Asheville-Buncombe Air Quality Agency

MEMORANDUM

TO: Asheville-Buncombe Air Quality Agency Board of Directors

FROM: Ashley Featherstone, Director

RE: Agenda for September 10, 2025

DATE: September 3, 2025

Enclosed, please find the Agenda for the Asheville-Buncombe Air Quality Agency Board meeting to be held on **Wednesday September 10, 2025 at 4:00pm** in the meeting room located at the previous Buncombe County Permit Office at 30 Valley Street, Asheville, NC 28801.

This meeting will be live streamed on Engage Buncombe which can be accessed at https://engage.buncombecounty.org/s8486. The board meeting documents will also be available on the Engage Buncombe site. The meeting will be recorded and can be viewed later.

ASHEVILLE-BUNCOMBE AIR QUALITY AGENCY BOARD OF DIRECTORS
TENTATIVE AGENDA
SEPTEMBER 10, 2025 BOARD MEETING

1. **Public Comment Protocol Announcement**

2. **Adjustment and Approval of Agenda**

3. **Consent Agenda:**
   A. Approval of minutes from July 24, 2025

4. **Unfinished Business:**
   A. None

5. **Director's Report:**
   A. Tropical Storm Helene Response, Recovery Update
      1. Post Helene Recovery Update Demolition and Asbestos Removal Permits
      2. Air Curtain Incinerators
      3. Complaints: Damaged Facilities and Storm Debris Burning
      4. Non-Regulatory-Temporary Air Monitoring and Sensors
      5. Helene Recovery Projects and Preparedness
      6. Outreach: Presentations and Town Halls
   B. Status of Federal Grants-federal fiscal years 2025 and 2026
   C. Air Quality Rule Amendments
   D. Celebration of 10 years Clean Air in NC
   E. Monitoring Update
   F. Facility Permit Renewals

Facility Name	Type of Facility	Facility Classification	Location	Changes from Existing Permit
BorgWarner Emissions, Thermal & Turbo Systems	Automotive Components Manufacturing Facility	Title V	Brevard Road, Asheville	Modified permit for AEC-1 and AEC-4, diesel-fired internal combustion engine test cells to test natural gas fired combustion engines. Facility name change. Updated general conditions, permitted sources, and insignificant activity list.

G. Facility Permit Modifications

Facility Name	Type of Facility	Facility Classification	Location	Changes from Existing Permit
RTX Corporation, Pratt and Whitney	Airplane Parts Manufacturer	Small	Biltmore Park West, Asheville	Updated air toxics review, including modeling parameters and a new toxics limit.

6. New Business:

A. None

7. Other Business:

A. Legal Counsel Report

B. Advisory Committee Report

1. Committee has not met since last board meeting.

C. Calendar

1. Next meeting November 13, 2025
2. Board Retreat

D. Announcements

8. Public Comment

9. Adjournment

Asheville-Buncombe Air Quality Agency

MEMORANDUM

TO: Asheville-Buncombe Air Quality Agency Board of Directors

FROM: Ashley Featherstone, Director

RE: Minutes for July 24, 2025

DATE: September 3, 2025

Enclosed, please find the Minutes for the Asheville-Buncombe Air Quality Agency Board meeting held on **Thursday July 24, 2025 at 4:00pm**. The next meeting is scheduled for **Wednesday September 10, 2025 at 4:00pm** in the meeting room located at the previous Buncombe County Permit Office at 30 Valley Street, Asheville, NC 28801.

This meeting will be live streamed on Engage Buncombe which can be accessed at https://engage.buncombecounty.org/s8486. The board meeting documents will also be available on the Engage Buncombe site. The meeting will be recorded and can be viewed later.

The Asheville-Buncombe Air Quality Agency Board of Directors met on Thursday, July 24, 2025, in the meeting room at the Buncombe County Permit Office located at 30 Valley Street, Asheville, N.C.

The attendance of the Board members was as follows:

Members Present:	**Members Absent:**
Ned Guttman	*Garry Whisnant*
Joel Storrow	
Karl Koon	
Caitlin Crossett	

Staff Present: *Ashley Featherstone, Director; James Raiford, Permitting Program Manager; Mike Matthews, Air Quality Specialist II; Steve Ensley, Air Quality Monitoring Coordinator; Alex Latta, Air Quality Specialist II; Allison Glass, Air Quality Specialist I; Hannah Rhodes, Air Quality Coordinator*

Others Present: *Amy Broughton, County Attorney; Angelica Tyler, CAPE; Drew West, CIBO; Keith Bamberger, North Carolina Department of Environmental Quality; Hunter Toothman, Eaton; Ben Hale, Eaton; Jamie Trowbridge, Footprint Project; Ian Baillie, Land of Sky; Kora Baillie, Resident*

Joel Storrow called the meeting of the Asheville-Buncombe Air Quality Agency Board of Directors to order on July 24, 2025, at 4:01 pm.

The order of business was as follows:

1. **Public Comment Protocol Announcement**
   A. Joel Storrow read the public comment protocol.

2. **Adjustment and Approval of Agenda**
   A. Karl Koon made the motion to approve the agenda.
   B. Caitlin Crossett seconded the motion.
   C. All present – yes
   D. The motion passed 4-0

3. **Consent Agenda**
   A. Approval of minutes from May 8, 2025
      i. Karl Koon made the motion to approve the minutes.
      ii. Ned Guttman seconded the motion.
      iii. All present – yes
      iv. The motion passed 4-0
   B. Approval of minutes from June 17, 2025
      i. Caitlin Crossett made the motion to approve the minutes.
      ii. Karl Koon seconded the motion.

iii. All present – yes
iv. The motion passed 4-0

1. **Special Presentations-Clean Air Excellence Awards**
    A. Eaton Avery Creek
        i. Hunter Toothman and Ben Hale received the Award on behalf of Eaton Avery Creek.
        ii. Ashley Featherstone said that Eaton is a part of the NC Environmental Stewardship Initiative. This is not the first time the Eaton organization has received the award. This particular award is for their Avery Creek facility for an LED lighting and HVAC unit upgrade. This project was done in partnership with Trane Technologies and Duke Energy's SmartPath rebate program for sustainability projects. The projected annual reductions from this project include 420,204 kilowatt-hours, 60.11 kilowatts/year, and 125,000,000 metric tons CO2 equivalent/year.
        iii. Ben Hale said it is an honor to receive the award, and that they will be will applying again next year for the second part of their larger sustainability project at the facility. He said that he is proud to be a part of an organization that prioritizes sustainability.
    B. Footprint Project
        i. Jamie Trowbridge received the Award on behalf of Footprint Project.
        ii. Ashley Featherstone gave an overview of the organization, which is a renewable energy-focused disaster response nonprofit based out of New Orleans, LA. They aim to offset gas and diesel generator usage in areas hit hard by natural disasters. After Hurricane Helene, the Footprint Project set up a hub in Mars Hill and has distributed as much clean energy equipment across the region as possible.
        iii. Ashley Featherstone went on to give many of the examples of Footprint Project's work, including establishing a solar free-store where local residents can request individual supplies to restore solar installations that were damaged in the storm, or to help build new systems at locations that became hubs after the storm.
        iv. Jamie Trowbridge, the Operations Coordinator for Western North Carolina, thanked the Agency for the award. He said that the organization has been doing really great ongoing work for the community. They have been playing matchmaker a lot, finding equipment for places that need it. They are still offsetting generator usage, and there are still people living in RV's and other temporary housing that are running their power off of generators, and so the organization is trying to help those residents out.
        v. Ian Baillie, from the Land of Sky Regional Council, talked about his relationship with Footprint Project and emphasized Land of Sky's and Footprint Project's work toward energy resiliency in rural communities across the Western part of the state. Footprint project is helping to build infrastructure to help the area be more prepared for the next disaster.

2. **Unfinished Business:**

A. Surplus Ozone Equipment
    i. Joel Storrow said that we have talked about this surplus ozone equipment for the last several meetings. We attempted to offer it up for sale for a minimum of $1,000, which we did not get a bid for. Ashley Featherstone talked to the county, about donating the equipment. Staff is proposing to loan the equipment to UNCA.
    ii. Caitlin Crossett recused herself from the vote
    iii. Karl Koon made the motion to approve the action to loan the equipment to UNCA.
    iv. Ned Guttman seconded the motion.
    v. All present – yes
    vi. The motion passed 3-0.

3. **Director's Report:**
    A. Tropical Storm Helene Response, Recovery Update
        i. Post Helene Recovery Update Demolition and Asbestos Removal Permits
            a. Ashley Featherstone talked about the board-approved reduced fee for Helene-related asbestos/demolition permits. So far there are four projects that have gone through that qualify for the reduced permit fee.
            b. 132 demolition permits have been processed by us for FEMA, and we are waiting for signatures from FEMA. Once we get those, we have to process the permits one more time, and then we will work on getting money from FEMA for those permits.
        ii. Air Curtain Incinerators and Storm Debris Burning
            a. Ashley Featherstone said that there are still some ACIs operating in the area. There were six total that were approved to run. There are four still operating.
            b. We are coming up on the expiration of the no action assurance that the EPA granted so that facilities with ACI units did not have to have Title V permits. There are three units that would like to continue to use them: Biltmore Estate, North End Stump and Brush, and Asheville Affordable Tree Men. We have sent letters to them asking for Title V permit applications.
            c. Up until this point, we have been treating biochar units, which are essentially modified ACI units that produce a biochar biproduct, the same as ACIs. However, the EPA just issued a letter that biochar is not a solid waste, which means they would not be required to have a Title V permit like an ACI. Instead, they would just need state (or local in our case) operating permits.
            d. Ashley Featherstone also gave the update that the EPA has issued a notice that they are looking at the ACI rules to potentially consolidate them and come out with something similar to Biochar rules for ACIs. In the meantime, we will continue to pursue Title V applications from the facilities wanting to continue to use ACIs.
            e. Ned Guttman asked if we have gotten any indication from the EPA on where they are headed.

1. Ashley Featherstone said the EPA has come out with a list of things they are looking at modifying. Many of the items are rules and policies established in the last four years by the previous administration. A lot of the older rules that have been active for a long time likely won't change.

f. Ned Guttman asked if there was an estimated timeline for when Helene cleanup will be finished.
    1. Ashley Featherstone said the county is finishing up getting debris out of waterways and also finishing up the private property debris pick up program. The county is decommissioning some of the temporary debris sites in the county. At the same time, she has heard that it could take eight to ten years to process all of the debris and downed trees in forests that are threats to wildfires.

g. Joel Storrow asked if we will likely still have a Title V permit for ACI's.
    1. Ashley Featherstone and James Raiford said that there are a lot of factors that will play into that, including their emissions, but for now we are moving forward with permits.
    2. The EPA may remove Title V requirements for ACI's, but we don't know how long it will take them to remove those, or if they will even decide to remove them.
    3. James Raiford said that whether or not facilities have a Title V permit, they will still have to get a state/local permit based on their emissions.

h. Karl Koon asked about portable crushers, and if a permit for a company could be area wide rather than specific to one location.
    1. Ashley Featherstone said that they can be portable and move to different locations, but the company has to notify us 15 days prior to moving the equipment.

i. Ashley Featherstone noted that some ACI's have been having issues with operation, because their sites are so full of debris that they don't have the room to safely operate.

j. Karl Koon asked about debris piles catching on fire. How are those treated and factored in? Do they need to get a burning permit when it catches on fire?
    1. Ashley Featherstone said that we don't permit those if they catch on fire because they are not intentional or planned, but we do monitor them to see if it affects air quality at our monitoring sites.

k. Keith Bamberger said that there was a particle pollution monitor in Swannanoa, and while PM2.5 levels were elevated, it was not unsafe.

iii. Non-Regulatory-Temporary Air Monitoring and Sensors

a. Ashley Featherstone said that we still have these temporary air monitors going, and we're really glad we have them. It is more work for our staff to maintain the Purple Air monitors, but the state is helping track what goes on and the whole team is actively working on them. We are coming up on

a year now since they were initially deployed, and we are not sure if DEQ and EPA will continue to let us use them (loan was for a year).

iv. Helene Recovery Projects
    a. Ashley Featherstone said that the Agency has a proposed project submitted to the county to purchase eight to ten Purple Air monitors and potentially also an EBAM monitor to keep the extra non-regulatory air quality monitoring going for the next few years post-Helene.
    b. The county did keep that project in the running after their initial look at potential projects. We are still waiting to hear if the project will get final approval or not.
v. Sensor Shelter Project
    a. Ashley Featherstone said that Clean Air North Carolina will be doing a study on Western North Carolina air quality post Helene, and they have asked to use our citizen science shelter as part of the project. They are going to co-locate their Purple Air monitors at our regulatory monitoring site. They will then be able to compare their data with ours. We have asked to be able to see their data before it gets published. We are waiting on schools to approve their project staff to be go onto their property.
vi. Outreach: Presentations and Town Halls
    a. Ashley Featherstone said that Agency staff have been doing outreach presentations and attending town halls for residents. We also went to a conference in Texas to present about Helene recovery and ACIs.
    b. We rejoined the residential wood smoke group, and there are two local firewood banks that got some funding from the Center for Green Heat. We have EPA's burn-wise outreach materials, so we are partnering with those types of groups to help get information out. The firewood banks are currently looking for land to store and distribute firewood.
    c. Ned Guttman asked if the City of Asheville is doing anything in response to Hurricane Helene.
        1. Ashley Featherstone said that the City is, however their recovery plan is separate from the County's plan. We're not really engaged much with the city anymore since we function more as a County department. We have interacted with them. For example, they invited us to see their biochar unit demonstration. But we have not really been coordinating efforts with them.
        2. We are members of the local emergency planning committee, as is the City and the upcoming meeting is August 2nd.

B. Air Quality Rule Amendments
    i. Ashley Featherstone said that we have a lot of rules to amend. A few years ago the state adopted a law that our air quality rules need to be readopted periodically. The state did a years long process to adopt new ones, and so we need to now change our rules to mirror the updated state rules with some changes where we have slightly different rules.

ii. The state and EPA need to review our rules prior to them being presented to the board and going to public notice.
iii. Ashley Featherstone said that we're going to try to do a large group of about 150 rules in September to present to the board. We will have summaries of changes made.
iv. Ned Guttman requested getting a copy with enough lead time so they can go through them before the meeting
v. Joel Storrow asked if it would make sense to present at the September meeting and then take it to vote in November.
vi. James Raiford added that a lot of the changes are very small, such as changing the word "and" to "a", and not every rule is getting changed. There will be rules that have substantial changes, but many of them will be grammar edits.
vii. Ashley Featherstone said that we can put the line-through strikeout version on the board portal at the same time as giving them to the state, so board members will have more time to review them.
viii. Ned Guttman asked if we could annotate the rules with comments on what was changed and why.
ix. Ashley Featherstone said we can send them to the state in August and get them up on the board portal in mid-August, so that they're available to view well in advance of the September meeting.
x. Ashley Featherstone said we hope to request to go to public notice for a batch of rules at the September board meeting.

C. Status of Federal Grants-federal fiscal years 2025 and 2026
i. Ashley Featherstone said the federal grant period for the EPA 105 grant ends September 30th. We have received an initial $100,000, but we have not received our second half of it yet. We expect to have our second half by mid-August. It is supposed to be the same amount as last year, although we won't know for sure until we receive the funds from the EPA. This funding timeline is much later than previous years.
ii. Luckily, our Agency typically waits until July to start pulling a lot of the 105 funds down, so it's not as big of an issue for us, but it is a big issue for other agencies.
iii. President Trump proposed to zero out the 105 and 103 grant funds for the next fiscal year. Those two grants typically fund about 30% of our current budget.
iv. The House of Representatives is currently marking up the initial budget and only proposed about a 2% reduction, instead of 100%. The Senate has not talked about the bill yet, but we are cautiously optimistic.
v. We don't have numbers yet for the end of year FY25, but so far it is looking like we will pull about $50,000 out of the fund balance.
vi. We have hired Betsy Brown back temporarily to train Hannah on some annual tasks, including grant tasks such as maintenance of effort calculations and reports for the grant.

D. Credit Card Fees

i. Ashley Featherstone said the county has decided to start charging customers credit card fees. The fee goes directly to the vendor. That will add some money back into our Agency budget.
ii. Amy Broughton explained that we won't collect fees on in-person debit card transactions, only for credit cards on in-person transactions. Online is different.
iii. Mike Matthews said that he hadn't had any issues with or comments on it yet.
iv. Amy Broughton asked if our website has a notice of the fees on it, and Mike Matthews said yes, the website does have that notice.

E. Monitoring Update
i. Steve Ensley touched on the temporary air monitors. We did lose one since the last meeting, and we sent it back to the state. We got a spare monitor to replace it, and for now are using it as a spare. We are still using the EBAMs. They are older instruments so they are very temperamental.
ii. Steve Ensley talked about monitoring data completeness so far this year.
a. BAM PM2.5 data completeness: 98%
b. PM2.5 T640 data completeness: 98%
c. Bent Creek Ozone data completeness: 94%
iii. Overall, Steve Ensley said that things have been running well.
iv. Ned Guttman asked what the summer has been like for PM2.5. He said it looks like the air quality has degraded as you can't see the mountains in certain areas.
a. Steve Ensley said he doesn't have any visibility data, but that humidity can affect visibility. Actually, we haven't had too many code yellow days, and the values of index that make those days yellow have barely been yellow, so the air quality is doing pretty well.

F. Facility Permit Renewals

Facility Name	**Type of Facility**	**Facility Classification**	**Location**	**Changes from Existing Permit**
Aprotech Powertrain, LLC	Automotive Components Manufacturer	Small	Adams Hill Road, Asheville	Update insignificant activity list, general conditions
Buncombe County Detention Center	Correctional Facility	Small	Valley Street, Asheville	Update insignificant activity list, general conditions
Mill Tek Toll Grinders	Mineral Product Grinding Facility	Small	Spiral Road, Arden	Update insignificant activity list, general conditions

G. New Facility Permits

Facility Name	**Type of Facility**	**Facility Classification**	**Location**	**Proposed Equipment**

Smith-Rowe, LLC	Portable Concrete, Stone, and Recycled Asphalt Pavement Crusher	Small	Various sites with local zoning authority approval	Crusher, screen, conveyor belts, generator

A. The board considered all three permit renewals as well as the new facility permit for one approval.
B. Karl Koon made the motion to renew the permits for all three permit renewals (Aproech Powertrain, LLC, Buncombe County Detention Center, and Mill Tek Toll Grinders), and to approve the new facility permit (Smith-Rowe, LLC)
C. Caitlin Crossett seconded the motion
D. Joel Storrow opened it up for questions
    A. Ned Guttman asked for details on the new facility, Smith-Rowe, LLC
    B. James Raiford said this is the 5th or 6th company we've permitted to perform this action. There is recycled asphalt that needs to be ground up. APAC often hires different, new companies each time for this. It is a temporary job for 2-3 weeks, and it happens every few years. Since it is a temporary job, they don't always keep their permit active. Emissions on these are typically pretty low. We have not had any complaints about these, especially at the APAC plants. They can have dust issues if they're not run properly, but we haven't had any issues at APAC.
    C. Joel Storrow asked what the cost of the permit is. James Raiford said it was around $700 a year, but it depends on their equipment. The permit fee is per year and the permit will be up for renewal in 8 years.
E. All present – yes
F. The motion passed 4-0

1. **New Business:**
    A. None

2. **Other Business:**
    A. Legal Counsel Report
        i. Amy Broughton stated that there was nothing to report, besides what was said earlier about credit card fees.
    B. Calendar
        i. The next meeting is Wednesday September 10, 2025, at 4pm at 30 Valley Street, unless announced otherwise.
        ii. A Board Retreat will be held on Wednesday, September 10, 2025, at 3pm at 30 Valley Street, unless announced otherwise.
    C. Announcements
        i. Ned Guttman said that the advisory committee is still in limbo. Ashley Featherstone said that if the Agency is able to purchase air quality monitors as one of the county's Hurricane Helene recovery projects, the committee could help weigh in on that. The committee could also potentially help us out with reviewing and updating the rules.

ii. Joel Storrow thanked Ashley Featherstone and Agency staff for the Clean Air Excellence Awards.

4. Public Comment

A. None

5. Adjournment

A. Karl Koon made the motion to adjourn the meeting.
B. Ned Guttman seconded the motion.
C. All present – yes
D. The motion passed 4-0
E. The meeting was adjourned at 5:08 pm

An official website of the State of North Carolina How you know

NORTH CAROLINA
Department of Environmental Quality

TUESDAY, AUGUST 26, 2025

North Carolina celebrates 10 years of clean air

North Carolinians can breathe easy knowing our state has met every federal health-based air quality standard for a full decade, bringing tremendous benefits to the state’s health and economy.

RALEIGH

North Carolinians can breathe easy knowing our state has met every federal health-based air quality standard for a full decade, bringing tremendous benefits to the state’s health and economy.

The U.S. Environmental Protection Agency (EPA) designated North Carolina in attainment with every National Ambient Air Quality Standard in August 2015, underscoring years of hard work by the N.C. Department of Environmental Quality (DEQ) and stakeholders

to reduce emissions and improve air quality. The state has maintained compliance with these standards ever since.

“Achieving ten years of meeting our clean air standards is a testament to what we can accomplish with sound policymaking and strong public and private partnerships,” said **Governor Josh Stein**. “North Carolinians are able to breathe fresh air because of our state’s continued commitment to safeguarding our natural resources.”

“Meeting the Clean Air Act’s public health standards means North Carolinians can live, work and play knowing the air they breathe meets the highest benchmark,” said **DEQ Secretary Reid Wilson**. “Our work is not done. We must continue to implement effective strategies that ensure our air remains clean and healthy for generations to come.”

“A decade of clean air was decades in the making. It took hard work and planning to achieve this milestone, and our Division staff played a monumental role in getting us here today,” said **Mike Abraczinskas, Director of DEQ’s Division of Air Quality**. “The full scale of public health benefits resulting from this work is impossible to quantify.”

The National Ambient Air Quality Standards (https://www.epa.gov/criteria-air-pollutants/naaqs-table) are limits on air pollution levels set nationally by EPA to protect public health, including the health of sensitive populations like children, older adults and people with asthma. Standards are set for the six criteria air pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution and sulfur dioxide.

North Carolina and many other states had significant nonattainment issues with several of the standards in the 1990s and early 2000s, particularly for ozone and particle pollution. Air pollution also contributed to summer haze in the Blue Ridge Mountains and forest-damaging acid rain.

Key actions that improved air quality during those years included the passage of the 2002 Clean Smokestacks Act in North Carolina; significant advances in federal fuel and engine standards for cars and trucks; a shift in energy generation away from coal; and emission reductions from homes, industry and other human sources due to regulatory, voluntary and educational programs.

While air quality has improved significantly in North Carolina, there can still be a handful of days when air pollution levels may impact public health. Residents can check their county's daily air quality forecast using the Air Quality Portal (https://airquality.climate.ncsu.edu/) to help them plan their outdoor activities.

Related Content:

- Attainment Status of National Ambient Air Quality Standards (/about/divisions/air-quality/air-quality-planning/attainment-status-national-ambient-air-quality-standards)

Related Topics:

- Air Quality (/agencydepartment/air-quality)

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Asheville Buncombe Air Quality Agency
APPLICATION REVIEW SUMMARY

SECTION A: FACILITY INFORMATION			
Company Name:	BorgWarner, Inc.		
Site Name:	BorgWarner Emissions, Thermal & Turbo Systems		
Mailing Address:	PO Box 15075, Asheville, NC 28813		
Site Address:	1849 Brevard Road, Arden, NC 28704		
General Description of Business:	Automotive Components Manufacturer (Turbochargers)		
Facility Classification:	Title V	**Site Status:**	Existing

SECTION B: APPLICATION INFORMATION			
Date Of Application:	July 2, 2024	**Application Tracking No.:**	NA
Date Complete Application Received:	July 5, 2024	**Board Meeting Date:**	September 11, 2025
Confidentiality Requested?	No	**Board Agenda Type:**	Renewal
Application Results:	The purpose of this review is to lend approval to BorgWarner Turbo Systems for renewal of its permit to operate.		
Permit No. / Date Issued by Application:	11-773-24		
Permit No. / Date Voided by Application:	11-773-19		

SECTION C: REGULATORY INFORMATION	
AB Air Quality Regulations:	4.0515, 4.0516, 4.0521, 4.0524, 4.1111, 4.1806, 17.0500, 17.0700

SECTION D: FACILITY-WIDE EMISSIONS INFORMATION

Pollutants Reviewed as a Result of this Application or AB Air Quality Action:	2023 Actual Emissions (TONS/YR)	Potential Emissions (TONS/YR)
CO	1.0	127.6 / 26.5*
NO_X	1.7	452.8 / 47.8*
PM	1.1	21.0 / 9.0*
PM_{10}	1.1	18.6 / 8.9*
$PM_{2.5}$	1.1	18.3 / 8.9*
SO_2	0.01	69.3 / 3.4*
VOC	0.3	43.4 / 36.3*
Greenhouse Gases, CO_{2e}	919.4	30,800 / 18,392*
Total HAPs	0.02	0.5 / 0.3*
List all HAPs >10 TPY	None	None

***Emission numbers denoted with a (*) reflect "controlled" emissions (i.e., emissions reduced by a pollution control device or an operational limit).**

IN COMPLIANCE WITH EMISSION STANDARDS / RECOMMEND APPROVAL			
Prepared By:	Allison Glass / Allison Glass	**Date Completed:**	06/05/2025
Reviewed By:	James Raiford / James C. Raiford	**Date Approved:**	06/12/2025
Director:	Ashley Featherstone / Ashley J Featherstone	**Date Approved:**	7/09/2025

SECTION A DETAILS

FACILITY INFORMATION

[Detailed discussion of any items in Section A]

BorgWarner Turbo Systems (BWTS), a division of the global automotive supplier BorgWarner, Inc., manufactures commercial vehicle turbochargers. The facility also plays the role of research and development center for the company's North American operations.

In their turbocharger production operations, the facility utilizes three diesel-fired internal combustion engine test cells, one of which (AEC-4) has the capability to test turbochargers on gasoline engines. Each test cell is essentially a metal frame that allows for the mounting of a diesel engine. With an engine mounted, the facility conducts dynamometric testing of the engine with a turbocharger that has been specifically designed for that engine model. Once the facility has fine-tuned the turbocharger to achieve the desired performance specifications for that engine model, the turbocharger can begin mass production. The pollutants of concern are from diesel combustion and include carbon monoxide (CO), nitrogen oxides (NO_X), particulate matter (PM, PM_{10}, $PM_{2.5}$), sulfur dioxide (SO_2), volatile organic compounds (VOCs), and various hazardous air pollutants (HAPs) and toxic air pollutants (TAPs).

In their turbocharger production operations, the facility also utilizes seven natural gas-fired turbocharger test cells. Each turbocharger test cell is essentially a metal frame that allows for the mounting of a turbocharger to a small natural gas-fired burner. With a turbocharger mounted, the facility conducts endurance testing of the turbocharger with the natural gas-fired burner supplying simulated engine exhaust gases. The pollutants of concern are the result of natural gas combustion and include CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, and various HAPs and TAPs.

BWTS also had a remanufacturing operation (Reman) where used turbochargers received from customers are disassembled, the scrap material is separated out, and the salvageable components are reprocessed. PM generated by the various machining processes in Reman is routed to a Torit dust collection system, which is exhausted outdoors. The pollutants of concern are PM, PM_{10}, $PM_{2.5}$, and a few metal HAPs and TAPs. This operation no longer exists and has been removed from the permit.

The facility processes wastewater from various operations, including building cleaning and maintenance, using a natural gas-fired thermal oxidizer (TO-2) to evaporate the wastewater. Pollutants from this operation are the result of natural gas combustion and wastewater solids, including PM, PM_{10}, , $PM_{2.5}$, VOCs, and various HAPs and TAPs.

The facility has been regulated as a Title V source due to potential emissions exceeding 100 tons per year for NOx and CO emissions related to the engine test cells (AEC1-4). The facility has elected not to take a Title V limit on these sources. They have taken a toxics limit that keeps their actual emissions below Title V thresholds.

General Conditions and the list of insignificant activities will be updated as part of this renewal. The facility has requested modifications to AEC-1 and AEC-4,diesel-fired internal combustion engine test cells that can now also be used to test natural-gas fired combustion engines. AEC-3 was a diesel-fired internal combustion engine test cell that has now been decommissioned and will be removed from the permit. For the insignificant sources, the eight natural gas-fired turbocharger test cells, AGS-1 through AGS-8, are now grouped together for a combined maximum capacity of 24 MMBtu/hr. ES-118 which included various parts washers has been removed from the facility and will be removed from the permit. ES-125 and ES-126 were added as insignificant activities. In addition, BorgWarner Turbo Systems requested to change their name to BorgWarner Emissions, Thermal & Turbo Systems. The permit application fee was received on August 27, 2024.

The Agency received comments from EPA regarding the draft permit. The recommended changes were minor and mainly involved some references in the permit that needed to be updated. A full list of those changes can be found in the permit review folder for this permit under EPA Review Notes.

SECTION B DETAILS

APPLICATION INFORMATION

[List all emission sources (permitted and exempt) reviewed as a result of this application, their associated control devices and pollutants. Provide a detailed discussion of any other items in Section B at bottom under "Application Notes"]

Emission Source ID	Emission Source Description 1. Type, manufacturer, capacity 2. Control device with ID (if any)	Pollutant(s) Emitted	Miscellaneous Notes
AEC-1	One (1) diesel-fired internal combustion engine test cell for engines with a maximum output rating of 1,500 horsepower that can also be used to test natural-gas fired internal combustion engines with a maximum output rating of 516 horsepower.	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	
AEC-2	One (1) diesel-fired internal combustion engine test cell for engines with a maximum output rating of 1,500 horsepower	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	
AEC-4	One (1) diesel-fired internal combustion engine test cell for engines with a maximum output rating of 1,500 horsepower that can also be used to test gasoline-fired internal combustion engines with a maximum output rating of 375 horsepower and natural-gas fired internal combustion engines with a maximum output rating of 516 horsepower.	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	
TO-2	One (1) 2.50 million BTU per hour natural gas-fired thermal oxidizer	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	RGF Environmental Systems, Inc. This oxidizer processes mop water and has a capacity of 150 gallons per hour
The following equipment meets the definition of insignificant activity pursuant to the AB Air Quality Code 17.0503 – "Definitions."			
IC-1	One (1) 150-kilowatt (225 horsepower) Cummins natural gas-fired emergency generator	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	Model GGLB. Although exempt from permitting, this generator will be included as a permitted source so that the relevant requirements of NSPS Subpart JJJJ can be included in the permit.
IC-2	One (1) 35-kilowatt (68 horsepower) Generac natural gas-fired emergency generator	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	Model 3434650100. Although exempt from permitting, this generator will be included as a permitted source so that the relevant requirements of MACT Subpart ZZZZ can be included in the permit.
IC-3	One (1) 175-horsepower Clarke diesel-fired fire pump	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, CO_{2e}	Model JU6H-UFM0. The engine was manufactured by John Deere. Although exempt from permitting, this fire pump will be included as a permitted source so that the relevant requirements of NSPS Subpart IIII can be included in the permit.

ES-120	One (1) 1,000-gallon aboveground gasoline storage tank	VOC, HAP, TAP	Although exempt from permitting, this tank will be included as a permitted source so that the relevant requirements of MACT Subpart CCCCCC can be included in the permit.
ES-110	Eight (8) natural gas-fired turbocharger test cells: Combined maximum capacity of 24 MMBtu/hr.	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	These units were previously listed as AGS-1-8, but are now listed as one unit with a combined maximum capacity for flexibility. These units are considered an insignificant activity because of size or production rate as defined in AB Air Quality Code 17.0503 – "Definitions."
ES-111	One (1) 6,000-gallon aboveground diesel storage tank	VOC, HAP, TAP	This unit is considered an insignificant activity because of size or production rate as defined in AB Air Quality Code 17.0503 – "Definitions."
ES-113	One (1) Shaft and Wheel Washer utilizing a 1.03 million BTU per hour natural gas-fired burner	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	This unit is considered an insignificant activity because of size or production rate as defined in AB Air Quality Code 17.0503 – "Definitions."
ES-119	One (1) Landa Pressure Washer utilizing one (1) 0.95 million BTU per hour natural gas-fired burner	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	This unit is considered an insignificant activity because of size or production rate as defined in AB Air Quality Code 17.0503 – "Definitions."
ES-121	One (1) 250-gallon aboveground diesel storage tank.	VOC, HAP, TAP	This unit is considered an insignificant activity because of size or production rate as defined in AB Air Quality Code 17.0503 – "Definitions."
ES-122	Three (3) Hydrotron DHYD Series wet collector downdraft workstations	PM, PM_{10}, $PM_{2.5}$	The facility requested that this source be removed from the Insignificant Activity list because they are PM emission sources that vent indoors. Per AB Air Quality Code 17.0508(i)(13), fugitive emission sources do not need to be included in Title V permits unless they are subject to regulation. This source will be removed from the permit during this renewal.
ES-123	One (1) QA/QC Laboratory	VOC, HAP, TAP	This unit is considered an insignificant activity because of size or production rate as defined in AB Air Quality Code 17.0503 – "Definitions."
ES-124	One (1) boiler utilizing a 1.999 million BTU per hour natural gas-fired burner	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	This was an off-permit change. Borg Warner notified us in an email on October 5, 2016.

ES-125	One (1) Fan Drive Assembly Operation	VOC	This operation consists of a ink jet printer, a machining coolant operation, and a coil encapsulating operation. This equipment was previously located at the Fletcher plant and was re-located to this facility in December of 2021.
ES-126	One (1) Molding Operation	VOC	Nylon injection molding operation. This equipment was previously located at the Fletcher plant and was re-located to this facility in December of 2021.
NA	Various oil mist eliminators that vent indoors (including units on five plasma welders and a high-speed core balancer in the testing lab)	PM, PM_{10}, $PM_{2.5}$, VOC, HAP, TAP	The facility requested that this source be removed from the Insignificant Activity list because they are PM emission sources that vent indoors. Per AB Air Quality Code 17.0508(i)(13), fugitive emission sources do not need to be included in Title V permits unless they are subject to regulation. This source was removed from the permit during the previous renewal in 2019.
NA	Various natural gas-fired space heaters	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, HAP, TAP, CO_{2e}	The facility requested that this source be removed from the Insignificant Activity list because they are considered insignificant because of category, and thus are not required to be included in at Title V permit per AB Air Quality Code 17.0507(b). This source was removed from the permit during the previous renewal in 2019.

APPLICATION NOTES

As part of the permit renewal application, the insignificant activities have been updated.

SECTION C DETAILS

REGULATORY INFORMATION

(Identify the AB Air Quality Regulations reviewed because of this application. At a minimum, the regulations already listed should be reviewed and reason given for applicability or non-applicability. If a regulation has a standard, list the standard and indicate how the source is in compliance.)

AB Air Quality Regulation Number / Title	Emission Source ID No(s). Subject	Notes on Regulation (Compliance demonstration, applicability, etc.)
17.0500 – Title V Procedures	Facility-Wide	The facility has been regulated as a Title V source due to potential emissions exceeding 100 tons per year for NOx and CO emissions related to the engine test cells (AEC1-4). Previously, the facility had also been subject to Title V permitting procedures because the former vibration damper operation had potential emissions in excess of the 100-ton per year applicability threshold for VOCs, the 25-ton per year applicability threshold for combined HAPs, and the 10-ton per year applicability threshold for individual HAPs. The vibration damper operation has been removed and the facility no longer exceeds major source thresholds for combined and single HAPs. Although maximum emissions (with the PSD avoidance limit) are now below all Title V permitting thresholds, the facility wishes to retain its Title V permit and has not taken a limit to stay below TV thresholds.
17.0700 – Toxic Air Pollutant Procedures	Facility-Wide	The facility was subject to a toxics evaluation in 2010 because of a modification to combustion source AEC-4. This resulted in a diesel usage limitation of 74,000 gallons per year for AEC-1, AEC-2, and AEC-4, so that all TAP emissions would be below the TPERs (see file for Permit No. 11-773-09A). This limit was modified in 2020 to 68,500, which included adding a boiler and changing the rating of the AGS test cells. For this permit renewal, in order to stay below the TPERs for all TAP emissions, a diesel usage limitation of 67,000 gallons per year for AEC-1, AEC-2, and AEC-4 will replace the previous limitation. This was due to the addition of burning natural gas in AEC-1 and AEC-4. This includes the change in the rating of the AGS test cells.
4.0524 – New Source Performance Standards (40 CFR 60, Subpart IIII)	IC-3	This emergency-use fire pump is subject to the requirements of 40 CFR Part 60, Subpart IIII – "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines," which requires that the engine meets the emission limits listed in the subpart. The fire pump must be equipped with a non-resettable hour meter (if the engine does not meet the standards applicable to non-emergency engines) and nonemergency use (e.g., testing) is limited to 100 hours per year. Ultra-low sulfur diesel (ULSD) fuel must be used. See the notes below for additional information.
4.0524 – New Source Performance Standards (40 CFR 60, Subpart JJJJ)	IC-1	This emergency-use generator is subject to the requirements of 40 CFR Part 60, Subpart JJJJ – "Standards of Performance for Stationary Spark Ignition Internal Combustion Engines," which requires that the generator meets the emission limits listed in the subpart. Nonemergency use (e.g., testing) is limited to 100 hours per year. Because the engine was built before January 1, 2011, a non-resettable hour meter is not required. See the notes below for additional information.

4.0530 – Prevention of Significant Deterioration / 17.0307 - Avoidance Conditions	AEC-1, AEC-2, AEC-4	The previous diesel usage limitation of 250,000 gallons per year for AEC-1, AEC-2, and AEC-4 will be retained in order to keep the facility's potential NO_X emissions below the 250 tons per year threshold, and thus, preclude applicability of this regulation. The facility documents continuous compliance with this limitation through monitoring, recordkeeping, and reporting on a rolling 12-month basis.
4.1111 – Maximum Achievable Control Technology (40 CFR 63, Subpart ZZZZ)	IC-2	This emergency generator is subject to 40 CFR Part 63, Subpart ZZZZ – "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines." Requirements involve maintenance practices, such as changing the oil and filter, and inspecting the hoses and belts.
	IC-1, IC-3	These emergency generators are also subject to 40 CFR Part 63, Subpart ZZZZ. For these generators, compliance with NESHAPS Subpart ZZZZ is achieved by compliance with NSPS Subparts IIII and JJJJ.
4.1111 – Maximum Achievable Control Technology (40 CFR 63, Subpart CCCCCC)	ES-120	This gasoline tank is subject to 40 CFR Part 63, Subpart CCCCCC – "National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities." The required management practices include minimizing gasoline spills and cleaning spills expeditiously.
4.0515 – Particulates from Miscellaneous Industrial Processes	TO-2	This source is subject to this regulation because it exhausts PM into the outdoor atmosphere. The PM emission limit for this source is shown in the notes below.
4.0516 – Sulfur Dioxide Emissions from Combustion Sources	AEC-1, AEC-2, AEC-4, TO-2, IC-1, IC-2, IC-3	This regulation limits SO_2 emissions from these sources to 2.3 lb/MMBtu. The AP-42 SO_2 emission factor for the diesel test cells and the fire pump is 0.51 lb/MMBtu based on 0.5% fuel sulfur content. The AP-42 SO_2 emission factor for the gasoline test cell is 0.084 lb/MMBtu based on 0.5% fuel sulfur content. The AP-42 SO_2 emission factor for the natural gas test cells, the thermal oxidizer, and the generators is 0.00059 lb/MMBtu. Thus, the facility is in compliance.
4.0521 – Control of Visible Emissions	Facility-Wide	This regulation limits visible emissions from these sources to no greater than 20% opacity due to their post-1971 manufacture date. Compliance with this regulation will be determined through facility self-monitoring and Agency inspections.
4.1806 – Control and Prohibition of Odorous Emissions	Facility-Wide	This regulation requires that the facility prevent odorous emissions from causing or contributing to objectionable odors beyond their property line. Compliance with this regulation will be determined through facility self-monitoring and Agency inspections.

REGULATORY NOTES

Regarding AB Air Quality Code 4.0515 – Particulates from Miscellaneous Industrial Processes, the allowable emission limit for each emission source was calculated according to the following:

TO-2: Process Weight = 150 gal/hr x 8.33 lb/gal / 2,000lb/ton = 0.625 ton/hr
Allowable Emission Limit = $(4.10)*(0.625)^{0.67}$ = 2.99 lb PM/hr
Note: Process weight based on density of water.

SECTION D DETAILS				
EMISSION INFORMATION				
Calculation Method Codes (List all that apply)	**1 = Stack test result 2 = Material (mass) balance 3 = EPA approved information (AP-42, CTG, etc.) 4 = Other (specify in table below)**			
Calculation Rejection Codes (List all that apply)	**1 = Calculation error 2 = Wrong emission factor(s) used 3 = Control efficiency(ies) not accepted 4 = Other (specify in table below)**			
Emission Source (ID No.)	**Calculation Method Code**	**Accept or Reject?**	**Calculation Rejection Code**	**AB Air Quality Calculations Attached?**
Facility-Wide	1, 3	Accept	NA	Yes

EMISSION NOTES

AB Air Quality calculated potential emissions with and without operating limits.

SECTION E

SUPPORTING DOCUMENTATION

(Provide brief description of any attachments)

1. Title V permit renewal application dated July 5, 2024
2. Supporting calculations and documentation
3. Draft Title V permit
4. Draft permit cover letter
5. Draft public notice

Asheville-Buncombe Air Quality Agency
APPLICATION REVIEW SUMMARY

SECTION A: FACILITY INFORMATION			
Company Name:	RTX Corporation, Pratt and Whitney Division		
Site Name:	Asheville Plant		
Mailing Address:	330 Pratt and Whitney Blvd., Asheville NC 28806		
Site Address:	330 Pratt and Whitney Blvd., Asheville NC 28806		
General Description of Business:	Airplane Parts Manufacturer		
Facility Classification:	Small	**Site Status:**	Existing

SECTION B: APPLICATION INFORMATION			
Date of Application:	July 31, 2025	**Application Tracking No.:**	NA
Date Complete Application Received:	August 22, 2025	**Board Meeting Date:**	September 10, 2025
Confidentiality Requested?	NA	**Board Agenda Type:**	Modification
Application Results:	The purpose of this review is to lend approval to RTX Corporation, Pratt and Whitney Division to modify their permit.		
Permit No. Issued by Application:	11-920-21C / September 10, 2025		
Permit No. Voided by Application:	11-920-21B / March 14, 2024		

SECTION C: REGULATORY INFORMATION	
AB Air Quality Regulations:	4.0515, 4.0516, 4.0521, 4.0524, 4.1104, 4.1111, 4.1806, 17.0704

SECTION D: FACILITY-WIDE EMISSIONS INFORMATION			
Pollutants Reviewed as a Result of this Application or AB Air Quality Action:	**Projected Actual Emissions (TONS/YR)**	**Prior Potential Emissions (TONS/YR)**	**Current Potential Emissions (TONS/YR)**
CO	3.9	15.0	15.0
NO_X	3.0	9.8	9.8
PM	0.8	1.9	2.0
PM_{10}	0.8	1.9	2.0
$PM_{2.5}$	1.1	1.9	2.0
SO_2	0.002	0.01	0.01
VOC	22.4	45.0	45.0
Greenhouse Gases, CO_{2e}	2,323.1	5337.9	5741.0
Total HAPs	0.9	2.3	2.3
List all HAPs >10 TPY	None.		

***Emission numbers denoted with an (*) reflect "controlled" emissions (i.e. emissions reduced by a pollution control device).**

IN COMPLIANCE WITH EMISSION STANDARDS / RECOMMEND APPROVAL			
Prepared By:	Allison Glass / Allison Glass	**Date Completed:**	08/29/2025
Reviewed By:	James C. Raiford / James C. Raiford	**Date Reviewed:**	09/03/2025
Director:	Ashley J. Featherstone / Ashley J Featherstone	**Date Reviewed:**	9/03/2025

SECTION A DETAILS

FACILITY INFORMATION

[Detailed discussion of any items in Section A]

RTX Corporation, Pratt and Whitney Division (Pratt and Whitney) is a manufacturer of aircraft engines and is headquartered in East Hartford, CT. Pratt and Whitney is operating a new turbine airfoil production facility in Asheville, North Carolina in Buncombe County.

The purpose of this modification is to update a process that has been changed from what was submitted in the application during the construction of the facility. When the original application was submitted, they were based on pre-construction designs, and as such, some sources have changed during the construction process. The changes that will be made to the permit for this modification are as follows:

- ALUM1 – The aluminide coating process uses an activator agent that has the potential to create Hydrogen Fluoride (HF) from a side reaction. The potential HF emissions associated with this process are now above the TPER due to recipe updates. Air dispersion modeling was performed to show that the facility is in compliance. Along with this, there is also a slight increase of 0.07 tons of emissions for PM, PM2.5, and PM10. A limit of 15.9 lbs of activator per 24 hour period for the ALUM1 process will be put in place to keep HF emissions below the threshold.

The application was received on July 31, 2025. The zoning consistency determination was received on August 20, 2025. The application fee was received on August 22, 2025 and that is when the application was deemed complete.

Below is a description of the facility with the newly updated information from this permit application:

The facility will manufacture metal parts, which include casting operations, where the body of the parts are made through metal casting, and then go through grinding, coating and quality inspections before being shipped to customers.

Part casting uses a method of casting known as lost wax investment casting, which forms the general part that will be ready for final finishing. Wax is first injected into a die, and once cooled, the wax patterns removed. The wax pattern is dipped into a ceramic slurry to build a shell around the wax. Once the shell dries, the part is moved to an electric steam autoclave to melt out the wax. The autoclave chamber is depressurized and the steam vents outdoors. A small percentage of wax is volatilized as VOC emissions. The hollow shells are then moved to a natural gas furnace to remove any remaining wax residue. The furnace exhaust is processed through an afterburner which combusts VOC from the wax then vents to atmosphere. Emissions from the furnace will include nitrogen oxides (NOx), carbon monoxide (CO) and particulates from the combustion of natural gas.

The hollow ceramic shells then move to casting, where in an electric metal induction vacuum furnace, ingots are melted down and poured into the ceramic shell's cavity while a vacuum pump runs to remove the air. The vacuum pump for the furnaces vents outdoors. The furnaces are expected to emit minimal PM emissions after passing through an in-line particulate filter. Also, expected is a minimal amount of NOx and VOC that are thermally generated within the furnace chamber.

The parts are then heat treated in an electric vacuum furnace, after which they are cooled before the ceramic shell is removed from the metal. The vacuum pump for the furnace vents outdoors. PM emissions from the shell removal process are captured in a hood controlled by filters that do not vent outdoors. The parts go to the Post-cast area where parts are machined and finished. Shell removal and machining activities in the Post-cast area are vented to dust collectors to control PM emissions. These dust collectors will vent indoors. The part then enters a vacuum sealed liquid caustic autoclave where the internal ceramic structure is removed. The parts are then inspected for quality using a series of tests including grain etching and a Florescent Penetrant Inspection (FPI) process. The ventilation hood over the grain etch lines will vent to the outside and be controlled by a wet scrubber.

After the parts exit the casting process, the parts are baked in an electric oven to remove any de minimis oils including oils from fingerprints. The parts then move to ceramic and/or metal solids coating processes

that are connected to an in-line particulate air filter. The metallic thermal spray operations occur under vacuum and will vent outdoors. The atmospheric ceramic and/or metal spray applications are collected in a dust collector and vented indoors. The parts are heat treated in an electric oven to seal the coating. These electric ovens have a vacuum pump that vent outdoors.

The parts are then sent to enclosed oil-filled grinding machines where they are ground to their final shape. The grinding machines utilize a mist collector that will vent indoors.

The next step includes drilling holes into the parts with a laser. Prior to drilling, some parts are filled with wax. The laser drilling machines are enclosed and vent to a dust collector that vents indoors. Once the drilling is complete a natural gas fired furnace burns off the wax. The parts then move to a metal solids coating process that occurs in a vacuum chamber connected to a dust collector that will vent outdoors. The parts are then cleaned and inspected and prepared for shipment.

To support the proposed operations, eight natural gas fired emergency engines will be installed should the facility lose power. There will be four 2,100-brake horsepower engines, and four 229-brake horsepower engines. Each of these engines will meet the appropriate NSPS and NESHAP emission standards, respectively. The engines are only expected to run in non-emergency mode during testing and maintenance of the engines.

SECTION B DETAILS

APPLICATION INFORMATION

[List all emission sources (permitted and exempt) reviewed as a result of this application, their associated control devices and pollutants. Provide a detailed discussion of any other items in Section B at bottom under "Application Notes"]

Emission Source ID	Emission Source Description 1. Type, manufacturer, capacity 2. Control device with ID (if any)	Pollutant(s) Emitted	Miscellaneous Notes
WIP	One (1) Wax Injection Process (WIP) consisting of Ten (10) Wax Injection Machines (WAX1 – WAX10)	VOCs	
SBP	One (1) Shell Build Process (SBP) consisting of two (2) Wax Mold Etch Baths (WAXETCH1 and WAXETCH2), two (2) Steam Dewax Autoclaves (WAXMELT1 and WAXMELT2) and seven (7) Natural Gas Fired Shell Kilns (SHELL1 – SHELL7) controlled by natural gas-fired after burners total heat input rated at 1.1 MMBtu/hr each (C-1 through C-7).	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, HAPs/TAPs, GHGs	
PCP	One (1) Part Casting Process (PCP) consisting of ten (10) Electric Vacuum Furnaces (FURNACE1 – FURNACE10)	NO_X, PM, PM_{10}, $PM_{2.5}$, VOCs, HAPs/TAPs	
POCP	One (1) Post Casting Process (POCP) consisting of two (2) Grain Etching Lines (GRAINETCH1 and GRAINETCH2), one FPI Spray Application Line (FPI1), and three (3) Post Cast Electric Vacuum Furnaces (VACFURN1 – VACFURN3)	VOCs	
CP	One (1) Coating Process (CP) consisting of thirteen (13) Electric Ovens (OVEN1-OVEN13), six (6) Thermal Spray Processes under vacuum (VPS1 – VPS6) controlled by in-line particulate filters (C-8 through C-13), five (5) APPS Ceramic Coating Process (APPS1 – APPS5) controlled by dust collectors (C-37 through C-41), and one (1) Aluminide Coating Process (ALUM1)	PM, PM_{10}, $PM_{2.5}$, VOCs, HAPs/TAPs	VPD1 – VPD23 which were listed in the previous permit were removed since they are vented indoors. VSP1 – VSP6 are also vented indoors, but remain on the permit since they are subject to 40 CFR Part 63, Subpart WWWWWW.
MP	One (1) Machining Process (MP) consisting of one FPI Spray Application Line (FPI2), one (1) Wax Injection Machine (WAX11), two (2) Natural Gas Fired Wax Burnout Furnaces (WAXFURN1 and WAXFURN2) controlled by natural gas-fired after burners total heat input rated at 0.5 MMBtu/hr each (C-42 through C-43)	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, HAPs/TAPs, GHGs	Page 23 of 120 lists total heat input for WAXFURN1 and WAXFURN2 as 0.46 MMBtu/hour each.

EBPVD	One (1) Electron-beam Physical Vapor Deposition Process (EBPVD) consisting of thirteen (13) Electric Ovens (OVEN14-OVEN26) and five (5) Thermal Spray Processes under vacuum (EBPVD 1 – EBPVD5)	PM, PM_{10}, $PM_{2.5}$, VOCs	The HEPA filters previously associated with EBPVD1 – EBPVD5 were removed with this modification.
EGEN1, EGEN2, EGEN3, EGEN4	Four (4) 1,118 hp natural gas-fired emergency generators	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, HAPs/TAPs, GHGs	The engines listed have been updated with this modification.
EGEN5, EGEN6, EGEN7, EGEN8	Four (4) 229 hp natural gas-fired emergency generators	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, HAPs/TAPs, GHGs	The engine currently is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(2)(B)(v)(I).
FWP	One (1) 120 hp natural gas-fired emergency fire water pump	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, HAPs/TAPs, GHGs	The engine currently is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(2)(B)(v)(I). The engine was not installed and is being removed from the insignificant activity list.
NA	A grit blast and laser parts cleaning process with emissions captured by dust collector and vented indoors.	NA	This process is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(ix).
NA	A shot and dot peen process with emissions captured by dust collector and vented indoors	NA	This process is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(ix).
NA	Machining, grinding, and EDM of metal parts using lubricating oil process with emissions captured by mist eliminators and a HEPA filter and vented indoors	NA	This process is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(ix).
NA	A laser machining process with emissions captured by dust collector and vented indoors	NA	This process is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(ix).
NA	One (1) electric brazing oven	NA	This oven is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(x).
NA	One (1) electric oven for heat treatment of casted parts	NA	This oven is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(x).
NA	A shell building process with emissions captured by dust collector vented indoors	NA	This process is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(ix).
NA	A shell removal process with emissions captured by dust collector vented indoors	NA	This process is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(ix).
NA	A grinding, cutting and polishing process with emissions captured by dust collector vented indoors	NA	This process is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(ix).

NA	A ceramic core removal process	NA	This process is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(x).

APPLICATION NOTES

The application had an error for the emissions associated with EBPVD1 – EBPVD5. The Agency has calculated their emissions with the correction.

SECTION C DETAILS

REGULATORY INFORMATION

(Identify the AB Air Quality Regulations reviewed because of this application. At a minimum, the regulations already listed should be reviewed and reason given for applicability or non-applicability. If a regulation has a standard, list the standard and indicate how the source is in compliance.)

AB Air Quality Regulation Number / Title	Emission Source ID No(s). Subject	Notes On Regulation (Compliance demonstration, applicability, etc.)
17.0500 – Title V Procedures	NA	The facility does not have potential emissions above the applicability threshold of 100 tons per year for any criteria pollutant, 25 tons per year for any combination of hazardous air pollutants, or 10 tons per year for any individual hazardous air pollutant.
17.0700 – Toxic Air Pollutant Procedures and 4.1104 – Toxic Air Pollutant Guidelines	Entire Facility	The facility conducted a NC Air Toxics review. TAPs were found to be below the TAP permitting emission rates (TPERs), except for chromium. An initial dispersion modeling analysis was performed using AERMOD that determined that the facility would be below the acceptable ambient levels (AALs) for chromium. The emergency generators were exempt from toxics modeling, but a toxics analysis was still required to be conducted by the agency, so the facility modeled for acrolein, benzene, and formaldehyde. The resulting air toxics modeling indicated that the facility would be below the AALs for these pollutants. The associated stack parameters will be included in their permit. The exempt sources which are subject to GACT standards were included for informational purposes only. For further information, please see the modeling memo dated December 23, 2020. In 2025 the facility updated a recipe for their ALUM1 process which resulted in the PTE for Hydrogen Fluoride surpassing the TPER limit. The facility conducted a dispersion modeling analysis using AERSCREEN and the results will be reflected in this permit modification. A permit limitation of 15.9 lbs of activator per 24-hour period for the ALUM1 process will be added to the permit.
4.0524 – New Source Performance Standards (40 CFR 60, Subpart JJJJ)	EGEN1 – EGEN8	These engines are subject to 40 CFR Part 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, which requires the manufacturer to certify that the generators meet the emission limits listed in the subpart. The generators must be equipped with non-resettable hour meters, and nonemergency use (e.g., testing) is limited to 100 hours per year.
4.0530 – Prevention of Significant Deterioration	NA	The facility does not have potential emissions above the threshold of 250 tons/year for any criteria pollutant.
4.1111 – MACT (40 CFR 63, Subpart ZZZZ)	EGEN1 – EGEN8	Because these generators commenced construction after June 12, 2006, they are considered new sources (located at an area source of HAP emissions), making them subject to 40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines. Compliance with NESHAP Subpart ZZZZ is achieved by compliance with NSPS Subpart JJJJ.
4.1111 – MACT (40 CFR 63, Subpart WWWWWW)	VPS1-VPS6	The process is subject 40 CFR Part 63, Subpart WWWWWW – National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Standards. The applicable part of the rule applies to the thermal spraying operation. The rule requires the facility to operate a capture system that collects PM emissions from the thermal spraying process and transports the emissions to a fabric, cartridge, or HEPA filter . There are also recordkeeping and recording requirements.

4.1111 – MACT (40 CFR 63, Subpart ZZZZZZ)	FURNACE1-FURNACE10	This process is subject to 40 CFR Part 63, Subpart ZZZZZZ – National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries. The process is defined as being a nonferrous foundry that uses material containing chrome, lead, or nickel in amounts greater than or equal to 0.1 percent by weight. The metal ingots used in this process contain chrome and nickel at amounts greater than 0.1%. The rule requires certain management practices including covering or enclosing the melting operation and metal purchasing requirements. There are also recordkeeping and recording requirements.
4.0515 – Particulates from Miscellaneous Industrial Processes	FURNACE1-FURNACE10, APPS1-APPS5, ALUM1, EBPVD1 – EBPVD5	The allowable emission rate is a function of the process weight rate and shall be determined by the following equation, where P is the process throughput rate in tons per hour (tons/hr) and E is the allowable emission rate in pounds per hour (lbs/hr): $E = 4.10 * (P)^{0.67}$ for P < 30 tons/hr All the processes that have particulate matter emissions were evaluated and emissions were below the allowable emission rate for each process. See the regulatory notes below.
4.0516 – Sulfur Dioxide Emissions from Combustion Sources	SHELL1-SHELL7, WAXFURN1-WAXFURN2, EGEN1 – EGEN5, FWP	This regulation limits SO_2 emissions from these sources to 2.3 lb/MMBtu. The AP-42 SO_2 emission factor for natural gas combustion for small boilers (SHELL1-SHELL7 and WAXFURN1-WAXFURN2) is 0.00006 lb/MMBtu. The AP-42 SO_2 emission factor for natural gas internal combustion engines (emergency generators EGEN1-EGEN5, FWP) is 0.006 lb/MMBtu. Thus, the facility is in compliance.
4.0521 – Control of Visible Emissions	FURNACE1-FURNACE10, APPS1-APPS5, ALUM1, EBPVD1 – EBPVD5	This regulation limits visible emissions from each of these sources to no more than 20% opacity due to their post-1971 manufacture date. Compliance with this regulation will be determined through Agency inspections.
4.0605 – General Recordkeeping and Reporting Requirements	Entire facility	The facility is required to submit reports with production data that will facilitate annual emissions calculations by the agency.
4.1806 – Control and Prohibition of Odorous Emissions	Entire Facility	This regulation requires that the facility prevent odorous emissions from causing or contributing to objectionable odors beyond their property line. Compliance with this regulation will be determined through Agency inspections.

REGULATORY NOTES

4.0515. The table below shows the calculated allowable emission rates based on the equation E = 4.10 *(P)0.67 for P < 30 tons/hr, where where P is the process throughput rate in tons per hour (tons/hr) and E is the allowable emission rate in pounds per hour (lbs/hr). This is compared to the actual emission rate for each process.

Process	Allowable Emission Rate (E)	Actual Emission Rate	Lower than Allowable Rate?
FURNACE1-FURNACE10	2.18E-01	3.00E-06	Yes
EBPVD1-EBPVD10	8.83E-02	2.40E-02	Yes
APPS1-APPS5	8.36E-02	1.50E-02	Yes
ALUM1	9.95E-03	7.50E-02	Yes

4.1111. The facility is subject to 40 CFR Part 63, Subpart ZZZZZZ – National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries. The process at the facility is defined as “other nonferrous foundry” due to the amount of HAP in the metal it is melting. This rule has is applicable when the annual melt capacity equals or exceeds 600 tons per year. The facility has a maximum process rate of 1,095 tons per year. If the facility were to exceed 6,000 tons per year, additional requirements would apply.

17.0700. The facility submitted air dispersion modeling for chromium with their original permit application because they exceed the TPER for this pollutant. The modeling demonstrated that the facility emissions would be below the AAL for chromium. The facility also exceeded the TPERs for acrolein, benzene, and formaldehyde, but the facility cited the toxics exemption for the emergency engines based on Chapter 17.01029(a)(25) which states “natural gas and propane fired combustions sources with an aggregate allowable heat input less than 450 million Btu per hour that are the only source of benzene at the facility” could be exempted. While this exemption appeared to apply, further investigation into the NCDEQ rule showed that they added “external” to the combustion sources in the rule, thus eliminating internal combustion sources from this rule, and this exemption could no longer apply.

The emergency engines were still exempt from toxics due to Chapter 17.0702(a)(27)(B), however State Session Law SL-2012-91, which requires the Agency to “review the application to determine if the emission of toxic air pollutants from the source or facility would present an unacceptable risk to human health”. For this application, the toxics review requires air dispersion modeling, and the facility voluntarily submitted modeling for acrolein, benzene, and formaldehyde and included the emergency engines and other natural gas combustion sources.

With the previous permit modification (11-920-21B), the size of the original engines that were included in the modeling demonstration changed. The total emissions from the new engines are lower than what was previously modeled. Additionally, the engines are now located on the roof which is further from the fence line than the previous engines and will result in better dispersion due to the height of the new stacks. Therefore, no additional modeling is required. The permit was updated with the stack parameters of the new engines. The facility submitted updated parameters on page 8 of their application, and mistakenly used hourly emission rates for benzene when they should have used pounds per year averaged over 8760 hours. The agency used the corrected version in the permit.

With this permit modification, the permitted aluminide coating process (ALUM1) has changed its recipe resulting in an increase in the potential to emit Hydrogen Fluoride, PM, PM10, and PM2.5. There is raw ingot that is used to generate the coating, and the process will utilize an activator agent. The activator agent has the potential to create Hydrogen Fluoride (HF) from a side reaction. The coating furnaces will vent through a bubbler to remove HF in the exhaust stream, but this control has not been taken into account for calculating potential emissions. The coating furnaces will vent from a horizontal unobstructed stack on top of the building. The emission calculations for this process have been updated to reflect the current raw material use rates. Updated emission calculations are reflected in this permit modification. The potential HF emissions associated with this process are now above the Toxic Pollutant Emission Rates (TPER) due to recipe updates and would require a permit under Chapter 17.0700. The facility conducted an air dispersion modeling analysis using AERSCREEN and was below the Acceptable Ambient Levels (AAL) for both the hourly and 24-hour averaging period as shown in the table below. A permit limitation of 15.9 lbs of activator per 24-hour period for the ALUM1 process will be added to the permit. This is the maximum usage of activator they could use in a 24 hour period, based on having 2 furnaces that use 5.3 pounds of activator per batch, with one batch taking 16 hours to complete. (2 furnaces multiplied by 5.3 pounds per batch divided by 16 hours per batch and multiplied by 24 hours).

Pollutant	Averaging Period	Modeling Result (mg/m^3)	AAL (mg/m^3)	Compliance (Y/N)
Hydrogen Fluoride	One-Hour	0.047	0.25	Y
Hydrogen Fluoride	24-Hour	0.028	0.03	Y

SECTION D DETAILS				
EMISSION INFORMATION				
Calculation Method Codes (List all that apply)	**1 = Stack test result 2 = Material (mass) balance 3 = EPA approved information (AP-42, CTG, etc.) 4 = Other (specify in table below)**			
Calculation Rejection Codes (List all that apply)	**1 = Calculation error 2 = Wrong emission factor(s) used 3 = Control efficiency(ies) not accepted 4 = Other (specify in table below)**			
Emission Source (ID No.)	**Calculation Method Code**	**Accept or Reject?**	**Calculation Rejection Code**	**AB Air Quality Calculations Attached?**
Facility	2, 3, Engineering Estimates	Accept	NA	Yes

EMISSION NOTES

Calculations of potential emissions were performed by the facility and reviewed by the Agency. As stated above in the application notes, an error for the emissions associated with EBPVD1 – EBPVD5 was found. This error was carried over from their previous permit modification (Permit 11-920-21B amended March 14, 2024). Further information regarding these emissions calculations can be found in the email saved to the folder for Permit 11-920-21B.

Emissions for FURNACE1 – FURNACE10 were updated by the facility on the previous permit modification and those calculations were included in the agency calculations. Additionally, emissions for FPI2 are calculated by the agency more conservatively than the estimates provided by Pratt and Whitney. The Agency assumed calculated emissions based on parts per hour for 8760 hours instead of total annual parts. This resulted in a slight increase in VOC emissions.

Greenhouse gas emissions were changed for this permit review due to a calculation error.

Estimated actual emissions were provided for this review since the facility has not operated for an entire year. Estimates are based on the facility operating 4160 hours and the emergency engines operating 100 hours.

SECTION E

SUPPORTING DOCUMENTATION

(Provide brief description of any attachments)

1. Permit Application including Modeling Demonstration
2. Emissions Calculations
3. Draft Permit
4. Draft Permit Cover Letter