



Odor & Noise Control Plan

JULY 2023

ADDRESS

American Phoenix Inc.
800 Wisconsin Street
Eau Claire, WI 54703

APPROVED AND IMPLEMENTED BY

Mike Richards, Plant Manager



American Phoenix Inc is committed to being a responsible and supportive partner to the Eau Claire community.

We prioritize open communication, safe operating practices, and supporting the local economy. In an effort to be a good neighbor, we are actively taking steps to prevent or minimize odors and noise, fully comply with regulations, and be responsive to the needs and concerns of our community.

Our Background

American Phoenix Inc. (API) is located at 800 Wisconsin Street, primarily occupying greater than 1,000,000 sq. ft. of Banbury Place's total square footage. This is about 55% of the total square footage in the old Uniroyal tire building factory. "Banbury" is named for the equipment used to mix rubber and is a nod to the rich history of the site.

The facility was first constructed in 1917 by the Gillette Safety Tire Company. In 1942, the United States Government bought the facility, and converted it into an ammunitions factory. In 1944, the facility was repurchased by the United States Rubber Company and the production of tires resumed. The plant expanded in 1947, 1951, and 1965, making the plant

the third largest tire factory in the nation. Through a series of acquisitions, tire production continued as Uniroyal, Inc. until 1990. It was then purchased by Michelin in 1990, only to shut down in June 1992, displacing 1,358 workers.

In August 1992, Eau Claire developers, Bill Cigan and Jack Kaiser, bought the property and renamed it Banbury Place. API was founded in 1992 with equipment purchased from Michelin, taking over a large manufacturing section of the property. Currently, API is one of the largest custom rubber mixing plants in America.

As a company, API values hard work and quality - with a focus on safety and being a good neighbor to the community. We design, build, and maintain our own equipment. Process improvements are quickly incorporated, which has a direct impact on our ability to modify or improve our processes to address operational issues.



Our Products

API specializes in large-scale industrial rubber mixing and pre-weigh chemical packaging using customer-supplied recipes that require either Synthetic Rubber or Natural Rubber to create a variety of American-made end products. Our rubber is the foundation of the tires for your vehicles, belts for agricultural machines, and other products that serve critical needs in society.



Our People

At API, we are proud to be powered by a team of hard-working and dedicated employees. As a Second Chance employer, we offer opportunities to individuals of all experience levels, and we are committed to creating an environment that fosters skill-building and appreciation for the value of each day's work.

Our employees take great pride in working in our factory mixing rubber and good old-fashioned hard work to create essential products that make a difference every day.

Our Commitment

LET'S FACE IT.

MAKING RUBBER CAN BE A NOISY
AND SMELLY PROCESS.

While American Phoenix can't eliminate all the noise and odor, **we can help manage it—with your help!**

If you detect odors or noise from our facility, please fill out the **Odor Information Form** or **Noise Information Form**. The sooner we hear from you, the better equipped we will be to address the problem.

API is committed to continually improving our operations based on the feedback we receive.

Smelly? Noisy?
Fill out the Odor Information Form.



FILL OUT FORMS

Odor Information Form
Noise Information Form

Odor & Noise Control Plan Overview

This Odor and Noise Control Plan pertains to the API facility located in Eau Claire, Wisconsin, which is engaged in the manufacturing of rubber products. The operations and materials used in the facility can result in the emission of unpleasant odors and noise nuisance. The purpose of this Plan is to establish a set of procedures to minimize, identify, and rectify malodorous emissions and noise nuisance originating from the facility.

The development and implementation of this Plan is also intended to satisfy the requirements of ss. NR 429.03 and the Air Pollution Control Registration Type-A Permit conditions. API's Plant Manager and Safety Manager are responsible for the implementation of the Plan. Their contact information is included at the conclusion of this document.

ODOR CONTROL PLAN

Where does the odor come from?

API specializes in large-scale industrial rubber mixing and pre-weigh chemical packaging using customer-supplied recipes that require either Synthetic Rubber or Natural Rubber. These operations can result in the production of odors due to the presence of volatile organic compounds in certain raw materials, mixing activities, and the final products.

Odor control measures

As a responsible corporate citizen and in keeping with our commitment to being a good neighbor to the Eau Claire community, we strive to be responsive and fully compliant with regulations and guidelines, while being responsive to concerns expressed by the community. In order to achieve this, we continually assess our operational practices and invest in odor control measures to minimize unpleasant odors emanating from our facility.

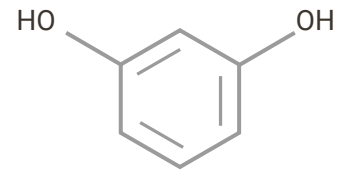
1 Review of raw materials

API conducts periodic reviews of new and proposed raw material safety data sheets (SDS) to identify potential sources of odors and investigate ways to restrict or eliminate these components from the facility. API has rejected customer orders based on problematic ingredients and reserves the right to do so in the future.

2 Material handling

Raw materials associated with the production of rubber products include natural and synthetic rubber, carbon black, other powder ingredients, and oils. Ingredients are received and staged at the facility in closed containers to minimize odors. Windows and doors of the material storages areas are also closed while not in use to minimize odors. Raw materials are transferred to the Banbury mixers in sealed bags or via closed conveys/piping to minimize odors.

In addition to careful material handling procedures, the facility has invested in ventilation and auxiliary dust collection, which also improve working conditions. Dust collectors are exhausted on the roof of the building via vertical unobstructed stacks to improve dispersion of odors and lift them away from street level. The Oil Room is also exhausted on the roof of the building via a vertical unobstructed stack.



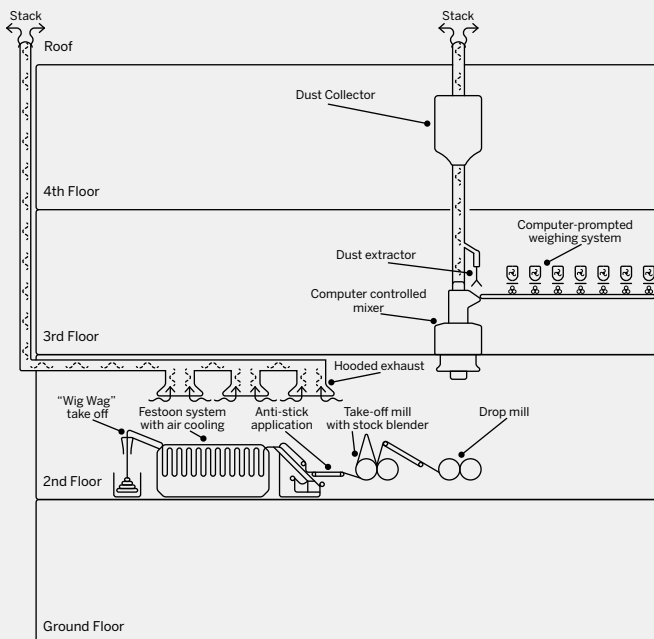
Resorcinol was an ingredient that API used in the past. This ingredient had a strong odor. API no longer handles this material and has resolved not to use it in the future.

MATERIAL HANDLING STACKS	STACK EXHAUST FLOW RATE - CFM
Pre-Weigh A-Line Dust Collector	12,000
Pre-Weigh B-Line Dust Collector	12,000
Penthouse Dust Collector	8,000
300 Hopper Dust Collector	2,000
Oil Room	12,000

3 Mixing operations

To minimize odors, the mixers are enclosed except when accepting ingredients. During the mixing process, the mixers are vented to the atmosphere. Exhaust from the mixer passes through dust collectors to capture valuable ingredients and return them to the process. The dust collectors reduce emissions to the atmosphere. Vertical unobstructed stacks for the mixer dust collectors are located on the roof of the facility to improve dispersion of odors and lift them away from street level.

MIXER ID	STACK EXHAUST FLOW RATE - CFM
#100 Banbury Mixer – Master Mix	8,000
#200 Banbury Mixer – Master Mix	8,000
#300 Banbury Mixer – Master Mix	11,000
#400 Banbury Mixer	4,200
#600 Banbury Mixer	4,200
#700 Banbury Mixer	4,200
#800 Banbury Mixer	4,200
#900 Banbury Mixer	4,200
#1000 Banbury Mixer	4,200



4 Batch off operations

Mixed rubber is discharged from the mixers, extruded into sheets, cooled, and readied for shipment in the batch off area of each mixer. High volume exhaust hoods are used to ventilate batch off operations under negative pressure. Negative pressure ensures that air flows through the stacks to the roof instead of flowing away from the area and out nearby windows.

Two examples of improvements to batch off exhaust management include the following: 1) To improve ventilation inside the facility and disperse odors more effectively, the exhaust system associated with Mixer #300 batch off area was increased to 100,000 cfm. 2) Due to the use of Resorcinol in the past, the batch off exhaust system for Mixer #100 was equipped with a scrubber to control condensable emissions from the process. Although the impetus for installing the scrubber is no longer a factor, API continues to voluntarily operate the scrubber because it reduces emissions from the facility.

Investment in plant operations

API has made significant efforts to ensure that its emission points are well-designed and operational. These improvements lower the odor impact from the facility. The facility engages the services of a third-party engineer to continually evaluate and enhance its ventilation systems. Over the past few years, API has implemented several major modifications to its exhaust system to improve the dispersion of exhaust air within the facility. The following is a list of the completed exhaust system changes. Each of these changes improve dispersion and lower odor impacts from the plant.

- A 100,000 cubic feet per minute (cfm) exhaust system had its stack height increased.
- An offline exhaust fan was brought back online to increase the exhaust flow and stack exit velocity.
- A major process exhaust was increased from 15,000 cfm to 24,000 cfm.
- A 100,000 cfm make-up air system was updated to increase the amount of air supplied to the facility. This increased the facility's dilution ventilation by decreasing the static pressure on the exhaust fans and increased the exhaust flow.

Additional opportunities to reduce odors or improve odor dispersion continue to be reviewed.

IMPROVED DISPERSION AND LOWER ODOR IMPACTS FROM THE PLANT



STACK HEIGHT INCREASED



EXHAUST FLOW AND STACK EXIT
VELOCITY INCREASED



INCREASED MAJOR
PROCESS EXHAUST



INCREASED AIR SUPPLY
TO THE FACILITY



NOISE CONTROL PLAN

Where does the noise come from?

The facility operates mixers, exhaust fans, compressors, pneumatic conveyors, steam boilers, and forklifts. Each of these pieces of equipment are a common source of noise within an industrial facility.

1 Banbury mixers

API utilizes Banbury mixers of various sizes to custom mix batches of rubber for our customers.


As described in the Condensed Encyclopedia of Polymer Engineering Terms:

In the rubber industry, the best-known internal mixer is the Banbury mixer. This mixer consists of a completely enclosed mixing chamber in which two spiral-shaped rotors operate, a hopper at the top to receive compounding ingredients for mixing and a door at the bottom for discharging the mixed batch of compound. The rotors are driven by an electric motor while pressure is applied from the top by a plunger or ram. The two rotors subject the compound to a certain amount of shear by revolving in opposite directions and at slightly different speeds. The build-up of the shearing action, however, occurs between the rotors

and the chamber wall. Water or steam is usually circulated through the hollow rotors and the chamber wall to provide cooling or heating. At the specified mixing time or temperature, the compound is discharged onto a two-roll mill where the material is sheeted off to auxiliary equipment, such as a slab cooling system. (Cheremisinoff pp. 255-267)

Sources:

Cheremisinoff, N. P. (2001). Condensed Encyclopedia of Polymer Engineering Terms. In R. Nicholas P. Cheremisinoff (Ed.), Butterworth-Heinemann (pp. 255-267). ISBN 9780080502823.



API requires hearing protection on the manufacturing floor due to noise associated with the Banbury mixers. However, as this process occurs indoors, noise outside of the facility is not considered significant.

2 Exhaust fans

The slab cooling areas, also known as batch off operations, employ large exhaust hoods. Dust collectors also depend on fans to move exhaust through the air filters. Occasionally, internal pulse jets expel a jet of air to dislodge particulate from the surface of the filter. This is an essential dust collector function and a source of noise. Some of the fans associated with moving air through the facility are located on the roof of the building. External noise can occur from the fan motors or fan ductwork.

API is in the process of testing the following noise control measures to mitigate noise from these sources:



FAN SILENCERS

Box baffle fan silencer systems reduce decibel levels



SOUND FENCE

A sound fence helps insulate and interrupt sound waves



RIGID DUCTWORK

Replacement of loose or flexible ductwork can reduce noise



VARIABLE FREQUENCY DRIVES (VFD) ON MOTORS

VFDs allow the motor on the fan to operate at reduced frequency and voltage which reduces noise.

3 Delivery Trucks

Large delivery trucks move goods to and from the facility. Vehicle traffic is intermittent and not unique to the API facility. API expects trucks servicing the facility to be in good repair and in compliance with local noise ordinances.





Investment in plant operations

API is dedicated to continuing to enhance operations and make improvements to reduce noise generated from its facilities. The following is a list of the completed and expected improvements being implemented:

- API has installed three fan silencers to retrofit existing exhaust fans. Two more fan silencers have been ordered and are expected to arrive in August 2023.
- API is replacing a sixth fan that is equipped with a silencer in the Summer of 2023.
- API has identified a section of flexible ductwork that will be replaced with a rigid duct.

 **FAN SILENCERS
INSTALLED**

 **REPLACING A SIXTH FAN THAT
IS EQUIPPED WITH A SILENCER
IN THE SUMMER OF 2023**

 **FLEXIBLE DUCTWORK
WILL BE REPLACED
WITH A RIGID DUCT**

Odor and Noise Information Forms

API seeks input from the community related to odors and noise from the plant. API has developed an **Odor Information Form** and **Noise Information Form** that the community can utilize to report objectionable odors or noise. It is very important that API receives timely input from the community.

Based on this feedback, API is committed to improving its operations and minimizing odors and noise. To facilitate a thorough investigation of the event, API needs the following information as part of the report in order to investigate the event.

- Location where odor or noise was noticed
- Time of event
- Duration of event
- Description of the odor or noise
- Intensity of the odor or noise
- Other information that may be helpful in determining the cause of the event

As part of routine operations, odor and noise observation occurs daily at the facility but is not formally recorded. However, if there are significant odors or noise observed, a thorough inspection of the source is recorded using the Odor or Noise Information Forms.

Upon receiving either an Odor or Noise Information Form, the Safety Manager at API will be notified via email, and the established protocol will be followed. Multiple forms for the same time period will be investigated as a single event.

- API will review meteorological data (wunderground.com) and note ambient temperature, dew point, humidity, wind direction, wind speed, wind gusts, barometric pressure, precipitation, and cloud cover at the time of the event. Odor information determined to be upwind of the facility will be logged, but not investigated.
- API will note the equipment in operation at the time of the event, and note production upsets or unusual recipes being produced at the time. Odor or noise information determined to have occurred while the facility was not operating will be logged, but not investigated.
- API will interview staff/crew working at the time of the event and note unusual activities or malfunctions that may have impacted odors or noise from the facility.
- Doors and windows near street level will be checked for closure to increase ventilation at roof level for improved dispersion of odors and minimization of noise.
- When timely and appropriate, API staff conduct observations at the location of the odor or noise complaint.

EXAMPLE OF ODOR COMPLAINT AND RESOLUTION:

In July 2018, API received an odor complaint via the DNR regarding an alleged odor on July 14 and 15. API immediately convened its environmental engineer, Plant Manager, and Safety Manager to investigate the complaint. Upon further investigation, it was determined that the alleged complaint occurred on a weekend when the plant was not in production, and the only potential source could have been an exhaust system for a process oil room. This system exhausts warm room air to the exterior, three floors up, to the Galloway Street side of the building.

To address the issue, API extended the process oil room ventilation stack to a point above the roof line, with a vertical discharge and no stack cap, as it was the only potential cause for the odor (since the plant was not in production during the weekend). These efforts resulted in a reduction in odor discharge from the facility.

4 Management Commitment

API holds weekly meetings with the Plant Manager, Safety Manager, and Plant Engineering Manager, at which time odor and noise information Form submissions and subsequent follow-up investigations are discussed. API looks for patterns in the information and focuses resources on solutions that will have the greatest impact.

API has committed to summarizing odor and noise information to the City of Eau Claire on a regular basis.

API will continue to work with the WDNR and seek comments on the Odor Control Plan.

API will continue to engage an environmental engineer or consulting environmental engineer to troubleshoot the event(s) and discuss long-term mitigation efforts.

QUESTIONS?



Questions?

API takes pride in the measures we have implemented to minimize unpleasant odors and noise from our facility and is committed to continuously improving our operations as we work in partnership with the Eau Claire community.

For questions or concerns regarding API's odor and noise control measures, please contact the API representatives listed to the right.



**Plant Manager
MIKE RICHARDS**

715.831.5873



**Safety Manager
BILL TEALEY**

715.831.1799