05                              | 1.74E+06     | 1.04E+02     | NO                 | NO                 |
| 1,3-Butadiene   | Engine        | 7.34E-05                             | 1.84E-05                           | 9.25E-06                            | 28.36                               | 0.311                                 | 2.62E-04                            | 2.88E-06                              | 7.51E+06     | 6.32E-02     | NO                 | NO                 |
| Formaldehyde    | Engine        | 2.22E-03                             | 5.54E-04                           | 2.79E-04                            | 28.36                               | 0.311                                 | 2.79E-02                            | 6.60E-04                              | 1.70E+04     | 1.46E-01     | NO                 | NO                 |
|                 | Boiler        | 2.57E-03                             | 1.13E-02                           | 3.24E-04                            | 4.278                               | 0.1030                                |                                     |                                       |              |              |                    |                    |
|                 | Dryer         | 5.00E-02                             | 1.10E-01                           | 9.20E-03                            | 2.95                                | 0.059                                 |                                     |                                       |              |              |                    |                    |
| Acetaldehyde    | Engine        | 1.44E-03                             | 3.60E-04                           | 1.81E-04                            | 28.36                               | 0.311                                 | 5.15E-03                            | 5.64E-05                              | 3.06E+05     | 8.62E-01     | NO                 | NO                 |
| Acrolein        | Engine        | 1.74E-04                             | 4.34E-05                           | 2.19E-05                            | 28.36                               | 0.311                                 | 6.21E-04                            | 6.81E-06                              | 2.30E+02     | 2.09E-02     | NO                 | NO                 |
| Total POM       | Engine        | 3.15E-04                             | 7.89E-05                           | 3.97E-05                            | 28.36                               | 0.311                                 | 1.13E-03                            | 1.24E-05                              | 5.00E+03     | 2.02E-03     | NO                 | NO                 |
|                 | Boiler        | 1.59E-06                             | 6.97E-06                           | 2.01E-07                            | 4.278                               | 0.1030                                |                                     |                                       |              |              |                    |                    |
| Dichlorobenzene | Boiler        | 4.12E-05                             | 1.80E-04                           | 5.19E-06                            | 4.278                               | 0.1030                                | 2.22E-05                            | 5.34E-07                              | N/A          | N/A          | N/A                | N/A                |

| HAP                 | Emission Unit | Maximum Hourly Emission Rate (lb/hr) | Maximum Annual Emission Rate (tpy) | Maximum Annual Emissions Rate (g/s) | Acute Nominal Concentration (µg/m³) | Chronic Nominal Concentration (µg/m³) | Acute Modeled Concentration (µg/m³) | Chronic Modeled Concentration (µg/m³) | AAAC (µg/m³) | CAAC (µg/m³) | Greater than AAAC? | Greater than CAAC? |
|---------------------|---------------|--------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--------------|--------------|--------------------|--------------------|
| Hexane              | Boiler        | 6.18E-02                             | 2.71E-01                           | 7.78E-03                            | 4.278                               | 0.1030                                | 3.33E-02                            | 8.02E-04                              | 1.16E+07     | 2.21E+03     | NO                 | NO                 |
| Naphthalene         | Boiler        | 2.09E-05                             | 9.17E-05                           | 2.64E-06                            | 4.278                               | 0.1030                                | 1.13E-05                            | 2.72E-07                              | 7.50E+04     | 5.58E-02     | NO                 | NO                 |
| Arsenic compounds   | Boiler        | 6.86E-06                             | 3.01E-05                           | 8.65E-07                            | 4.278                               | 0.1030                                | 3.70E-06                            | 8.91E-08                              | 2.50E+03     | 4.41E-04     | NO                 | NO                 |
| Beryllium compounds | Boiler        | 4.12E-07                             | 1.80E-06                           | 5.19E-08                            | 4.278                               | 0.1030                                | 2.22E-07                            | 5.34E-09                              | 1.30E+01     | 7.90E-07     | NO                 | NO                 |
| Cadmium compounds   | Boiler        | 3.77E-05                             | 1.65E-04                           | 4.76E-06                            | 4.278                               | 0.1030                                | 2.03E-05                            | 4.90E-07                              | 2.50E+02     | 1.05E-03     | NO                 | NO                 |
| Chromium compounds  | Boiler        | 4.80E-05                             | 2.10E-04                           | 6.05E-06                            | 4.278                               | 0.1030                                | 2.59E-05                            | 6.23E-07                              | 1.00E+02     | 1.58E-04     | NO                 | NO                 |
| Cobalt compounds    | Boiler        | 2.88E-06                             | 1.26E-05                           | 3.63E-07                            | 4.278                               | 0.1030                                | 1.55E-06                            | 3.74E-08                              | 1.00E+04     | 6.86E-07     | NO                 | NO                 |
| Lead Compounds      | Boiler        | 1.72E-05                             | 7.51E-05                           | 2.16E-06                            | 4.278                               | 0.1030                                | 9.25E-06                            | 2.23E-07                              | N/A          | N/A          | N/A                | N/A                |
| Manganese compounds | Boiler        | 1.30E-05                             | 5.71E-05                           | 1.64E-06                            | 4.278                               | 0.1030                                | 7.03E-06                            | 1.69E-07                              | 2.50E+03     | 5.21E-02     | NO                 | NO                 |
| Mercury compounds   | Boiler        | 8.92E-06                             | 3.91E-05                           | 1.12E-06                            | 4.278                               | 0.1030                                | 4.81E-06                            | 1.16E-07                              | 1.00E+03     | 3.13E-01     | NO                 | NO                 |
| Nickel compounds    | Boiler        | 7.21E-05                             | 3.16E-04                           | 9.08E-06                            | 4.278                               | 0.1030                                | 3.88E-05                            | 9.35E-07                              | 5.00E+03     | 7.90E-03     | NO                 | NO                 |
| Selenium compounds  | Boiler        | 8.24E-07                             | 3.61E-06                           | 1.04E-07                            | 4.278                               | 0.1030                                | 4.44E-07                            | 1.07E-08                              | 5.00E+02     | 1.83E+01     | NO                 | NO                 |
| Methanol            | Dryer         | 1.25E-01                             | 2.74E-01                           | 2.30E-02                            | 2.95                                | 0.059                                 | 4.64E-02                            | 1.35E-03                              | 9.43E+05     | 4.17E+03     | NO                 | NO                 |

## 8. ELECTRONIC FILES

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The electronic files provided as part of this submittal contain all of the air dispersion modeling analyses electronic input, output, and other files used to generate the results presented in this report. The following is a list of files provided:

- ▶ All AERMOD input, output, and plot files;
- ▶ AERMOD meteorological data files;
- ▶ AERMOD terrain data files; and
- ▶ All BPIP/BPIPP input and output files;

## **APPENDIX A. MODELED EMISSION RATES AND SOURCE PARAMETERS**

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**Appendix A. Bioprocessing Facility  
Modeling Parameters**

April 2026

**Table A-1. Point Sources**

| Source ID  | Description                             | Locations  |             |                | Emission Rates |            |              | Stack Parameters  |              |                   |               |                |
|------------|-----------------------------------------|------------|-------------|----------------|----------------|------------|--------------|-------------------|--------------|-------------------|---------------|----------------|
|            |                                         | X          | Y           | Base Elevation | PM10 24hr      | PM2.5 24hr | PM2.5 Annual | Stack Orientation | Stack Height | Stack Temperature | Exit Velocity | Stack diameter |
|            |                                         | (m)        | (m)         | (m)            | (g/s)          | (g/s)      | (g/s)        |                   | (m)          | (K)               | (m/s)         | (m)            |
| CT1        | Cooling Tower 1 (Demo)                  | 728824.311 | 3617827.304 | 65.89          | 5.18E-05       | 7.14E-07   | 7.14E-07     | Vertical          | 4.57         | 311               | 26.05         | 1.52           |
| CT2        | Cooling Tower 2 (Demo)                  | 728826.827 | 3617933.141 | 65.89          | 2.07E-04       | 2.85E-06   | 2.85E-06     | Vertical          | 6.10         | 311               | 9.46          | 3.05           |
| EG1        | Emergency Generator (Demo)              | 728821.165 | 3617868.47  | 65.88          | 1.11E-03       | 1.11E-03   | 6.34E-05     | Vertical          | 4.42         | 815               | 18.92         | 0.20           |
| NGB backup | NG Boiler (Demo) Stack                  | 728828.947 | 3617915.005 | 65.88          | 3.29E-02       | 3.29E-02   | 3.29E-02     | Capped            | 30.48        | 466               | 4.5           | 1.1            |
| SCRUB1     | Evaporative Dryer Scrubber (Demo) Stack | 728887.6   | 3617846     | 65.88          | 4.05E-01       | 4.05E-01   | 4.05E-01     | Vertical          | 32.00        | 355               | 5.3           | 2.1            |

## **APPENDIX B. MODELED IMPACT CONTOUR PLOTS**

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