



Alan Frazier <afrazier@chattanooga.gov>

TVA SQN Blast Booth Construction Permit Application

1 message

Ross, Will Thomas <wtross@tva.gov>

Tue, Jul 2, 2024 at 10:12 AM

To: "afrazier@chattanooga.gov" <afrazier@chattanooga.gov>, "aterrell@chattanooga.gov" <aterrell@chattanooga.gov>

Cc: "Grubb, Jennifer Lindsey" <jlgrubb@tva.gov>

Good morning, Alan,

Attached is the construction permit application for the new abrasive blast booth that Sequoyah would like to install.

Let me know if you need anything further.

Thank you!

Will T. Ross

Air Specialist III

Air Permits, Compliance & Monitoring



W. 423-751-3505 M. 423-667-3162 E. wtross@tva.gov
1101 Market St., BR2C, Chattanooga, TN 37402

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SQN Blast Booth Construction Permit Application_External.pdf

1423K



Post Office Box 2000, Soddy Daisy, Tennessee 37384-2000

Sent Via Electronic Submittal

July 1, 2024

Mr. Allen Frazier (AFrazier@Chattanooga.gov)
Chattanooga-Hamilton County
Air Pollution Control Bureau
2034 Hamilton Place Blvd., Suite 300
Chattanooga, Tennessee 37421

Dear Mr. Frazier:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT (SQN) - SOURCE NO. 4150-30600701 – CONSTRUCTION PERMIT APPLICATION FOR BLAST BOOTH #2

Please find enclosed the above referenced application for the construction of a new abrasive blast booth, "Blast Booth #2", at TVA SQN. Existing site personnel will staff this new operation once it is constructed, so overall sitewide Particulate Emissions are not expected to drastically increase.

If you have questions or need additional information, please contact Will Ross at (423) 667-3162 or by email at wtross@tva.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Marshall", is written over a light grey horizontal line.

Thomas B. Marshall
Site Vice President
Sequoyah Nuclear Plant

Enclosure

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT
OR CERTIFICATE OF OPERATION

FORM E001
03/2011

1. Name of Company TVA Sequoyah Nuclear Plant
(If corporation or LLC, name on file with Tennessee Secretary of State Corporate Records Division)
2. NAICS Code: 221113
3. Company Official to Contact: Jennifer L. Grubb
4. Phone No. 423-843-6713
5. Mailing Address: P.O. Box 2000 Soddy Daisy TN 37379
Street or P.O. Box City State Zip Code
6. Physical Location
(If different from line 5) Sequoyah Access Rd. Soddy Daisy TN 37384
Street City State Zip Code
7. Application for:
 Installation Permit Initial Certificate of Operation Renewal Certificate of Operation
- Previous Installation Permit or Certificate of Operation No.: ~~4150-30600704~~

8. Type of equipment for which application is made:

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Process Equipment (Form E010 or Form E010A) | <input type="checkbox"/> Previously Submitted | <input checked="" type="checkbox"/> Attached |
| <input type="checkbox"/> Fuel Burning Equipment (Form E011) | <input type="checkbox"/> Previously Submitted | <input type="checkbox"/> Attached |
| <input type="checkbox"/> Incineration Equipment (Form E012) | <input type="checkbox"/> Previously Submitted | <input type="checkbox"/> Attached |
| <input type="checkbox"/> Minor Pollution Source (Form E014)
<i>(Less than 1000 lbs/yr and less than 10 lbs/day total uncontrolled contaminant emissions)</i> | <input type="checkbox"/> Previously Submitted | <input type="checkbox"/> Attached |

The following forms are filed with this application:
E010; E102; E106

9. Equipment Name:
Abrasive Blast Booth #2
10. If application is for a Certificate of Operation (Initial or Renewal), are there any changes since previous application in the equipment or operation which might:
- A. Increase, decrease, or alter process materials, fuel, refuse type, etc.? Yes No
- B. Increase, decrease, or alter emissions or emission points? Yes No
11. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lb/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1,000 Btu/hr, (Item 7C on Form E011): 1000 lb/hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail completed form to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
2034 Hamilton Place Blvd., Suite 300
Chattanooga, TN 37421

Thomas B. Marshall
Name

Site Vice President

Title

07/01/2024
Date

This form must be completely filled out before it will be processed

PROCESS EQUIPMENT APPLICATION

FORM E010
07/2000

1. **Name of Company** (as shown on Line 1, Form E001): TVA Sequoyah Nuclear Plant
2. **Equipment Name** (as shown on Line 10, Form E001): Abrasive Blast Booth #2
3. **Installation Date:** 8/1/2024 4. **Type of Process:** Abrasive Blasting
5. **Major Raw Materials Used:** Abrasive Cleaning Material
6. **Process Weight:** 1,000 Pounds per hour
This is the total weight of all materials introduced into the process.

7. **Control Equipment**

<input type="checkbox"/> Emissions Uncontrolled	<input type="checkbox"/> Baghouse (File Form E102)
<input type="checkbox"/> Wet Collecting Device (File Form E103)	<input type="checkbox"/> Inertial Separators (File Form E105)
<input type="checkbox"/> Electrostatic Precipitator (File Form E104)	<input checked="" type="checkbox"/> Other – Specify: <u>Bag Filter Dust Collector</u>

8. **Control Efficiency**

Enter the control efficiency for each pollutant emitted by this equipment (for appropriate Forms E102, E103, E104, E105, E107, or enter zeros if the emissions are uncontrolled as noted in Item 7.

Pollutant	% Efficiency
Particulates	See AP-42 13.2.6
SO _x	
NO _x	
CO	
Hydrocarbons	
Other:	

9. **Emissions Summary**

Enter the amount of each pollutant listed in pounds per hour.

Pollutant	Uncontrolled Emissions (File Form E106)	Actual Emissions (Stack Test Report)	Estimated Emissions (See Formula A)
Total Suspended Particulate			0.69 lbs/hr
PM10			See form E106
Sulfur Oxides			
Nitrogen Oxides (as NO ₂)			
Other (specify)			

OR

Formula A: Estimated Emissions = $\frac{(100\% - \text{Control Efficiency (\%)})}{100\%}$ X Uncontrolled Emissions

10. **Environmental Impact**

Those emissions indicated in Item 9 may at times under normal operating conditions cause (check all that apply):

- Odors Eye Irritations Property Damage Health Effects
 Other nuisances outside of plant property No environmental damage

11. **Emission Point Data**

Stack Height (emission point) above ground: 20 Ft. Volume of gas discharged into atmosphere: 12,500 cfm
Ground Elevation above sea level at stack base: 0 Ft. Gas exit temperature: Ambient °F
Stack Diameter: TBD Ft.

12. **Ave. Operating Time**

Daily: 8 hours Weekly: 5 Days Yearly: 52 Weeks

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge.



Company Official

Site Vice President

Title

07/01/2024

Date

AIR POLLUTION CONTROL EQUIPMENT DATA - BAGHOUSE

**FORM E102
01/2001**

1. **Name of Company:** TVA Sequoyah Nuclear Plant
As shown on Line 1 of Form E001

2. **Name of Equipment:** Abrasive Blast Booth #2
As shown on Line 9 of Form E001

3. **Equipment Data:**
 Manufacturer of Baghouse: FLI Holdings
 Model Number: _____ Cost of Baghouse: _____
 Date of Manufacture: 2023 Date of Installation: 2024
 Pre-cleaning Equipment No Yes _____
If yes, what type (File appropriate form for control equipment)
 Volume of gas discharged from baghouse at dry standard conditions: 12,500 dscfm
 Total cloth area of baghouse: _____ ft²
 Air to cloth ratio: 2:1 Air to Cloth $\frac{\text{Ft}}{\text{Min}}$ *(Divide volume of gas discharged by total cloth area)*

4. **Pressure Drop Across Baghouse:**
 Stated by manufacturer: _____ Inches of H₂O
 Measured (actual): _____ Inches of H₂O
 Calculated: $\frac{\text{_____}}{\text{(K Factor)}} \times \frac{\text{_____}}{\text{Air to cloth ratio in ft/min}} = \text{_____}$ Inches of H₂O
 The recommended pressure drop range in inches of H₂O is 1.5 (minimum) to 8.0 (maximum).
If the measured or calculated pressure drop falls outside the recommended range, contact the Chattanooga-Hamilton County Air Pollution Control Bureau.

5. **Filter Data:**
 Type of fabric filters used in baghouse: 24 Cloth filters with reverse pulse air filter cleaning system
 Operating temperature: $\frac{\text{Ambient } \text{°F}}{\text{Manufacturer's Recommended}}$ $\frac{\text{_____ } \text{°F}}{\text{Normal}}$ $\frac{\text{_____ } \text{°F}}{\text{Maximum}}$
If the maximum operating temperature exceeds the recommended operating temperature, contact the Chattanooga-Hamilton County Air Pollution Control Bureau.

6. **Baghouse Components:**
Check all that apply.
 Flow rate instrumentation Inlet gas temperature instrumentation Evaporative Cooler
 Dew point indicator Differential pressure instrumentation Other (Describe) _____
 Heat Exchanger Transmissometer

7. **Baghouse Operation:**
 Continuous Intermittent

12. **Control Efficiency:**
 Manufacturer's Stated Efficiency: 99.5% @ 0.5 Micron %
 Required Efficiency: _____ %
 Operational Efficiency (performance testing): _____ %

Size	0-5μ	5-10μ	10-20μ	20-44μ	Greater than 44μ
% by weight					

13. **Fan Data:**
 Fan Location: Clean air side (pull through) Dirty air side (push through)
 Fan Design (check one - A, B, or C):

Fan Type:	Blade Type:
A. <input type="checkbox"/> Centrifugal (radial flow)	<input type="checkbox"/> Forward Curve <input type="checkbox"/> Backward Curve <input type="checkbox"/> Straight
B. <input type="checkbox"/> Axial-flow (propeller)	<input type="checkbox"/> Propeller <input type="checkbox"/> Tube Axial <input type="checkbox"/> Vane Axial

Fan Properties:
 Diameter: _____ Inches Braking Horsepower: _____ BHP
 Speed: _____ RPM Inlet Area: _____ Ft²
 Volume: 12,500 Cfm @ STP Outlet Area: _____ Ft²
 Static Pressure: _____ Inches WC Motor Horsepower: 20 HP

Standard Heavy Duty Submitted copy of Manufacturer's Multigrating Tables Yes No

Special Construction Materials:
 Bronze Alloys Aluminum Stainless Steel Bisonite
 Zinc Chromate Primer Rubber, Phenolics, Vinyls, or Epoxy Covering

C. Compressor Positive Displacement Dynamic Reciprocating

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before it will be processed.

Mail to:
 CHATTANOOGA-HAMILTON
 COUNTY AIR POLLUTION
 CONTROL BUREAU
 2034 Hamilton Place Blvd., Suite 300
 Chattanooga, TN 37421

Company Official: THOMAS B MARSHALL
 Signature

Title: Site Vice President

Date: 07/01/2024

Do not write below this line.

____ Engineer Approval Permit Number: _____

Special Notations: _____

POLLUTION ESTIMATION FORM

FORM E106
01/2001

- 1. Name of Company: TVA Sequoyah Nuclear Plant
As shown on Line 1 of Form E001
- 2. Equipment Name: Abrasive Blast Booth #2
As shown on Line 9 of Form E001
- 3. Type of pollutant for which estimate is made: Particulate Emissions

4. Pollution Emission Factor (PEF): 0.69 lbs/1,000 lb of abrasive (total PM)
(Give value & units in lbs/ton, lbs/lb, lbs/gal, gr/ft³, etc.)

Source of Emission Factor: AP-42 13.2.6

5. Uncontrolled Pollution Emission Rate:

$$\frac{0.69 \text{ lb}/1,000 \text{ lbs}}{\text{(PEF from Item 4)}} \times \frac{1,000 \text{ lb}/\text{hr}}{\text{(Give operating rate for this equipment and the appropriate units in either lbs/hr, tons/hr, gal/hr, or cfm)}} = \frac{0.69 \text{ lb}/\text{hr}}{\text{(Give value \& units)}}$$

6. Uncontrolled Emission Rate: 0.69 lb/hr Pounds emitted per hour

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and correct to the best of my knowledge. This form must be completely filled out before it is processed.

Mail to:
 CHATTANOOGA-HAMILTON COUNTY
 AIR POLLUTION CONTROL BUREAU
 2034 Hamilton Place Blvd, Suite 300
 Chattanooga, TN 37421

Company Official: Thomas B. Marsden

Title: Site Vice President

Date: 07/01/2024

DO NOT WRITE BELOW THIS LINE

_____ Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____