Michigan Department of Environmental Quality
Environmental Assistance Program

Michigan Environmental Compliance Guide for Nonmetallic Mineral Crushing Facilities

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Michigan Environmental Compliance Guide for Nonmetallic Mineral Crushing Facilities

This guide has been designed to help you determine environmental compliance with the following areas of your mineral crushing facility:

*The **Michigan Environmental Compliance Guide for Nonmetallic Mineral Crushing Facilities** is intended for guidance only and may be impacted by changes in legislation, rules, and regulations adopted after the date of publication. Although the guide makes every effort to teach users how to meet applicable compliance obligations, use of this guide does not constitute the rendering of legal advice.*

This guide has been reviewed by a steering committee and outside reviewers. Diligent attention was given to assure that the information presented herein is accurate as of the date of publication; however, there is no guarantee, expressed or implied, that use of this guide will satisfy all regulatory requirements mandated by laws and their respective enforcement agencies. Reliance on information from this document is not usable as a defense in any enforcement action or litigation. The state of Michigan shall be held harmless for any cause of action brought on as a result of using of this publication.

PART 1

AIR QUALITY REQUIREMENTS

WHY ARE AIR EMISSIONS FROM CRUSHING FACILITIES REGULATED?

Environmental regulations exist to protect our land, air, and water from absorbing an excessive amount of pollution. Air pollution that comes in the form of fine dust, smoke, or soot particles, also known as particulate matter (PM), is just one of six major pollutants regulated by the U.S. Environmental Protection Agency (U.S. EPA) and the Air Quality Division (AQD) of the Michigan Department of Environmental Quality (DEQ). The other criteria air pollutants are ground-level ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, and lead.

The U.S. EPA sets the National Ambient Air Quality Standards (NAAQS) for the six criteria air pollutants. These standards protect public health (including the health of sensitive populations such as asthmatics, children, and the elderly) and the public welfare, including protection against decreased visibility and damage to crops, vegetation, and buildings. The units of measure for the PM standard are micrograms per cubic meter of air.

The U.S. EPA classifies and regulates dust, smoke, and soot by the particle size which is measured in microns. Dust or PM less than or equal to 10 microns in diameter is commonly referred to as PM_{10}. Most dust associated with crushing facilities falls into this category. Finer sources of PM equal to or smaller than 2.5 microns ($PM_{2.5}$) are a result of photochemical reactions.

Research has shown that inhaling too much dust lowers the body's natural defenses because dust builds up in our respiratory system and irritates the sensitive tissue in our lungs. Therefore, breathing a lot of dust over a long period of time can cause chronic breathing and lung problems. Another consequence of dust generation reduced visibility (also known as haze) for road traffic; and it can contribute to excessive soiling, discoloration, and damage to personal property. Fine particles can remain suspended in the air and travel long distances. For example, a puff of exhaust from a diesel truck in Los Angeles can end up over the Grand Canyon.

The crushing of nonmetallic minerals is just one of a number of dust-generating activities regulated by the U.S. EPA and DEQ. Other industries where dust is controlled by similar federal and state regulations include asphalt and concrete batch plants.

AN OVERVIEW OF THE FEDERAL AND STATE AIR QUALITY REGULATIONS

Dust and fine particulate are measured by opacity. Opacity is a measurement of how dense the dust particles are in the air and takes into account how much light is obscured by the rising dust when looking at a solid colored background. Opacity is measured in percentages from 0 to 100 percent and measurement is actually performed by visible observation. When there is no visible dust, the opacity is zero percent, meaning all of the light around a crushing facility is able to pass through. Therefore, when the statement is made that an activity is operating at a "25 percent opacity" level, it means the PM is blocking only 25 percent of the visual background light, leaving 75 percent of the background light clearly visible. An example of standard opacity levels is illustrated by Figure 1-1. The more dust or PM generated, the more difficult it is to see the landscape background.

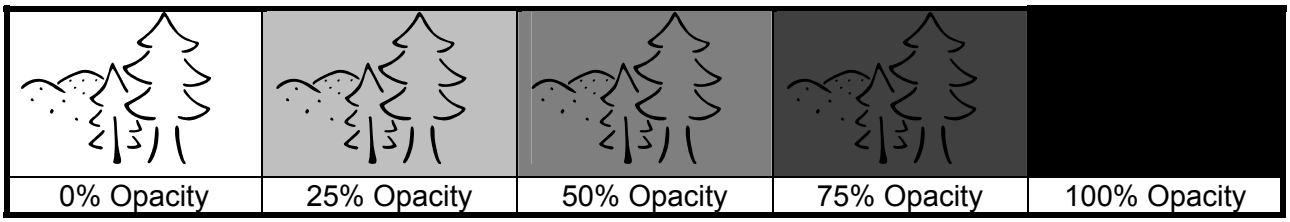


Figure 1-1: Opacity Levels

The U.S. EPA regulates the emissions of particulate matter from nonmetallic mineral crushing facilities through the New Source Performance Standards (NSPS), Subpart OOO. 40 CFR 60.670(a) defines, in part, an affected facility in fixed or portable nonmetallic mineral processing plants as each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station which commences construction, reconstruction or modification after August 31, 1983. Based on this definition, the requirements of Subpart OOO apply to individual pieces of equipment and include, but are not limited to, equipment specific opacity limits, notification of equipment startup, and reporting and recordkeeping provisions. Subpart OOO also requires an initial performance test for most subject equipment. Facilities at the following plants are not subject to Subpart OOO:

a) Fixed sand and gravel plants and crushed stone plants with capacities of 25 tons per hour or less;

b) Portable sand and gravel plants and crushed stone plants with capacities of 150 tons per hour or less.

The DEQ enforces the *Michigan Air Pollution Control Rules*, which restrict the level of dust or PM that can be emitted into the air. The *Michigan Air Pollution Control Rules* require owners/operators of crushing facilities to obtain a pre-construction air pollution control permit, which is known as a Permit to Install. This permit contains a set of general and special conditions for the operation of your crushing facility and incorporates the testing, monitoring, and recordkeeping requirements from the NSPS. Together, both the state and federal regulations set the maximum levels of dust which can be emitted from your crushing facilities. If you want to operate a crusher in Michigan, you must first apply for and receive a Permit to Install. The permit must be issued prior to beginning activity at your first job site.

Types of Permits to Install

There are two types of Permits to Install that crushing facilities can apply for in Michigan. One is a Permit to Install and the other is a General Permit to Install. What is the difference between the two permits? Both the Permit to Install and General Permit to Install can be used by companies that crush and process nonmetallic minerals, but the General Permit to Install can only be used by companies that:

- ☑ Crush no more than 2 million tons per year at any one site.
- ☑ Locate and operate their crusher a minimum of 500 feet from any residential or commercial establishment or place of public assembly.
- ☑ Have established and implemented a fugitive dust control program.
- ☑ Do not have any unresolved air quality enforcement violations with the U.S. EPA or the DEQ.

☑ Have an operation not currently covered under another company's Permit to Install.

The Benefits of Using the General Permit to Install

The General Permit to Install is intended for smaller crushing facilities – especially those that move from site to site during the year. The General Permit to Install is designed to be more flexible than a regular Permit to Install as well as easier to apply for and complete. Oftentimes, an administratively complete General Permit to Install application can be issued within 30 days or less. The biggest benefit of the General Permit to Install is that it is not linked to one specific job site because the permit is issued for the crusher and its associated equipment. Once you are issued a General Permit to Install, it is very easy for you to move your process and equipment from site to site. This allows the owner and/or operator, more flexibility in meeting the needs of their customers.

Who Must Comply With The Permit To Install Requirements?

Both the owner and operator of the crusher and related equipment who process nonmetallic rocks, stone, sand, gravel, concrete or recycled asphalt can be held liable for violations of state and federal air quality rules.

Leased Equipment

A Permit to Install is required for all crushing facilities, whether the equipment is leased from a second party on a temporary basis or owned outright. Companies that lease their equipment should first check with the leasing company to verify if:

- A Permit to Install has been applied for by the leasing company (i.e., the owner of the equipment). As an operator of the crushing equipment, it is important to verify that a valid Permit to Install exists for the equipment you wish to lease. If not, you will need to apply for an air quality permit in order to use the equipment. If there is a permit already assigned to this equipment, the leasing company may allow you to operate under their Permit to Install for that equipment. In this case, ask for a copy of the Permit to Install for your records because you are required to post a copy of the Permit to Install at your job site and you must understand and comply with all of the permit conditions. The DEQ will issue a Permit to Install to either the owner of the equipment or the operator of the equipment. The *General Permit for Nonmetallic Mineral Crushing Facilities* currently lists both the owner and operator as viable entities.

- The necessary initial performance test has been completed for the equipment you wish to lease. Ask the leasing company for a copy of the test documentation to demonstrate that the equipment has passed the necessary initial performance test. Keep a copy of this test documentation for your records. The DEQ will hold the permittee responsible for complying with all of the Permit to Install's requirements. If no permit has been obtained, the DEQ may take action against the lessee and/or lessor for failing to obtain the Permit to Install and failure to conduct performance testing. According to the Permit to Install, both the owner and operator are liable for violations. It is important to remember that violations can be enforced by either the DEQ or the U.S. EPA, depending on what air quality requirements were violated.

Once you have checked on the status of these items and a permit has been issued for the equipment, all you need to do as an operator is file a *Relocation Notice Form (EQP5757)* along with a copy of the original General Permit to Install and any new *Process Information Forms (EQP5756)* for changes made to your plant to the AQD district office. The Relocation Notice notifies the AQD

district office staff that the equipment is being transferred to a new work site from a previous work site. No matter who applied for and holds the permit, as an owner and/or operator of the crushing equipment you are still responsible for knowing the contents of the permit. This is important because the general and special conditions of the permit outline your responsibilities to operate the crusher and related equipment in compliance with the federal and state air quality regulations.

Grandfathered Sources of Air Pollution

Nota all crushing equipment requires a Permit to Install. If you own equipment that was installed **but never modified, or reconstructed** since August 15, 1967 (i.e., the date the *Michigan Air Pollution Control Rules* became effective), your equipment would be considered "grandfathered-in" and would not require a Permit to Install.

It is important to note there are very few sources of air pollution still in operation that would meet these criteria. Most pre-1967 constructed crushing equipment has been modified or reconstructed over the years and is now required to have an air quality permit. To learn more about what it means to modify or reconstruct your equipment, please see pages 1-17 and 1-18.

Activities that are Exempt from Air Pollution Requirements

Most nonmetallic mineral crushing facilities are subject to the Permit to Install requirement, but there are some related activities that are exempt from the Permit to Install requirements. For example, equipment for the mining and screening of uncrushed native sand and gravel is exempt. Although this equipment is exempt from the permitting requirement, any visible emissions resulting from that equipment must be at or below 20% opacity. If you would like to discuss your specific circumstance, or if you have questions regarding the exemption status of other potential sources of air pollution, contact the DEQ's Environmental Assistance Program (EAP) at (800) 662-9278.

There are some nonmetallic mineral crushing activities that require an air quality permit, but are not required to comply with performance testing, recordkeeping, and reporting requirements found in the NSPS Subpart OOO. These operations include:

- Fixed sand and gravel plants, and crushed stone plants with capacities of 25 tons per hour or less.
- Portable sand and gravel plants, and crushed stone plants with a capacity of 150 tons per hour or less.
- Common clay and pumice plants with capacities of 10 tons per hour or less.
- Underground mines.
- Stand-alone screening operations NOT attached to a crusher.

AN OVERVIEW OF THE GENERAL PERMIT TO INSTALL FORMS

Since most crushing facilities can meet the applicability requirements for a General Permit to Install, the discussion on air permitting will focus on this permit and not the Permit to Install. See "Available Resources" on page 1-21 if you need assistance on completing a Permit to Install application or have questions on which Permit to Install application to use.

Where to Get a General Permit to Install Application

You can obtain a hard copy of the *General Permit to Install Application for Nonmetallic Mineral Crushing Facilities* by visiting **www.michigan.gov/deqpermits**. Select "*Air Quality Permit to Install,"* then *"General Permits – Applications Forms and Instructions"* and then scroll down to "*General Permit to Install Application for Nonmetallic Mineral Crushing Facilities."*

The Permit Application Forms

The General Permit to Install application consists of three primary forms: the **General Information**, the **Process Information**, and the **Additional Information** forms. You will use these three forms to apply for a new, or modify an existing, nonmetallic crushing facility. A step-by-step guide on how to properly fill out the permit application forms is available in Appendix A of this document.

The General Information Form (EQP5727)

DEQ	Michigan Department of Environmental Quality - Air Quality Division **GENERAL PERMIT TO INSTALL APPLICATION** **GENERAL INFORMATION**	FOR DEQ USE ONLY PERMIT NUMBER

The General Information form is used to gather contact and physical company location information from the permit applicant. It is also used to track any additional forms or documentation the permit applicant submits as part of the overall permit application. This is a standard form that is used in each of the other seven types of General Permit to Install applications the AQD offers.

The Process Information Form (EQP5756)

DEQ	Michigan Department of Environmental Quality - Air Quality Division **GENERAL PERMIT TO INSTALL APPLICATION** **PROCESS INFORMATION - NONMETALLIC MINERAL CRUSHING** **(Page 1 of 2)**	FOR DEQ USE ONLY PERMIT NUMBER

The Process Information form collects specific information about each component of your crushing facility. It has dual purposes. Use the form to list all of the process equipment you will in installing under the initial permit. Use the form to identify equipment that has been added, removed or modified since the initial permit was issued.

The Additional Information Form (EQP5759)

	Michigan Department of Environmental Quality - Air Quality Division	FOR DEQ USE ONLY
DEQ	**GENERAL PERMIT TO INSTALL APPLICATION ADDITIONAL INFORMATION**	PERMIT NUMBER

The Additional Information form is used to indicate you are attaching supplemental information along with your permit application. The types of supplemental information you can attach include plant set up diagrams, local area maps, drawings, charts, equipment documentation, or other information you believe is important to expedite the processing of your permit application request.

NEW INSTALLATION OF A CRUSHING FACILITY

According to Rule 201 of the *Michigan Air Pollution Control Rules*, you must not start construction of a source of air pollution without first obtaining an approved Permit to Install. Submitting a General Permit to Install application for a new installation involves filling out each of the following permit forms and providing additional documentation to the AQD so they can begin processing your application.

- One General Information form (EQP5727)
- One or more Process Information forms (EQP5756)
- One or more Additional Information forms (EQP5759)

If you installed your crushing facility without a Permit to Install, you will need to address this deficiency by submitting a Permit to Install application. You will not be able to use the *General Permit to Install Application for Nonmetallic Mineral Crushing Facilities.*

Submitting Your Permit Application Package

Once the General Information form, pages 1 and 2 of the Process Information form, and one or more Additional Information forms are completed, you are ready to submit your application package to the AQD. Please make two copies of the entire General Permit to Install application, including any attachments or other documentation that will be included with the application, and mail the **original copy** of the entire application package directly to:

Michigan Department of Environmental Quality
Air Quality Division
Permit Section
P.O. Box 30260
Lansing, MI 48909

What Happens After I Submit My Permit Application?

The Permit Section of the AQD receives all General Permit to Install applications. Each application is date stamped and then screened to ensure the application form and its attachments have been filled out correctly, and that it contains all of the information that the AQD requires. This process ensures that a permit is administratively complete. If any information is missing or unclear, the application will be sent back with a letter explaining what information is needed for the application to be administratively complete.

The AQD assigns each permit a unique number. The permit number consists of two number fields separated by a dash (NNN-XX). The first number represents the chronological number of receipt. The second number represents the year of receipt. A permit identified as 100-07 was the 100th permit application received during 2007. If the permit application is for a modification, the AQD uses the original permit number and adds a letter suffix. For example, the first modification of Permit to Install 100-07 would be 100-07A.

The AQD also determines if the company has a state registration number (SRN). If not, one is assigned to the company. The permit review process concludes with approval and issuance of the company's permit.

How Long Will It Take to Process the Permit Application?

General Permit to Install applications can be processed in 30 days or less, depending on the work load of the AQD. You will know your permit is approved once the AQD mails a copy to your company with a letter acknowledging the AQD is aware your company intends to install and operate a crushing facility in accordance with the terms and conditions of the General Permit to Install. It is important to remember that the AQD is obligated to maintain and make available to the public, upon request, a copy of your General Permit to Install.

Complying with the Conditions of the General Permit to Install

The compliance requirements of the General Permit to Install are a combination of federal and state regulations. It is important that, upon receiving your permit, you become very familiar with all of the general and special conditions of the permit because it is your responsibility to operate the equipment according to the conditions or face possible fines and penalties. The following is a short description of each requirement and tips on how to comply. For a listing of all the general and special conditions, follow the instructions under "Available Resources" on page 1-21.

Controls

- Install water sprays or bag house on each crusher and screen and make sure they are fully operational.
- Review, maintain, and implement a fugitive dust plan as specified in Appendix A of the General Permit to Install.
- If using a baghouse collector to control particulate emissions, remove collected air contaminants and dispose of them to minimize the amount of dust released to the air.

Labeling

- Label all crushing equipment within 45 days of the crushing facility's start up. Equipment labels should be placed in an easy-to-see location on the equipment and should be the same as the Device IDs as indicated on the permit application's Process Information form (EQP5756).

Local Permitting Requirements

- The General Permit to Install does not absolve you from having to obtain other permits and approvals from other governmental agencies. For example, a *Soil Erosion and Sedimentation Control Permit* may be required before you begin preparing your site. See page 2-6 for more information.

Maintenance

- Ensure the proper operating efficiency of all water sprays for all crushers and screens associated with the process, as well as any baghouse dust collector or wet scrubber controlling emissions from crushers and/or screens.

Material Specifications

- Verify the material you are to crush is not contaminated with asbestos tailings or other asbestos waste material.
- Any material processing change at your plant (e.g., a move from crushing concrete to crushing asphalt) requires that you complete and submit a new Process Information Form (EQP5756) to the AQD.

Monitoring

- If you are using a wet scrubber to control dust, it must be equipped with a continuous monitoring device that measures the pressure drop across the scrubber and measures the liquid flow rate. These devices must be calibrated annually. If the change in pressure and liquid flow rate readings varies +/- 30 percent from the values recorded during the most recent initial performance test, you are required to submit a semiannual report to the AQD within 30 days of the second and fourth calendar quarters.

Notifications to the DEQ

- Notify the AQD of the start-up date of your crushing facility within 15 days after the start up begins.
- If moving from a wet operation (i.e., saturated materials from a wet screening or wet mining operation) to a dry operation (and vice-versa), you must notify the AQD within 30 days following this change in material handling and adhere to the respective opacity limits as stated in Table 1-1.
- Notifications pertaining to performance testing:
  - Fourteen days prior to the performance test, have the AQD district supervisor approve your test procedures.
  - Seven days prior to the performance test, notify the AQD district supervisor of the performance test date.
  - If the performance test is delayed, notify the AQD of the new test date at least three days before the test is scheduled to be performed.
- If there is a problem with any component of your crushing facility where excessive amounts of dust are generated for more than two hours, you are required to notify the AQD of this abnormal condition or equipment malfunction within two business days of discovery of the occurrence. Notification is made to the appropriate AQD district office (see Appendix E). If the AQD requires a written report, that report must be submitted within 10 days after the abnormal condition or equipment malfunction has been corrected or within 30 days of discovery, whichever is first.
- Notify the AQD of the start-up date of any replacement or additional equipment.

Opacity or Visible Emissions Standards

- The opacity of PM leaving the various pieces of equipment from your crushing facility shall not exceed the limits contained in Table 1-1.
- Maintain an opacity level of under 20 percent for all diesel-fueled stationary and portable on-site generators.

Equipment	Opacity Limit (%)
• Any equipment enclosed within a building	No visible emissions
• All crushers	15
• Screens	10
• Rock drills	5
• Conveyors/Transfer points	10
• Wash screens and all subsequent equipment downstream up to the next crusher or storage bin	No visible emissions
• All equipment controlled by a baghouse dust collector	7
• Wheel loaders and truck traffic	5
• Material storage piles	5
• Any other process equipment which is part of the nonmetallic mineral crushing facility or related processes	10

Table 1-1: Monitoring Equipment Opacity Limits During Operation

Performance Testing

- Within 60 days of achieving the maximum production rate but no later than 180 days after you initially start up the crusher and its associated equipment, conduct the required visible emission performance test (see Figure 1-2).
  - The performance test must be conducted by a person certified to evaluate visible emissions in accordance with U.S. EPA Reference Method 9. See page 1-13 for more information about this U.S. EPA test method.
  - Complete the performance test demonstrating that the crushing facility meets the opacity limits stated in Table 1-1, Figure 1-3, and in the Special Conditions portion of the General Permit to Install, Section 1.2.
  - Submit a copy of the completed opacity observations report to the AQD district office within 30 days of the test date (see Appendix E).
  - If a baghouse collector or wet scrubber is installed in lieu of a water spray, conduct a performance test to verify compliance with the PM emission rate of 0.05 grams per dry standard cubic meter of exhaust gas.

For more information regarding performance testing, see page 1-13

Posting

- Clearly posting or keeping on file a copy of the General Permit and associated application forms at the site.

Processing Limitation

- The General Permit to Install will not allow you to process more than 2 million tons of crushed material per year at one location. If you exceed this amount, you will need to apply for a Permit to Install.

Recordkeeping

- Monitor and keep daily and annual records of the amount of material processed for each job site. Records must be kept for at least five years and made available to the AQD upon request. The General Permit to Install will not allow you to process more than 2 million tons of crushed material per year at one location.
- Keep accurate and complete records of all replacements, reconstructions, and modifications made to equipment at your crushing facility. This includes documentation such as:
  - Purchase orders.

- Manufacturers' equipment manuals (equipment descriptions) and specifications.

- The maximum rated capacities of existing and replacement crushers, bucket elevators, bagging operations, or enclosed trucks.
  - The total surface areas of the top screen of existing and replacement screening operations.
  - The width of the existing and replacement conveyor belt. The rated capacities (in tons) of existing and replacement storage bins.
  - The date the equipment was installed, developed, and made operational.

Siting

- Your crushing facility must be at least 500 feet from any residential or commercial establishment, or place of public assembly and be clearly identified on a detailed site map.

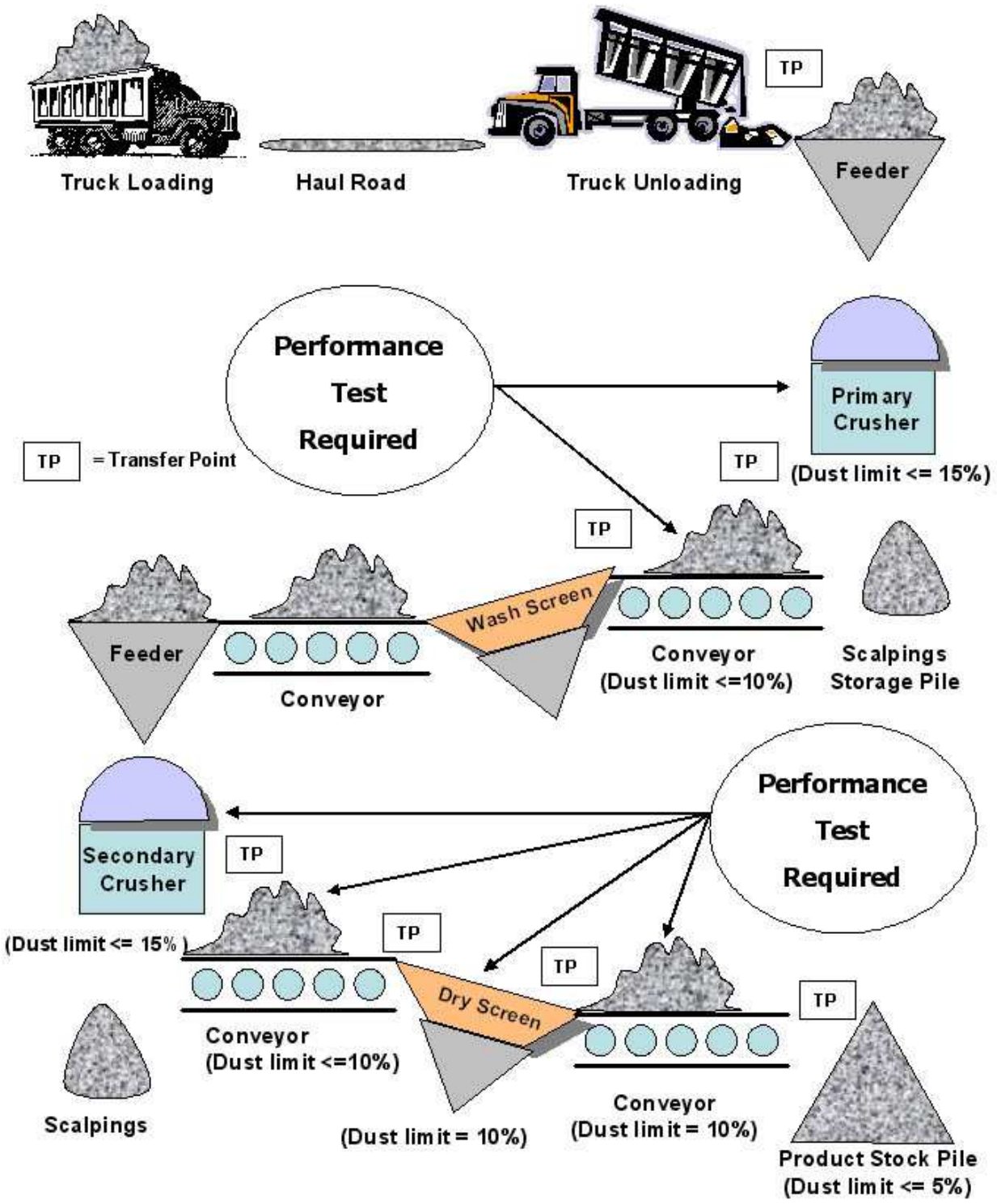


Figure 1-2: Determining What Equipment in a Fixed or Portable Crushing Facility Requires a Performance Test

Complying with the Dust or Opacity Limits in the Non-metallic Mineral Crushing General Air Quality Permit

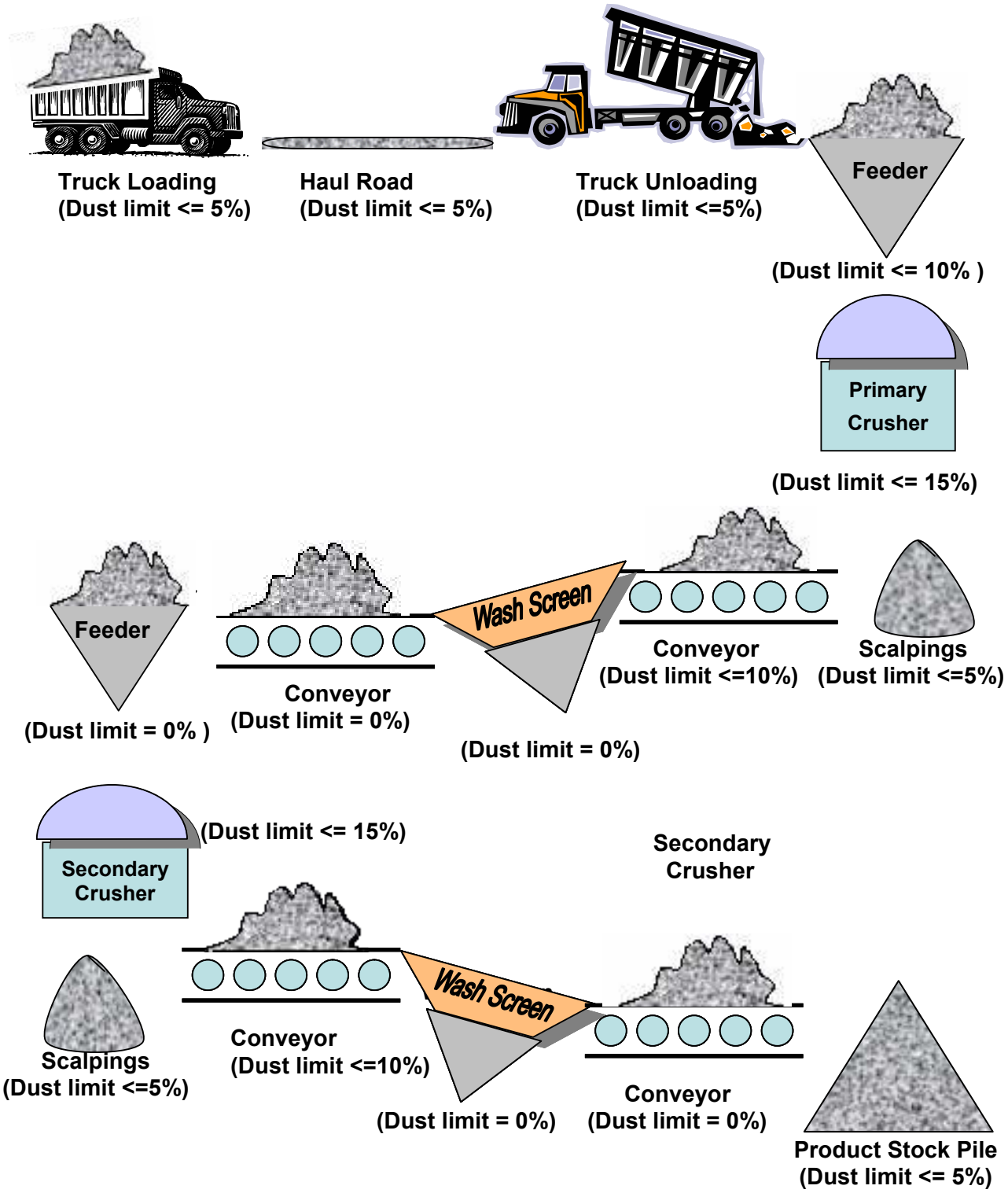


Figure 1-3: ***Complying with the Dust or Opacity Limits in the Nonmetallic Mineral Crushing General Air Permit***

The Initial Performance Test Requirements of Your General Permit to Install

An initial performance test is required in order to determine if the opacity of the dust or particulate matter emitted from the components of a crushing facility stay at or below the established limits. The following components of a crushing facility subject to NSPS Subpart OOO must undergo an initial performance test.

- Crushers
- Grinding mills
- Screens
- Bucket elevators
- Belt conveyors/transfer points
- Baghouse dust collectors
- Storage bins/piles
- Wheel loaders and truck loading stations

The following components of the crushing facility do not have to undergo an initial performance test:

- Wet screens and associated bucket elevators and belt conveyors that lead up to the next crusher, grinding mill, or storage bin.
- Screens and associated bucket elevators and belt conveyors that are downstream of a wet mining operation and lead up to the first crusher, grinding mill, or storage bin.

EQUIPMENT RENTALS

If you are renting any type of crusher and associated equipment, you must verify that an initial performance test has been performed on that equipment. If not, as the operator of the equipment, you will be responsible for conducting an initial performance test to verify opacity compliance.

The initial performance test requires the use of an established U.S. EPA protocol or method in order to accurately complete the test and comply with the General Permit to Install requirements. The most common protocol or method used today for performance testing is U.S. EPA Test Method 9, also known as the "Visible Determination of Opacity of Emissions from Stationary Sources." The initial performance test must be completed by a visible emissions reader who is certified in the U.S. EPA Test Method 9 performance test method. During a performance test, the certified visible emissions reader records the level of dust that comes off various parts of the crushing facility. The levels of dust are measured as percentages of opacity. The initial performance test is completed over a specified period of time, and the visible emissions reader determines whether the crusher's components emit dust within the acceptable opacity limits (as specified in Table 1-1 on page 1-9).

Where Do I Find a Certified U.S. EPA Test Method 9 Visible Emissions Reader?

As the owner/operator of a crushing facility, you have two options when it comes to conducting the initial performance test:

1. Hire an environmental consultant who is certified to conduct the U.S. EPA Test Method 9 visible emissions test.
2. Have someone from your company become certified.

Most environmental consultants have at least one person on staff who is certified to evaluate visible emissions in accordance with U.S. EPA Test Method 9. These consultants are often found in your local telephone directory under "environmental" or "air quality" consultant. The DEQ's Environmental Assistance Program also publishes a list of statewide air quality consultants in *The Michigan Clean Air Consultant Directory*. This directory is available on the DEQ web site at **www.michigan.gov/deqair**. Select "Clean Air Assistance Program" from the left menu bar. In the middle of the page under "Information," select "Environmental Consultant Assistance."

If you chose to have an employee from your company certified in the U.S. EPA Test Method 9 protocol, you may send that employee to Michigan's smoke school. Twice a year, the AQD partners with a private training company to certify opacity readers in the state. The smoke school is generally offered spring (April) and fall (October) of each year in both the Detroit and Grand Rapids metro areas. Information about registering for the bi-annual smoke school can be found on the AQD Web site at **www.michigan.gov/deqair**.

What are the Benefits of Having a Certified U.S. EPA Test Method 9 Visible Emissions Reader on Staff?

The benefits are two-fold:

1. The employee who is certified in a test protocol can accurately document the opacity levels of your crushing equipment as it operates at each job site. This provides the AQD with strong documentation of your operating opacity levels and demonstrates your commitment to be a good environmental steward.

2. The up-front costs associated with training an employee may be the most economical option for your company if your company has an ongoing replacement schedule for its equipment as new, modified, or reconstructed equipment may need to have additional performance tests conducted.

Maintaining Certification

Those who are certified in U.S. EPA Test Method 9 protocol must renew and maintain their certifications every six months.

Conducting Visible Emission Observations

When using U.S. EPA Test Method 9 to conduct an initial performance test for each component of a crushing facility, the observer must:

- Be a minimum of 15 feet away from the dust source.
- Select an observation position that minimizes the interference from other dust sources at the job site (i.e., road dust).
- Where a water spray mist is used, take readings at the point in a crushing process where the mist is no longer visible in the observation.

U.S. EPA Test Method 9 requires that readings be taken every 15 seconds, averaging 24 consecutive readings over a 6-minute averaging period. During the observation for dust generation of the various components of a crushing facility, a certified U.S. EPA Test Method 9 reader can reduce the observation time from 3 hours to 1 hour (ten, 6-minute averages) in the following situations:

- Where baghouses are attached to an individually enclosed storage bin.
- If no individual opacity readings are greater than 10 percent for any crusher component, and there are no more than three recorded opacity readings of 10 percent in a one-hour period.
- If no individual opacity readings are greater than 15 percent for a crusher without a capture system, and there are no more than three recorded opacity readings of 15 percent in a one-hour period.

U.S. EPA Test Method 22 is used to determine the level of dust that might escape a building from equipment that is housed within. The performance test protocol for this method requires that the test last 75 minutes and that each side of the building and roof is observed for escaping dust over a period of 15 minutes.

RELOCATING YOUR CRUSHING FACILITY

Once you have been issued a General Permit to Install for your first location of operation there may be need to move to a new location to continue operations at a new job site. A relocation is simply picking up the crushing facility and moving it to a new job site. In order to continue to operate the crusher, a *Relocation Notice Form (EQP5757)* must be filled out and filed with the AQD.

To relocate your equipment, your company must first be in compliance with all of the applicable requirements of the General Permit to Install (i.e., no outstanding or unresolved violations). Additionally, the General Permit to Install requires you to keep records of how much material is crushed at any one site in order not to exceed the 2 million tons per-year per-site condition in the General Permit.

Filling out and submitting a *Relocation Notice Form (EQP5757)* is important because no two job sites are the same. There may be different products crushed, the crusher may be located in a different jurisdiction, and the crushing facility may impact the surrounding people or the environment differently. It is also important to remember that the General Permit to Install's conditions for operation continue to be applicable at your new job site. If you are changing the type of equipment to be used in your next crushing facility, you will need to modify your General Permit to Install by submitting a new *Process Information Form (EQP5756)* to identify existing and new equipment. This is especially important when utilizing rented or leased equipment. By filling out and filing the *Relocation Notice Form* and the *Process Information Form*, you are letting the AQD know your crushing facility will be moving to a different location and whether there will be any significant change in your process since your last job.

The Relocation Notice Form (EQP 5757)

	Michigan Department of Environmental Quality - Air Quality Division	FOR DEQ USE ONLY
DEQ	**GENERAL PERMIT TO INSTALL APPLICATION RELOCATION NOTICE**	PERMIT NUMBER

Submitting the Relocation Notice Form

Whether you rent or own the crushing equipment, a *Relocation Notice Form* must be filed at least 10 days prior to the scheduled relocation to your next job site. As an alternative, you can send a fax to the AQD district office at least 2 days prior to the relocation if you previously submitted a completed Relocation Notice well in advance of the relocation such as at the beginning of the year, a month in advance, etc. Figure 1-4 provides a list of information which should be included in the notification sent to the AQD district office for the new job site location. For help in filling out the *Relocation Notice Form*, see Appendix B of this guide.

RELOCATION NOTICE SUBMITTAL CHECKLIST

Include:

- ☐ A completed, original copy of the **Relocation Notice** form (EQP5757).
- ☐ A copy of the original General Permit application forms. Include copies of the General Information form (EQP5727), a copy of the original Process Information form (EQP 5756), and a copy of the original Additional Information form(s) (EQP 5759). If the plant has been modified since the original submittal, attach copies of all Process Information forms (EQP5756) submitted for each modification.
- ☐ A site plan for the proposed new location, clearly identifying all residential or commercial establishments and places of public assembly within 1,000 feet of the proposed plant site. Establishments and places of public assembly cannot be within 500 feet of the crusher.

Attach a copy of any new information for:

- ☐ Plant/building layouts or changes to process flow (i.e. plat maps, diagrams, etc.)
- ☐ Documentation from the equipment operator's manual or specification that states maximum rated capacity.
- ☐ Design parameters or descriptions of equipment.
- ☐ Mail original copies of the paperwork with the AQD district office that covers the area of your next job site **and** the AQD Permit Section in Lansing, Michigan. See Appendix E for the district office mailing addresses.

Figure 1-4: Relocation Checklist

MAKING CHANGES TO YOUR CRUSHING FACILITY

Changes to your facility set up may require some additional actions on your part to stay in compliance with the General Permit to Install. In order to understand what steps need to be taken by your company, it is important that you become familiar with certain key terms and definitions.

Definitions

- **Equipment:** Any crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck, or railcar loading station.
  - **Existing Equipment:** Any equipment that was manufactured prior to August 31, 1983, and was never modified or reconstructed on or after that date.
  - **New Equipment:** Any equipment that was manufactured, modified, or reconstructed on or after August 31, 1983.

- **Production Line:** All equipment which is directly connected or connected together by a conveying system.

- **Reconstruction** means the replacement of components of a piece of equipment to such an extent that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost required to construct a comparable, entirely new piece of equipment. The cost of replacement of surfaces which come in direct contact with the nonmetallic mineral (i.e., crushing surfaces, screen meshes, bars and plates, conveyor belts, and elevator buckets) should not be considered in calculating either the fixed capital cost of the new components or the fixed capital cost required to construct a comparable new piece of equipment. The AQD considers reconstructed equipment to be new equipment.

- **Size** means:
  - Maximum rated capacity in tons per hour for a crusher, grinding mill, bucket elevator, bagging operation, enclosed truck, or railcar loading station.
  - Total surface area of the top screen for a screening operation.
  - Width for a conveyor belt.
  - Rated capacity in tons for a storage bin.

Equipment Changes to Crushing Operations

For all equipment changes, the following actions are required before operation begins:

- Ten days before the equipment is installed, submit a new *Process Information Form (EQP5756)* for all equipment to be added to production.

- Send copies to both the AQD district office and the AQD Permit Section.

- Notify the AQD district Office within 15 days of the equipment's actual date of startup.

Actions to be taken during operations after equipment changes are summarized in Table 1-2.

<table>
<tr><th rowspan="2">Equipment Change</th><th colspan="3">Required Actions During Operations</th></tr>
<tr><th>Testing</th><th>Monitoring</th><th>Recordkeeping</th></tr>
<tr><td>Replacement of equipment with new equipment that is LARGER in size.</td><td rowspan="3">Conduct a performance test within 60-180 days after equipment startup.

14 days prior to test, have AQD District Supervisor approve test procedures.

7 days prior to test, notify AQD District Supervisor of test date.

If delayed, notify AQD District Supervisor of the delay at least 3 days before test is scheduled.

Submit a copy of completed opacity observations report to the AQD within 30 days of the test date. Submit reports to your AQD district office (see Appendix E.)</td><td rowspan="4">Monitor the opacity of all equipment to ensure it is within the acceptable levels specified in Table 1-1 of this document.</td><td rowspan="4">Keep accurate records of the amount of material processed and the date of manufacture, installation date, and description of each piece of equipment.</td></tr>
<tr><td>Addition of new equipment.</td></tr>
<tr><td>Equipment reconstruction</td></tr>
<tr><td>Replace equipment on the production line (on a one-for-one basis) with new equipment that is EQUAL or SMALLER in size.</td><td>Since this is a one-for-one replacement, no performance testing is required until all equipment in the production line is replaced. At that point, testing is required of all components within the production line.</td></tr>
<tr><td>Replace equipment on production line (on a one-for-one basis) with existing equipment.</td><td colspan="3" rowspan="2">The equipment is not subject to the NSPS Subpart OOO standards; however, you still need to submit new a Process Information Form(s) (EQP5756)</td></tr>
<tr><td>Add existing equipment.</td></tr>
</table>

Table 1-2 Required Actions During Operations as a Result of Changes to a Crushing Facility

Non-Equipment Changes to Crushing Operations

If you are not making equipment changes but are increasing your production rates or hours of operation, please be aware of the following:

- If you increase your production to a level greater then 2 million tons per year at a single site, you are no longer eligible for the General Permit to Install. Apply for a Permit to Install.
- You can increase the hours of operation as long as the total amount processed on site does not exceed the 2 million tons per year limit as allowed under your General Permit to Install.

THE MICHIGAN AIR EMISSION REPORTING SYSTEM (MAERS)

The federal Clean Air Act requires each state to maintain an inventory of air pollution emissions for certain companies and update this inventory every year. The AQD gathers this information and compiles it in the Michigan Air Emissions Reporting System (MAERS). MAERS contains emission data for commercial, industrial, and governmental sources of air pollution in Michigan. This information is submitted to the U.S. EPA and added to the national data bank to:

- Track air pollution trends.
- Determine the effectiveness of current air pollution control programs in each state.
- Serve as a basis for future year projections of air quality.
- Track a company's compliance and provide information for permit review.
- Calculate the emissions portion of the air quality fee.

Companies are sent a MAERS reporting package in mid-January. The completed MAERS forms must be submitted to the AQD by March 15 of each year. You can access the MAERS web site at **www.michigan.gov/deqair** and click on "Emissions" and then "Emissions Reporting" from the left-hand menu. The AQD also offers both a workbook and a series of annual workshops for first-time submitters of the MAERS report. For help in completing the MAERS forms or for more information on this reporting program, call the Environmental Assistance Program at (800) 662-9278. See Appendix F for guidance on how to calculate emissions from your crushing facility.

Air Quality Fees

Approximately 2,000 Michigan companies are required to pay air quality fees to the AQD each year. The following formula is used to calculate the fee for each fee-subject company:

Annual Fee = Facility Charge + Emissions Charge

The facility charge used in the fee formula is based on the classification or category of a company. There are three different category schedules for fees: Category I, II, and III. Facilities that are major under Title I of the Clean Air Act (have the potential to emit 100 tons or more per year of any pollutant) are classified as Category I facilities. Companies that are major under Title III of the Clean Air Act (have the potential to emit 10 tons of any one hazardous air pollutant or 25 tons of any combination of hazardous air pollutants) are classified as Category II facilities. Category II also includes any company with operations subject to a federal NSPS regulation such as nonmetallic mineral processing facilities. The current facility charge for Category II facilities is $1,795.

In addition to the category fee, there is also an emissions charge. The emissions charge is currently $45.25 per ton of billable emissions. Billable emissions are actual emissions of fee-subject air contaminants (e.g., particulate matter). Any air contaminant regulated under federal NSPS or Title III (Hazardous Air Pollutants) of the Clean Air Act is subject to the emissions charge.

Example of a Fee Calculation for a Typical Crushing Operation Subject to NSPS

ABC Aggregates of southeast Michigan is a Category II facility that has a crusher capacity of 155 tons per hour and processed 600 tons of material in 2007.

PM_{10} /Year = (Tons processed/ Year) x (Emission factor)* x (1 Ton/ 2000 Pounds) x (80% Control Efficiency)**

PM_{10} /Year = [600,000 Tons of Product/Year] x [0.05 Pound PM_{10}/Ton Product] x [0.0005 Ton/Pound] x [(100 - 80) / 100]

PM_{10}/Year = 3 tons

** This emission factor comes from the U.S. EPA's AP-42 for plant-wide processes. The source classification code is 3-05-025-01 for a typical plant-wide sand and gravel operation.*

***Assume an 80% control efficiency for properly installed and operating water sprays.*

Billable Emissions under MAERS are rounded to the nearest whole number.

Emission Charge: 3 x $45.25/ton	$135.75
Facility Charge:	+ $1,795.00
TOTAL ANNUAL AIR QUALITY FEE	**= $1,930.75**

Who is Responsible for MAERS Reporting and Fees?

The entity issued a Permit to Install for the equipment is responsible for reporting emissions generated by this equipment and any fees associated with those emissions.

WHY SHOULD I COMPLY?

When air pollution interferes with the comfortable enjoyment of the community's life and property, it is usually reported directly to the AQD district offices. When a complaint is lodged to the AQD, an air quality inspector is sent out to the site where the complaint is believed to originate. If an inspector is sent to your job site, he/she may talk with you about the problem in order to substantiate the merits of the complaint. The most common violations cited in regard to crushing facilities are:

- Not having an air quality permit.
- Not completing the initial performance test on the equipment.
- Making a change to the equipment and not updating the AQD on the change.
- Excessive dust generation with no ongoing monitoring and implementation of a fugitive dust plan.
- Failure to submit a complete Relocation Notice on time.
- Failure to keep records required by the permit.
- Failure to post or have a copy of the permit at the site.

These violations often occur because an owner/operator of a crushing facility is not aware of the compliance requirements (i.e., monitoring opacity levels, implementing a fugitive dust plan, etc.).

The DEQ can issue a Violation Notice (VN) if you are violating any of the air pollution control requirements. If the violation is not corrected, the inspector can escalate it for further enforcement action. The following are some typical actions companies take in order to achieve compliance after a VN has been issued:

- Establish a tree berm.
- Install a truck wheel wash system.
- Keep records of water usage.
- Pave access roads to a job site.
- Submittal of records to demonstrate dust minimization efforts.
- Develop a site or company-specific fugitive dust plan.
- Install additional water sprays at transfer points along the process.

The ultimate goal of AQD inspectors is to help you achieve and maintain compliance with the air quality regulations. This involves working with you and your company to address the reasons behind any issued VN.

AVAILABLE RESOURCES

There are many resources available to help you stay in compliance with the air regulations mentioned in this Part. The AQD has a Web page containing the General Permit to Install application forms, instructions, and listing of general and special conditions. Go to **www.michigan.gov/deqpermits.** Select"*Air Quality Permit to Install,"* then *"General Permits – Applications Forms and Instructions"* and then scroll down to "*General Permit to Install Application for Nonmetallic Mineral Crushing Facilities."*

Call the DEQ's Environmental Assistance Program at (800) 662-9278 for assistance on any environmental-related question, including those related to air quality.

The AQD district office staff are available for consultation and advice. Staff from these offices conduct the inspections of your facilities. See Appendix E for a listing of the district offices.

The Environmental Assistance Program maintains a directory of environmental consultants. Go to **www.michigan.gov/deqair**, select “Clean Air Assistance” and “Environmental Consultant Assistance.”

PART 2

WATER QUALITY AND WATER WITHDRAWAL REQUIREMENTS

When properly operated, a crushing facility is a dry operation; and water is only used as a mist for dust suppression. This mist is generally evaporated into the air surrounding the equipment and absorbed by the material before it is conveyed to the screening operation. If there is no release (discharge) from this process to the ground or a water body, water discharge permits are not needed by your facility for this specific activity. However, there are other activities closely associated with the crushing facility that may require wastewater discharge permits. The wastewater discharge permit program may apply to the wastewater generated from:

- Wash screen operations.
- Vehicle wash stations such as truck wheel washes.
- Mining activities where groundwater and storm water are dewatered.
- Storm water that comes in contact with industrial materials at the site.

In addition, water withdrawal permits and reporting requirements may apply to mining operations.

An Overview of the Department of Environmental Quality's (DEQ's) Water Quality Permit Programs

There are three water quality operational permit programs that may apply to a crushing facility:

- The **Groundwater Discharge Permit Program**.
- The **National Pollutant Discharge Elimination System (NPDES) Permit Program**.
- The **Industrial Storm Water Program** (which is included in the NPDES Program).

Each program is administered through the Water Bureau and is designed to protect against wastewater pollutants getting into the groundwater or surface water (such as rivers, lakes, and streams) of the state.

To determine which of these water programs applies to your crushing facility, you must first know the discharge destination of the wastewaters that are generated at your site. If all of the waste and/or dewatering water will enter the ground or groundwater, the Groundwater Discharge Permit Program applies. If the wastewater and/or dewatering water has the possibility of entering a surface water (rivers, lakes, and streams) of the state, the NPDES Permit programs apply.

Finally, a construction storm water NPDES Permit-by-Rule would likely apply to the job site during the initial development phase (to control run-off of soil and sediment into water bodies and neighboring properties.)

What permit is required for ponds?

For water quality permitting purposes, if a discharge is made into a pond from the mining of sand and gravel and the pond does not have an outlet to a surface water body, a groundwater discharge permit would likely be required.

Each of these wastewater discharge permit programs protects the waters of the state pursuant to Section 3109 of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), so the state's water can be used for activities such as irrigation; recreation; industry; drinking; and the health of plants, animals, and people. For example, dewatering groundwater often contains high levels of total dissolved solids (it may look like milk) or hydrogen sulfide (it may have a significant "rotten egg" odor). In some cases, discharging water with these characteristics can severely impact the uses of the state's water.

The Groundwater Discharge Permit Program

The Groundwater Discharge Permit Program applies to sites where the wastewater or wash water is directed to and discharged back into the ground or, as mentioned earlier, a pond with no surface water outlet that may have been created as a result of the sand and/or gravel mining activity. The discharge authorizations in the Groundwater Discharge Permit Program Rules (Part 22 Rules, Groundwater Quality, R 323.2201 et seq.) are established in order of relative threat to the environment, and the program's annual fees are set in the same manner. There is an annual fee for groundwater permit coverage. The annual fee can be $200, $1,500 or $3,650, depending on the type of permit appropriate for your company.

Certain activities are exempt from having to obtain a permit. These activities are listed in Michigan Rule 323.2210(a-x) while other types of discharges require prior authorization and are issued under the following rules:

Rule **323.2210(y)**	(site specific discharge)
Rule **323.2211**	(notification only)
Rule **323.2213**	(notification with certification)
Rule **323.2215**	(general permit)
Rule **323.2216**	(permit with specific treatment system requirements)
Rule **323.2218**	(full permit)

Exemptions to the Groundwater Discharge Permit Program (Rule 2210)

Certain discharges to the ground are exempt from needing prior authorization from the DEQ's Water Bureau. Examples of exempt discharges to the ground include controlled application of certain dust suppressants, domestic equivalent uses, and development water from groundwater monitoring wells. A more complete list of these discharges can be found in the groundwater discharge authorization application. This application is available online at **www.michigan.gov/deqwater.** Select "Groundwater Discharge" from the left-hand menu, and then under "Permits" in the middle of the page, select "Groundwater Permit Application Forms and Technical Information."

While the law and rules provide that a person does not need a permit to discharge a material that is exempt, the law also does not waive liability for causing injury (i.e., contamination) to the waters of the state. A discharge cannot cause the waters of the state to lose their usefulness for drinking, agriculture, recreation, industry, or other protected uses. Even though these activities do not require a permit, there are certain conditions that must be met according to the law; and the following activities are prohibited:

- Causing physical damage to neighboring properties or creating nuisance conditions (i.e., runoff onto adjacent properties, ponding or flooding of adjacent properties, odors, etc.).
- Creating a site of environmental contamination which would need to be cleaned up.

Discharges to the ground falling into this category do not have to submit a permit application form. Yet other discharges to the ground or groundwater, which are not specifically listed as exempt activities under Rule 2210(a-x) or elsewhere in the rules, may be authorized on a case-by-case basis by the DEQ's Water Bureau. If your company demonstrates the discharge will not have a significant potential to be injurious based on volume or content, the Water Bureau may grant an authorization to discharge to the ground under Rule 2210(y). To request this authorization, you must submit an application form that includes a narrative description justifying the request for the Rule 2210(y) authorization with the permit application form.

The Groundwater Discharge General Permit

An authorization for certain classes of discharges can be granted by the Water Bureau under a general permit. Often this is used for operations where wash water is associated with gravel, sand, limestone, or dolomite mining that contains no additives.

To apply for the general permit, submit a *Groundwater Discharge Permit Application* to the Water Bureau with information that characterizes the discharge. The specific General Permit for sand and gravel wash water can be found at **www.michigan.gov/deqwater**. Select "Groundwater Discharge" from the left-hand menu, and then under "Permits" in the middle of the page select "Groundwater Permit Application Forms and Technical Information." From here, select **Rule 2215-05-4 Gravel Mining** in the middle of the page under "General Permits". A company is authorized to discharge to the ground or to groundwater when it receives a *Certificate of Coverage* (COC) from the Water Bureau that verifies the discharge is authorized under this rule. The annual permit fee for this authorization is $1,500.

The *Groundwater Discharge Permit Application* lists in detail the types of discharges that require permits. The application packet is quite lengthy because it contains a great deal of guidance on how to apply for a permit and who needs a permit. An applicant actually fills out and submits only a small portion of the application packet. Pages 14-17 of the application require general information, such as owner/company name, address, site maps, etc. Page 17 contains the required signature block for an authorized official to sign off on the permit application for the company. There are two additional pages which must be completed by facility's applying for this permit. Each is specific to the type of discharge authorization for which the company is applying. There is an index on page 18 which directs you to the appropriate additional pages that must be included in the application. As an applicant, you must also submit supporting documentation, which in some cases consists only of location maps and a water use diagram.

An application for a groundwater discharge authorization can be accessed via the Water Bureau's Web site at **www.michigan.gov/deqwater**. Select "Ground Water Discharge" from the left-hand menu, and then look under "Permits" in the middle of the page. You may also call the Water Bureau Lansing office, (517) 373-8148; or your local Water Bureau district office for an application. Instructions to apply for discharge permit coverage are included with the authorization information.

Surface Water Discharges And The National Pollution Discharge Elimination System (NPDES) Permit

NPDES Individual Permits

An individual NPDES permit is site specific. Companies engaged in limestone, sand/silica mining, and other associated processes with a direct discharge into surface waters of the state often need permits from this program. The limitations and requirements in an individual permit are based on the permitee's discharge type, the amount of discharge, company operations (if applicable), and the receiving water body's characteristics. Applications for discharge permits are available from the Water Bureau Web site; the Water Bureau Lansing Office, (517) 241-1300; or your local Water Bureau district office. You can get help filling out your application by contacting any of these offices. Additional information is also available on the Web at **www.michigan.gov/deqwater**. Select "Surface Water" then "NPDES Permits." It is suggested that those needing this type of permit seek the assistance of an environmental consultant for assistance in completing the NPDES individual permit application.

NPDES General Permits

A general permit is available to permitees with certain similar operations and/or types of discharges. Coverage under an NPDES general permit will only be granted when the general permit provides the needed level of protection for the water receiving the discharge. Wastewater discharges at certain locations may require an individual permit based upon site-specific concerns. Companies that are eligible for coverage under a general permit receive a Certificate of Coverage (COC) from the Water Bureau usually within four to six weeks of submitting a completed application. Two of the general permits most relevant to crushing facilities include Storm Water from Industrial Activities (discussed below) and Sand and Gravel Mining (for process wastewater and pit dewatering water).

Storm Water from Industrial Activities General Permit

If a site has a site-specific individual NPDES permit, industrial storm water permit conditions and requirements will be included within the individual permit (general storm water permit coverage will not be necessary).

Companies with coverage under a general NPDES permit for sand and gravel mining may need to apply for coverage under a general storm water permit if storm water is separate from other waters at the site (such as dewatering or other wastewater). If all of the storm water at the site is intermingled with the dewatering or process wastewater, the storm water is no longer considered storm water and should be covered accordingly (e.g., by an individual NPDES permit or a general NPDES permit for sand and gravel mining). Industrial storm water permit coverage may be necessary for companies that:

- Do not have other wastewater requiring an NPDES permit at the site, and the storm water associated with the facility's industrial activity is discharged to a separate storm sewer system or to nearby surface waters of the state (e.g., river, lake, stream); or
- Have wastewater or dewatering water which requires other NPDES coverage, but the storm water is separated from the other wastewaters that are directed to surface waters of the state.

WATER QUALITY REQUIREMENTS

The industrial storm water program applies to industrial sectors identified in the federal storm water regulations. Standard Industrial Classification (SIC) codes, prepared by the federal Office of Management and Budget or narrative descriptions, are used to identify regulated companies. SIC codes describe the primary nature of business in which a facility is engaged. The following industrial categories applicable to sand and gravel mining are regulated:

- Transportation (SIC 40 – 45, including SIC 41)
- Mining (SIC 10 – 14)

It is likely that crushing facilities fall under one of these SIC codes. You can find your four-digit SIC code, for comparison, in your corporate tax returns under Schedule K listed as either "Business Activity Code" or "Manufacturers Identity Code." You may also call Michigan's Unemployment Insurance Agency at 800-638-3994 and provide your federal identification number to get your official SIC code.

Next, you must identify areas where storm water could come into contact with industrial materials or activities at your site. These are areas where you store or transport materials related to your industrial activity outside without some type of permanent covering such as a storage yard (final products manufactured for use outside are exempt). Upon contact with these areas, the quality of the storm water that runs off from these materials could be altered. The term "exposure" is used in the storm water program to indicate the potential for contact between storm water and your industrial materials. This includes outside storage of raw materials, intermediate products, waste materials, and material handling activities associated with your industrial activity.

If your company falls under one of the regulated SIC codes and you have a discharge of storm water to surface waters of the state from areas associated with your industrial activity, you will likely need a storm water permit. There is a no-exposure exemption for the storm water permit program, but most crushing and associated operations are conducted outside so the no-exposure exemption will probably not apply. However, for guidance on the "no-exposure exemption" go to the industrial storm water program Web site at **www.michigan.gov/deqwater**. Select "Surface Water" from the left-hand menu, then "Storm Water" from the drop-down menu. Then select "Industrial Program" under "Information" in the middle of the page and pick the document entitled "No Exposure Certification Guidance."

To begin the process to get a COC, a document that demonstrates coverage under the *Storm Water from Industrial Activity General Permit*, you first have to submit a *Notice of Intent* (NOI) (EQP 4664). The NOI is a permit application that must be submitted to the local Water Bureau district office (see Appendix E). If your NOI is appropriate and complete, then a COC will be issued by the Water Bureau. Once the COC is issued, your company can begin its operation. There is an annual storm water permit fee of $260 that is assessed at the end of each calendar year. Invoices usually are mailed in February of the following year. It is important to note that before a COC is granted, you must have:

- A certified operator who has supervision over the control structures at the company.
- Eliminated any unauthorized non-storm water discharges to the storm sewer system and waters of the state.
- A Storm Water Pollution Prevention Plan (SWPPP) developed and implemented (for existing facilities), and new facilities must have a SWPPP developed and ready for implementation.

How do you know if you need an Industrial Storm Water General Permit?

Answer: If you can answer yes to the following questions, you will need general permit coverage:

- Does the SIC code for my company fall under the categories that are regulated?
- Are there any areas on my job site where storm water is exposed to my industrial activities (i.e., storage or process equipment) and then discharged into surface waters of the state (e.g., any storm water that is not co-mingled with another wastewater stream, dewatering water, or otherwise covered under a different NPDES permit)?

Storm Water Construction Permit or Permit-By-Rule

A construction storm water NPDES Permit-by-Rule would in all probability apply to your site at the initial development phase or ground breaking. A NPDES Permit-by-Rule is used to control run-off of soil and sediment into water bodies and neighboring properties if there is storm water run off that enters the surface waters of the state. The permit often controls storm water run off from the site in the initial development period. This usually lasts until the storm water co-mingles with other wastewaters such as the dewatering water. Discharges after this are then covered by an operational permit.

At this time, construction sites over one acre are covered by a “permit-by-rule.” “Permit-by-rule” means that permit requirements are stated in a formally promulgated administrative rule by the Water Bureau. A facility requiring coverage under a “permit-by-rule” must abide by the provisions written in the rule. The rule requires that an application be submitted for construction sites over five acres; construction sites between one and five acres have no application requirement.

Owners of construction sites of five acres or more must submit a form called a *Notice of Coverage* (NOC) to apply for NPDES permit coverage. In order to submit an NOC, the applicant must first obtain a Soil Erosion and Sedimentation Control (SESC) permit. The SESC programs are administered by local jurisdictions and counties in your area. SESC agencies can be identified online at **www.deq.state.mi.us/sesca** or by calling the Environmental Assistance Program (EAP) at 800-662-9278. Authorization to discharge water from your job site is automatically granted upon submittal of a completed NOC and paying a one-time fee of $400 to the Water Bureau in Lansing.

Construction sites that disturb one to five acres are provided automatic coverage under the NPDES Storm Water Construction Permit (Permit-by-Rule) as long as the site is first covered under a local or county Soil Erosion and Sedimentation Control (SESC) Program. Even though there is no application requirement or permit fee for one to five acre sites, construction site owners/operators must comply with the Permit-by-Rule requirements. Sites disturbing less than one acre could be required to have Permit-by Rule coverage if the site is part of a larger common plan of site development or if it has the potential for adverse impacts on water quality.

The Permit-by-Rule requires an owner/operator of a construction site to provide for weekly inspections of the soil erosion and sedimentation control practices identified in their SESC Permit. In addition, the site should be inspected within 24 hours of a major rain event that causes run off from the site. These inspections should be conducted by, and recorded in, inspection logs by a Certified Storm Water Operator. The certification materials and testing to become a Storm Water Certified Operator are available in each of the Water Bureau district offices.

For more information on the Permit-by-Rule, including application materials, certified operator exam training materials and exam schedules, or storm water program contact information, contact any Water Bureau district office or go to **www.michigan.gov/deqwater** (select "Surface Water" then "Storm Water").

Large Quantity Water Withdrawal Permits

Mining companies that have a new or increased water withdrawal capacity of over 100,000 gallons per day must register with the DEQ prior to making the withdrawal. Withdrawals greater than two million gallons per day capacity from an inland source, or five million gallons per day capacity from a Great Lakes source, must also obtain a new large quantity water withdrawal permit from the DEQ. The company can determine whether these withdrawal thresholds are met based upon the discharge flow volumes contained in the company's wastewater discharge authorization (i.e., NPDES or groundwater discharge permit). Due to the nature of the industry, this program will most likely apply to the limestone mining industry.

This new program was passed into law to prohibit a new or increased large quantity withdrawal from causing an "adverse resource impact." An adverse resource impact is defined as impairing the lake or stream's ability to support its characteristic fish population. The Michigan Department of Natural Resources (DNR) can determine the characteristic fish population of a stream by comparing the amount of groundwater contributing to stream flow to the size of the stream's watershed. Taking too much water from a stream will change the flow depth, velocity, and temperature of the stream and hence the types of fish expected to be found there. Until February 28, 2008, this program prohibited an adverse resource impact only to trout streams. Since that date, it prohibits an adverse resource impact to all streams and lakes.

In addition, a person making a large quantity withdrawal must report the volume of that withdrawal to the DEQ by April 1 of each year on a form provided by the DEQ. There is an annual $200 reporting fee, which is slated to be reduced to $100 in two years. Fees are used to help defray the cost of administering the program. A person who withdraws less than 1.5 million gallons within the year is exempt from the fee and from reporting water usage in terms of volumetric measures. However, these persons will still need to file a *water use report* to indicate other information (e.g., location, baseline capacity, and intended use).

For a permit application or to learn more about this program, please call the Water Bureau, Drinking Water and Environmental Health Section, at (517) 241-1355 or go to **www.michigan.gov/deqwateruse**.

PART 3

WASTE MANAGEMENT REQUIREMENTS

The waste requirements that a crushing facility must follow depend on what kind and how much waste is generated from the facility's activities. The different types of waste include hazardous waste, liquid industrial waste, and solid waste. It is sometimes called "characterizing" a waste when deciding what kind of waste you have. Once the waste is characterized, there are respective management requirements to help employees, waste haulers, and disposal companies easily identify the types of wastes they are handling and to properly dispose of or recycle it. This is described in more detail later. Less waste generated results in fewer regulations to deal with. The number of regulations increases as more hazardous waste is generated.

Several state agencies oversee the following regulations including the Michigan Department of Environmental Quality's (DEQ) Waste and Hazardous Materials Division (WHMD), Air Quality Division (AQD), and Water Bureau; the Michigan Department of Labor and Economic Growth's Michigan Occupational, Safety and Health Act Program (MIOSHA); and the Michigan State Police Motor Carrier Division.

By using the steps outlined below, you can determine which of these common state and federal laws and rules apply to the wastes at your crushing facility and then properly manage it.

An Overview of the DEQ's Waste and Hazardous Materials Programs

First, it is important to understand that different types of waste have different regulations. The following is a short description of each.

- **Hazardous waste** – Part 111 of Act 451. Includes characteristic waste (ignitable, corrosive, reactive, and toxic) or listed waste which includes chemicals and processes that create the waste; overseen by WHMD.
- **Universal waste** – Specified wastes (e.g., electric lamps) that a facility may choose to handle under the alternative hazardous waste rule R 299.9228; overseen by WHMD.
- **Liquid industrial waste** – Part 121 of Act 451. Includes non-hazardous liquid wastes that fail the paint filter test and used oil being recycled; overseen by WHMD. If waste oil is burned, there are additional requirements under Part 55 of Act 451; overseen by AQD.
- **Solid waste** – Part 115 of Act 451. Includes non-hazardous solid waste; overseen by WHMD.
- **Scrap tires** – Part 169 of Act 451; overseen by WHMD.

There are also other regulations that may be applicable to the types of waste coming from your facility. These include:

- **Flammable and combustible liquids regulations and Fire Protection Code** – when waste has a flashpoint below 200 degrees Fahrenheit, there are additional requirements overseen by WHMD Storage Tank Program (see page 4-2). The local fire department and MIOSHA also have requirements.
- **US Department of Transportation hazardous materials regulations** – when it is hazardous waste; overseen by Michigan State Police.
- **Worker health and safety standards for aboveground operations** – overseen by MIOSHA.
- **Discharges of wastewater on site** – overseen by Water Bureau. For more information, see page 2-2 in Chapter 2 on Water Quality for more information on these programs.

For more information about waste requirements and the regulations, go to **www.michigan.gov/deqwaste** and follow the links.

A Step-By-Step Approach to Identifying, Characterizing, and Disposing of Your Waste Materials

Step 1: Identify all the different wastes you have on site and determine what types of waste your facility generates, including how much hazardous waste is generated in a calendar month.

Waste streams at your site may include those from:

- the office,
- equipment and building maintenance, and
- any area where you are receiving or handling material to crush.

Common examples of wastes and applicable waste codes from crushing companies are listed in Table 3-1. The waste codes are used for labeling hazardous waste containers and manifesting the waste when shipping it off-site. Waste codes also apply to manifesting liquid industrial waste. Sometimes additional information is needed to determine which hazardous waste codes apply if you have used solvents. It may be necessary to read the waste description in the rules to determine which code applies. The table does not include waste codes that may apply if you have some specialty operation or if other chemicals or wastes were mixed with the waste. For example, cross contamination may occur in the maintenance area if overspray from an aerosol brake cleaner was used near some used antifreeze. Additional information about determining the different types of waste is in the guidance document, *Waste Characterization*. Go to **www.michigan.gov/deq** and select "DEQ Publications" on the right-hand side, select "Searchable," and type in "Waste Characterization." Discuss questions with the WHMD district office (see Appendix E) and your waste disposal company or waste management consultant.

F002
Description in Rule R 299.9220

The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane and 1,1,2-trichloroethane; all spent solvent mixtures and blends containing, before use, a total of 10% or more by volume of one or more of the above halogenated solvents or those solvents listed in FOO1, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

Next, use this information about what wastes you have and how much hazardous waste is generated in a calendar month to determine your regulated waste activity and notify WHMD as described in Step 2.

Table 3-1: Common Wastes at Crusher Facilities

COMMON WASTES AT CRUSHER FACILITIES				
Waste Stream	**Usual Type of Waste**	**Disposal or Recycle Recommendations** **Waste Codes for Shipment**	**Additional information available?**	**How much is generated at your site?**
Oils and Fuels				
Used Oil	Liquid industrial waste when recycled	Recycle 017L for crankcase oil, 021L for other oils, 019L for coolants and water soluble oils	Used Oil Overview with links to related guidance Used Oil Common Violations	
Used Oil Filters	Solid waste when recycled and drained	Recycle Code not applicable when oils properly drained	Used Oil and Spent Filters	
Waste fuel	Liquid industrial waste when recycled including being used in fuel blending, or hazardous waste	Recycle (e.g., used as fuel): 029L If unusable as is and being disposed, D001	No	
If the total amount of ALL oils (both waste and products including fuels) on site meets or exceeds1,320 gallons, refer to Chapter 4 on Product Storage and Emergency Planning Requirements.				
Maintenance Related Waste				
Antifreeze	Usually liquid industrial waste, but may be hazardous waste. If hazardous, it can be managed as universal waste. Note: There is a 2007 proposed rule to include this as universal waste.	Recycle 030L, unless hazardous due to metal concentrations or cross contamination	Antifreeze	
Batteries-Lead acid	Hazardous waste with exemption when recycled or universal waste	Code not applicable when being recycled	Universal Waste	
Batteries-Dry cell (e.g., AA, C, D sizes)	Recommend handling as universal waste or determine if hazardous waste	Code not applicable when handled as universal waste; code varies with type of battery if handled as hazardous waste	Universal Waste	

COMMON WASTES AT CRUSHER FACILITIES				
Waste Stream	**Usual Type of Waste**	**Disposal or Recycle Recommendations** **Waste Codes for Shipment**	**Additional information available?**	**How much is generated at your site?**
Laboratory wastes	Varies, may be hazardous due to flashpoint or type of solvent used.	D001 or F listing depending on solvents used for quality control testing	Note: Some solvents like trichloroethane are being phased out of use under air ozone regulations	
Light bulbs	Recommend handling as universal waste, if not hazardous waste	Code not applicable when handled as universal waste; code varies with type of bulb if handled as hazardous waste	Electric Lamp and Spent Ballast Universal Waste	
Painting wastes	Paints and painting equipment cleaning solvents may be hazardous or liquid industrial waste depending on product formulation	Varies: Some solvents used to clean painting equipment: F003-F005 Paints: if oil based, may be D001, other codes vary depending on formulation. If non-hazardous: 029L	See Chapter 2, section on painting wastes in the *Michigan Manufacturers' Guide to Environmental, Health, and Safety Regulations*	
Part washer solvents	May be hazardous or liquid industrial waste depending on type of solvent and flashpoint	Recommend recycling. Codes vary depending on used solvent and concentration. If solvent-based product has flashpoint below 140 degrees Fahrenheit: D001; Listed waste codes (F003, F005, F001, F002, D039, D040) may apply depending on type of solvent used. Water-based cleaning solutions (034L) or may have additional hazardous waste codes if cross contaminated.	See Chapter 2, section on Spent Parts Washers and Other Solvents in the *Michigan Manufacturers' Guide to Environmental, Health, and Safety Regulations*	
Shop rags	May be hazardous waste due to spontaneous combustion If not hazardous and no liquids present in container, then solid waste	Recommend laundering for reuse to meet hazardous waste recycling exemption. If disposed of, codes vary: D001 if spontaneously combustible or possible listed waste depending on what solvent used with the rag.	See Chapter 2, section on Shop Towels and Other Textiles in the *Michigan Manufacturers' Guide to Environmental, Health, and Safety Regulations*	

COMMON WASTES AT CRUSHER FACILITIES				
Waste Stream	**Usual Type of Waste**	**Disposal or Recycle Recommendations** **Waste Codes for Shipment**	**Additional information available?**	**How much is generated at your site?**
Crusher Byproducts				
Grinding slurry	Solid waste when handled under exemption or liquid industrial waste	029L when handled as liquid industrial waste	Part 115 concrete grinding slurry exemption	
Wash waters from stone and sand processing	Liquid industrial waste if not discharged on site under Water Bureau requirements as described in Chapter 1 on Water Quality Requirements	029L	No	
Fines and organics from operations	Solid waste (handle under site-specific designation that allows the materials to be left on site with clean cover and possible deed restriction)	Codes not applicable	No	
Tree, stumps, other land clearing debris	Handled on site as inert material under conditions listed in Part 115 rule 299.4114(2)(b)	Codes not applicable	Solid Waste Common Violations	
Concrete and asphalt	Solid waste when meets conditions listed in Part 115 rule R 299.4114(2)(d)	Codes not applicable If bringing materials on site for recycling, make sure it isn't contaminated. Do you know where it came from? What tests were done to ensure it is not hazardous waste? Do you receive copies of waste determinations/test results? Have you done visual inspections of loads? Is it stained, have an odor, or have paint on it?	Solid Waste Common Violations If you accept material for recycling, consider listing your services in the *Recycled Materials Market Directory*	
Other				
Scrap tires	Scrap tires/solid waste	Whole tires are banned from landfill disposal Codes not applicable	Scrap Tire Common Violations	
Packaging materials (cardboard, wood pallets, etc.)	Solid waste	Recycling recommended Codes not applicable	Recyclers can be found in the *Recycled Materials Market Directory*	

COMMON WASTES AT CRUSHER FACILITIES				
Waste Stream	**Usual Type of Waste**	**Disposal or Recycle Recommendations** **Waste Codes for Shipment**	**Additional information available?**	**How much is generated at your site?**
Break room waste (food, paper, etc.)	Solid waste	Codes not applicable	No	

Step 2: Notify the WHMD about your regulated waste activities.

Use the information you gathered during Step 1 and notify WHMD about your current regulated waste activities and have a site identification number. This number is site specific and does not move with the facility to new locations. Do this before it is time to have the waste shipped off-site when using a manifest (explained in Step 4). If you know you have already notified and the information is current, skip to Step 3.

If you are unsure if your facility previously notified the WHMD or what waste information is on file for your facility, go to the **Waste Data System** at the DEQ Web site (**www.deq.state.mi.us/wdspi/**). After selecting "Advance Search" on the top bar, enter your street number and zip (postal) code in those fields and hit search. Or call the WHMD district office or the Environmental Assistance Center at 800-662-9278 for help.

If you need to notify (e.g., that you are a liquid industrial waste or hazardous waste generator) and obtain a site identification number or update information on file, submit the *Site Identification Form EQP 5150*. Follow the instructions and links to the form EQP5150 and online paying option posted at **www.deq.state.mi.us/wdspi**. When applying for a new number, or if you have had an owner/operator change or moved locations, there is an application fee.

If you need help applying for a site identification number or updating your notification, contact the Environmental Assistance Program at 800-662-9278.

Helpful Hint

For first time applications, select initial notification in Box I. For update of information, select subsequent notification in Box I. You can request a pre-populated form from the WHMD by calling (517) 335-2690, or the Environmental Assistance Program at (800) 662-9278, which you can use to update your information.

The following fields are commonly not filled out correctly on the EQP 5150 form. The application will not be processed without all the required information.

Box IV – Inappropriate or missing NAICS code. More detailed descriptions of NAICS codes can be found at **www.naics.com**. Some common aggregate industry NAICS codes include:

212312	Crushed and Broken Limestone Mining and Quarrying
212313	Crushed and Broken Granite Mining and Quarrying
212319	Other Crushed and Broken Stone Mining and Quarrying
212321	Construction Sand and Gravel Mining
212322	Industrial Sand Mining

Box V – Missing or wrong Federal Identification Number (e.g., your federal tax number) and missing Number of Employees information.

Box IX – Failing to list information for both the site owner and operator along with missing or incomplete month/date/year information for when they became the site owner and operator.

Box X – Failing to select ALL types of regulated waste activities that are applicable to the work site and facility.

Liquid industrial waste is often generated from rock crushing and maintenance activities and some facilities may generate hazardous waste from equipment or building maintenance activities. Used oil generators would select “Box E Liquid Industrial Waste Generator” in addition to any other waste activities.

When hazardous waste is generated, the crushing facility needs to determine the facility’s generator status based on how much hazardous waste is generated in a calendar month.

Crushing operations normally notify as:

- **Liquid industrial waste generators** because their operations normally have generated used oils they recycle, and other non-hazardous liquid wastes like stone and sand wash waters they recycle or dispose of off site.
- **Conditionally exempt small quantity generator** (CESQG) which means that less than 220 pounds of all hazardous waste is generated on site in a calendar month, and they never store more than 2,200 pounds of hazardous waste.
- **Small quantity generator** (SQG) which means between 200 and less than 2,200 pounds of all hazardous waste is generated on site in a calendar month, and they never store more than 13,200 pounds of hazardous waste.

Step 3: Determine if your wastes are being properly managed, recycled, or disposed of on-site.

The environmental requirements for waste depend on the type of waste you have and where it ultimately will be disposed of or recycled. To help you make a thorough assessment of how waste is managed at your job sites, go through the following checklist in Table 3-2 and indicate “yes” or “no” to these basic questions. If you find yourself answering “no” to the question, it could be an indication your facility could use a better method or management plan to properly handle your wastes.

Table 3-2: Audit Checklist on Current Facility Waste Handling Methods

	QUESTION	Yes	No	Problem Corrected?
Waste Type: Wastewater or wash water, septage				
1	If disposing of waste or wash water on site, is the facility meeting the Water Bureau requirements in Chapter 2 of this guide?			
2	If waste or wash water is being shipped off site for recycling or disposal, are containers kept closed and protected from weather and vandals? Are containers labeled so workers know what is in them? Are containers compatible with waste and in good condition?			
3	If porta-johns are used on site or if septic tanks are installed at permanent locations, is the pumping company licensed by the **Water Bureau Septage Program**?			
Waste Type: Used Oil				
4	Are used oils being burned at the site for space heating, service water heating, or indirect heating, and are you meeting the following conditions? • Does the used oil burner have a rated heat input capacity 500,000 or less BTU per hour? If not, does the facility have an AQD permit for it? • Is the oil you use only generated at the same geographical site where the burner is located? If not, does the facility have an AQD permit for the burner? • Are you burning anything else besides used oil? • Has the facility obtained any local permits required by fire officials, zoning, etc. for the oil burner? • Are you required to meet any insurance company restrictions? If you answered "yes" to any of these questions, you may need to discuss your on-site oil burning activities with your AQD district office.			
5	If the facility is bringing oil from its other sites to a central location for either burning or to consolidate it for shipping it to a recycler, has the facility notified the WHMD that it is operating a used oil collection center or aggregation point?			
6	Are waste oil storage containers labeled "Used Oil" kept closed and protected from weather and vandals? See the *Used Oil* guidance for more details on storage. • If the oil flashpoint is below 200 degrees Fahrenheit, does it meet the storage conditions listed in Chapter 4 of this guide on storage tanks? If there are more than 1,320 gallons of all oils on site, is the facility in compliance with the federal Spill Prevention Control and Countermeasures (SPCC) requirements (see Chapter 4 on Product Storage and Emergency Planning)?			

WASTE MANAGEMENT REQUIREMENTS

	QUESTION	Yes	No	Problem Corrected?
Open Burning or Burying Waste				
7	Are any other wastes being burned without an AQD permit? It is illegal to open burn waste from a business.			
8	Is land clearing debris being buried onsite or at another location approved by the landowner? Does it meet the following conditions? • Amount buried is no more than 1 acre in size and not more than 20 feet in depth. • Burial is not in a floodplain or wetland without the Land and Water Management Division's (LWMD) approval. • Buried land clearing debris is not less than 4 feet above groundwater level. • Burial does not create a nuisance. • Burial does not violate other laws including local ordinances.			
9	Is any concrete or asphalt being reprocessed or disposed of on site? • Is it a hazardous waste because of contamination? *You cannot accept it from others, use it as fill, or bury it.* • If disposed of on site or used as fill, does it have exposed rebar? *Burial is not allowed.* • Does it contain other construction and demolition waste? *Burial is not allowed.* • Have you received a permit from the LWMD if you want to put it in a floodplain or wetland area? • Has the WHMD been notified if receiving more than 1,000 cubic yards of all concrete, pavement, construction brick, and masonry?			
10	Are all liquid industrial waste containers kept closed and labeled so you can tell what is in the container? Are containers compatible with waste and in good condition? Are the containers protected from weather and vandals?			
11	Are all hazardous waste containers properly labeled and managed on site? Specific requirements will depend on your hazardous waste generator status. For more information, see the DEQ's CESQG and SQG guidance documents.			
12	If your crushing activity is aboveground, are waste rags used with solvents put in metal waste baskets and properly disposed of at least once a day at the end of shift? If so, discuss this requirement with MIOSHA Consultation Education and Training Division at (517) 322-1809.			
13	Are there any scrap tires stored on site in compliance with any local restrictions? If 500 or more scrap tires are on site, is the site registered with WHMD and meeting the scrap tire storage requirements? Questions can be directed to the WHMD scrap tire inspector for your district.			

	QUESTION	Yes	No	Problem Corrected?
14	Is solid waste stored in containers and not on the ground? Are you meeting your solid waste hauler and disposal company's requirements? Are any local requirements being met including privacy fencing?			

Step 4: Determine if off-site shipments of hazardous and liquid wastes are being properly managed for recycling or disposal.

Specific requirements for your facility will depend on who is doing the waste hauling and what materials are slated to be disposed of, as identified in the following three options.

The specific shipping labels and other management requirements to prepare materials for shipment will depend on if it is hazardous waste or not and the hazardous waste generator status of the facility. To learn more about the CESQG and SQG requirements, see the WHMD's guidance documents on the Web.

Helpful Hint

Also check with your recycling and disposal company for their assistance and business requirements. If you are a CESQG and have generated hazardous wastes that do not contain liquids, check to see if the solid waste disposal company and waste hauler will accept the waste for disposal. Although the waste regulations allow this disposal option at this time, you may want to consider if your company wants to risk potential liability issues if the landfill becomes contaminated in the future.

Hiring Commercial Transporters to Haul the Liquid Industrial or Hazardous Waste

All liquid industrial waste and hazardous waste transport companies must be permitted and registered with the WHMD. Select a transport company with the appropriate waste permit and registration based on the type of waste hauled. If the waste is:

- Non-hazardous liquid — hire uniform liquid industrial waste transporter.
- Hazardous and you are a CESQG of hazardous waste — hire uniform liquid industrial waste transporter or uniform hazardous waste transporter.
- Hazardous and you generate more than 220 pounds of hazardous waste in a calendar month — hire uniform hazardous waste transporter.

To help you in locating authorized transport companies, use the **Waste Data System (WDS)**. WDS tracks activities at facilities regulated by its Solid Waste, Scrap Tire, Hazardous Waste, and Liquid Industrial Waste programs. WDS can provide you with:

- Information on ownership and operation of a company.
- The status of any required permits, licenses, or registrations.
- The compliance history of a company.
- A list of permitted and registered transporters.
- Manifest records of shipments of hazardous waste.
- User fees assessed to a company.

To use WDS, go to the Web site at **www.deq.state.mi.us/wdspi/**.

Select "Advanced Search" in the top tool bar to find transporters or designated companies to take your waste along with their compliance information. Enter your search criteria in desired fields as follows:

- Under the "General Site Information" "Location Address" heading, enter desired geographic criteria like a county or DEQ district office if you want to narrow the results to companies located near you (see Appendix E).

- To find "Designated Facilities" that have notified they accept liquid industrial waste:

Click to expand the "Hazardous & Liquid Industrial Waste Site Activity Information" and under the "Liquid Industrial Waste Activity" heading, select "Yes" next to the "Designated Facility" field.

- To find a list of permitted and registered transporters:

Click to expand the "Hazardous & Liquid Industrial Waste Transporters" and select the type of transporter from the drop down menu.

- Select the "Search" button either on the top or bottom of the form to get a list of "Designated Facilities."

Click on the Site Name to find more information about the company. Some of the companies listed only handle their own waste, so look for names that indicate they may take wastes from other companies.

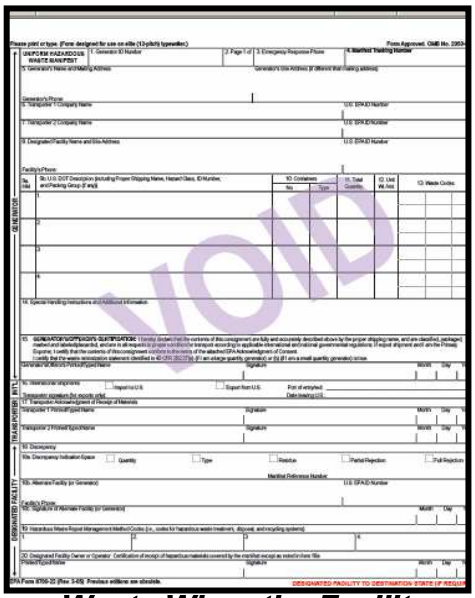
Search Results

Export Res

Site Name	Site ID	WMD ID	Address	City	State	Zip	County
DETROIT EDISON CO	MID000718841	392551	4505 KING RD	CHINA TOWNSHIP	MI	48079	ST CLAI
MOTOR CITY MATERIALS LLC	MID000722579	392627	126 W PLEASANT	RIVER ROUGE	MI	48218	WAYNE
MICHIGAN DISPOSAL WASTE TREATMENT PLANT	MID000724831	392708	49350 NORTH I94 SERVICE DRIVE	BELLEVILLE	MI	48111	WAYNE
INDIANA MICHIGAN POWER COMPANY	MID000810689	392853	606 RED BUD TRAIL N	BUCHANAN	MI	49107	BERRIE
INDIANA MICHIGAN POWER COMPANY	MID000810697	392854	2425 MEADOWBROOK RD	BENTON HARBOR	MI	49022	BERRIE
PHARMACIA & UPJOHN COMPANY LLC	MID000820381	392863	7171 PORTAGE RD	PORTAGE	MI	49001	KALAMA
DARLING INTERNATIONAL INC	MID005322649	393174	3350 GREENFIELD RD	MELVINDALE	MI	48122	WAYNE
MICHIGAN REUTILIZATION LLC	MID005358130	393469	1780 E SUPERIOR ST	ALMA	MI	48801	GRATIO
ALMA PRODUCTS I INC	MID005378146	393623	2000 MICHIGAN AVE	ALMA	MI	48801	GRATIO
PROGRESSIVE METAL FORMING INC	MID005498423	393780	10850 HALL RD	HAMBURG	MI	48139	LIVINGS
LIQUID INDUSTRIAL WASTE SERVICES INC	MID006546121	394299	11325 EAST LAKEWOOD BLVD.	HOLLAND	MI	49424	OTTAWA

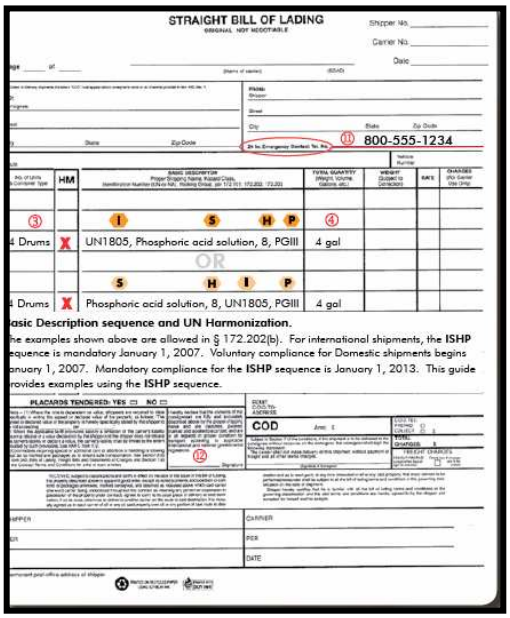
- If there are no. facilities listed within your initial search area, change your search criteria or contact the local wastewater treatment plant to see if they are interested in accepting your wastewater. Have the wastewater treatment plant authority call the WHMD district office (*see Appendix E*) or the DEQ's Environmental Assistance Program at (800) 662-9278 to discuss their requirements and submit a notification to accept liquid industrial waste.

As a waste generator, you are also required to meet the manifest or consolidated manifest requirements when hiring a transporter. Most commercial transporters and disposal companies will provide the national "Uniform Hazardous Waste Manifest" which is used for both liquid and hazardous waste shipments. It is important to remember to get copies back from the treatment, storage, and disposal facilities you use and submit your copies to the WHMD within the required timeframes. If consolidated manifests are used, meet the requirements listed in the WHMD's *Operational Memo 121-3*. The operational memos, along with the instructions for completing manifests, chart timeframes, and manifest log for tracking manifests are available on the Web at **www.michigan.gov/deqwaste** under "Uniform Manifest Information."



Hauling 55 Gallons or Less of Your Own Generated Liquid Industrial Waste (includes used oil) and Hazardous Waste When the Facility is a CESQG

If you are hauling 55 or less gallons of your own liquid industrial or hazardous waste as a CESQG, there are some steps you must follow in order to complete the disposal process. The following is a list of those steps.



STRAIGHT BILL OF LADING

ORIGINAL - NOT NEGOTIABLE

Shipper No.

Carrier No.

Date

800-555-1234

	HM		
4 Drums	X	UN1805, Phosphoric acid solution, 8, PGIII	4 gal
		OR	
4 Drums	X	Phosphoric acid solution, 8, UN1805, PGIII	4 gal

asic Description sequence and UN Harmonization.

he examples shown above are allowed in § 172.202(b). For international shipments, the ISHP equence is mandatory January 1, 2007. Voluntary compliance for Domestic shipments begins anuary 1, 2007. Mandatory compliance for the ISHP sequence is January 1, 2013. This guide rovides examples using the ISHP sequence.

PLACARDS TENDERED: YES NO

COD

CARRIER

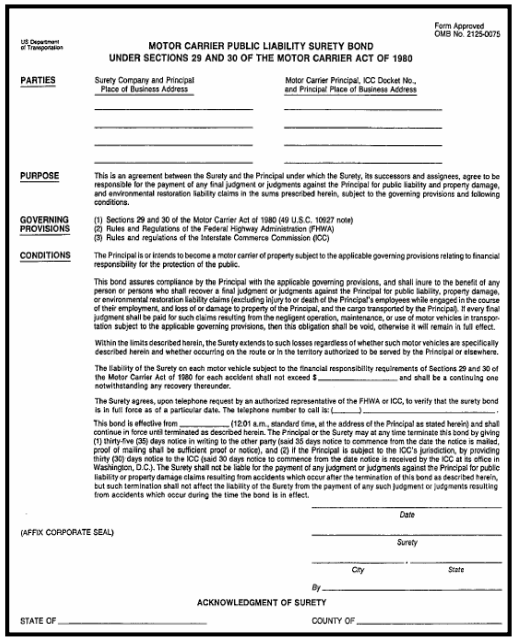
PER

DATE

- Document through recordkeeping where the waste was from, how much is being hauled, and where it is being taken with the waste shipment. It is not necessary to use a waste manifest if all these requirements in this section are met.
- Obtain a signature from the designated facility acknowledging receipt of the waste and provide them with a copy of the record.
- Keep a copy of the shipment record for at least three years.
- Have adequate insurance coverage (check that your insurance company will cover potential accidents).
- Both the designated facility and the generator of the waste must manage the waste according to the liquid industrial waste regulations to protect the environment and human health.
- You must also meet federal and state transportation requirements when you are disposing of a hazardous material. Discuss those requirements along with using a "Bill of Lading" with the Michigan State Police (MSP) Traffic Safety Division. For more information on the transportation requirements of hauling a hazardous material, visit the MSP Web site at **www.michigan.gov/msp** or call 517-336-6580.

Hauling More Than 55 Gallons of Your Own Liquid Industrial Waste

If you are hauling more than 55 gallons of your own liquid industrial waste, there are also some steps you must follow in order to complete the disposal process.



US Department of Transportation

Form Approved OMB No. 2125-0075

MOTOR CARRIER PUBLIC LIABILITY SURETY BOND
UNDER SECTIONS 29 AND 30 OF THE MOTOR CARRIER ACT OF 1980

PARTIES

Surety Company and Principal Place of Business Address

Motor Carrier Principal, ICC Docket No., and Principal Place of Business Address

PURPOSE

This is an agreement between the Surety and the Principal under which the Surety, its successors and assignees, agree to be responsible for the payment of any final judgment or judgments against the Principal for public liability and property damage, and environmental restoration liability claims in the sums prescribed herein, subject to the governing provisions and following conditions.

GOVERNING PROVISIONS

(1) Sections 29 and 30 of the Motor Carrier Act of 1980 (49 U.S.C. 10927 note)
(2) Rules and Regulations of the Federal Highway Administration (FHWA)
(3) Rules and regulations of the Interstate Commerce Commission (ICC)

CONDITIONS

The Principal is or intends to become a motor carrier of property subject to the applicable governing provisions relating to financial responsibility for the protection of the public.

This bond assures compliance by the Principal with the applicable governing provisions, and shall inure to the benefit of any person or persons who shall recover a final judgment or judgments against the Principal for public liability, property damage, or environmental restoration liability claims (excluding injury to or death of the Principal's employees while engaged in the course of their employment, and loss of or damage to property of the Principal, and the cargo transported by the Principal). If every final judgment shall be paid for such claims resulting from the negligent operation, maintenance, or use of motor vehicles in transportation subject to the applicable governing provisions, then this obligation shall be void, otherwise it will remain in full effect.

Within the limits described herein, the Surety extends to such losses regardless of whether such motor vehicles are specifically described herein and whether occurring on the route or in the territory authorized to be served by the Principal or elsewhere.

The liability of the Surety on each motor vehicle subject to the financial responsibility requirements of Sections 29 and 30 of the Motor Carrier Act of 1980 for each accident shall not exceed $_____ and shall be a continuing one notwithstanding any recovery thereunder.

The Surety agrees, upon telephone request by an authorized representative of the FHWA or ICC, to verify that the surety bond is in full force as of a particular date. The telephone number to call is: (_____) _____.

This bond is effective from _____ (12:01 a.m., standard time, at the address of the Principal as stated herein) and shall continue in force until terminated as described herein. The Principal or the Surety may at any time terminate this bond by giving (1) thirty-five (35) days notice in writing to the other party (said 35 days notice to commence from the date the notice is mailed, proof of mailing shall be sufficient proof or notice), and (2) if the Principal is subject to the ICC's jurisdiction, by providing thirty (30) days notice to the ICC (said 30 days notice to commence from the date notice is received by the ICC at its office in Washington, D.C.). The Surety shall not be liable for the payment of any judgment or judgments against the Principal for public liability or property damage claims resulting from accidents which occur after the termination of this bond as described herein, but such termination shall not affect the liability of the Surety from the payment of any such judgment or judgments resulting from accidents which occur during the time the bond is in effect.

Date

(AFFIX CORPORATE SEAL)

Surety

City State

By

ACKNOWLEDGMENT OF SURETY

STATE OF COUNTY OF

- Notify the WHMD that you are transporting your own liquid industrial waste and are a liquid industrial waste generator and obtain a site identification number if you have not already done so. See Step 2. It is not necessary to become a permitted and registered transporter.
- Use the uniform hazardous waste manifest, which is also used for liquid industrial waste shipments, or use a consolidated manifest. If consolidated manifests are used, meet the requirements listed in the **Operational Memo 121-3**. Manifest information is available at **www.michigan.gov/deqwaste**.
- Obtain insurance coverage as required by the federal Hazardous Materials Transportation Act:
  - If using vehicles under 10,000 pounds gross vehicle weight, have fleet coverage of at least $300,000.
  - If using vehicles equal to or over 10,000 pounds gross vehicle weight, have fleet coverage of at least $750,000.
- Get a copy of the federal form **MCS-90** from your insurance company and send it to DEQ WHMD, Attn: Transportation Program Technician, Southeast MI District Office, 27700 Donald Court, Warren, MI 48092-2793.

Step 5: Determine if solid waste is properly handled and shipped off site for disposal or recycling.

Local ordinances may require fencing around the waste dumpsters. Do not store solid waste directly on the ground. Use closed containers to control blowing of waste, and to prevent odors and the presence of rodents.

NOTE: *Do not put banned waste in the trash that might be headed for a landfill. Banned waste includes certain types of beverage containers, yard clippings, liquid waste, lead acid batteries, whole scrap tires, etc. Contact the commercial solid waste hauler, landfill, transfer facility, or incinerator operator for their requirements.*

Your facility has two options for hauling trash (solid waste) off site:

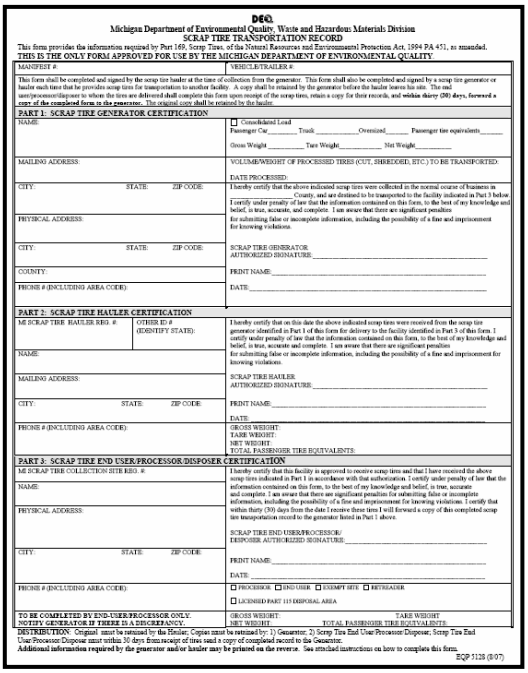
1. Haul your own waste to a permitted transfer station, licensed landfill, or incinerator. As you transport your trash, use a cover to prevent waste from blowing out of your transport vehicle. Additionally, you should not have any liquids dripping out of bags or containers.
2. Hire a waste hauler. The WHMD does not license solid waste haulers. Check the yellow pages or contact a landfill or incinerator for waste hauling companies that service your area.

Step 6: Determine if scrap tires are properly handled and shipped off site for disposal or recycling.

Contact your local fire department or local health department about local storage requirements. Ideally, avoid collecting 500 or more used tires on your property. Those with 500 or more used tires must register with the WHMD as a collection site. Whole scrap tires are prohibited from disposal in landfills.

There are several disposal options available depending on the number of scrap tires you have. You can:

- Haul 7 or less of your own scrap tires at a time to a registered collection site or disposal area licensed under Part 115. Lists of registered companies are available online at **www.michigan.gov/deqwaste** under "Scrap Tires."
- Ask if your solid waste hauler will accept them.
- Hire a registered scrap tire hauler. The registered scrap hauler must give you a *Scrap Tire Transportation Record* form (EQP 5128). You are required to keep that at least three years from the shipment date. Lists of scrap tire haulers are on the above Web site.



DEQ
Michigan Department of Environmental Quality, Waste and Hazardous Materials Division
SCRAP TIRE TRANSPORTATION RECORD
This form provides the information required by Part 169, Scrap Tires, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.
THIS IS THE ONLY FORM APPROVED FOR USE BY THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY.

MANIFEST #: VEHICLE/TRAILER #:

This form shall be completed and signed by the scrap tire hauler at the time of collection from the generator. This form shall also be completed and signed by a scrap tire generator or hauler each time that he provides scrap tires for transportation to another facility. A copy shall be retained by the generator before the hauler leaves his site. The end user/processor/disposer to whom the tires are delivered shall complete this form upon receipt of the scrap tires, retain a copy for their records, and within thirty (30) days, forward a copy of the completed form to the generator. The original copy shall be retained by the hauler.

PART 1: SCRAP TIRE GENERATOR CERTIFICATION

NAME:
MAILING ADDRESS:
CITY: STATE: ZIP CODE:
PHYSICAL ADDRESS:
CITY: STATE: ZIP CODE:
COUNTY:
PHONE # (INCLUDING AREA CODE):

☐ Consolidated Load
Passenger Car_____ Truck _____ Oversized_____ Passenger tire equivalents_____
Gross Weight_____ Tare Weight_____ Net Weight_____
VOLUME/WEIGHT OF PROCESSED TIRES (CUT, SHREDDED, ETC.) TO BE TRANSPORTED:
DATE PROCESSED:
I hereby certify that the above indicated scrap tires were collected in the normal course of business in _____ County, and are destined to be transported to the facility indicated in Part 3 below. I certify under penalty of law that the information contained on this form, to the best of my knowledge and belief, is true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of a fine and imprisonment for knowing violations.
SCRAP TIRE GENERATOR AUTHORIZED SIGNATURE:_____
PRINT NAME:_____
DATE:_____

PART 2: SCRAP TIRE HAULER CERTIFICATION

MI SCRAP TIRE HAULER REG. #: OTHER ID # (IDENTIFY STATE):
NAME:
MAILING ADDRESS:
CITY: STATE: ZIP CODE:
PHONE # (INCLUDING AREA CODE):

I hereby certify that on this date the above indicated scrap tires were received from the scrap tire generator identified in Part 1 of this form for delivery to the facility identified in Part 3 of this form. I certify under penalty of law that the information contained on this form, to the best of my knowledge and belief, is true, accurate and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of a fine and imprisonment for knowing violations.
SCRAP TIRE HAULER AUTHORIZED SIGNATURE:_____
PRINT NAME:_____
DATE:_____
GROSS WEIGHT:
TARE WEIGHT:
NET WEIGHT:
TOTAL PASSENGER TIRE EQUIVALENTS:

PART 3: SCRAP TIRE END USER/PROCESSOR/DISPOSER CERTIFICATION

MI SCRAP TIRE COLLECTION SITE REG. #:
NAME:
PHYSICAL ADDRESS:
CITY: STATE: ZIP CODE:
PHONE # (INCLUDING AREA CODE):

I hereby certify that this facility is approved to receive scrap tires and that I have received the above scrap tires indicated in Part 1 in accordance with that authorization. I certify under penalty of law that the information contained on this form, to the best of my knowledge and belief, is true, accurate and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of a fine and imprisonment for knowing violations. I certify that within thirty (30) days from the date I receive these tires I will forward a copy of this completed scrap tire transportation record to the generator listed in Part 1 above.
SCRAP TIRE END USER/PROCESSOR/DISPOSER AUTHORIZED SIGNATURE:_____
PRINT NAME:_____
DATE:_____
☐ PROCESSOR ☐ END USER ☐ EXEMPT SITE ☐ RETREADER
☐ LICENSED PART 115 DISPOSAL AREA

TO BE COMPLETED BY END-USER/PROCESSOR ONLY. NOTIFY GENERATOR IF THERE IS A DISCREPANCY.
GROSS WEIGHT: TARE WEIGHT:
NET WEIGHT: TOTAL PASSENGER TIRE EQUIVALENTS:

DISTRIBUTION: Original must be retained by the Hauler; Copies must be retained by: 1) Generator; 2) Scrap Tire End User/Processor/Disposer. Scrap Tire End User/Processor/Disposer must within 30 days from receipt of tires send a copy of completed record to the Generator.
Additional information required by the generator and/or hauler may be printed on the reverse. See attached instructions on how to complete this form.
EQP 5128 (8/07)

PART 4

PRODUCT STORAGE AND EMERGENCY PLANNING REQUIREMENTS

Chemical Storage

You must meet certain requirements if you have any of the chemicals listed in the Department of Environmental Quality's (DEQ's) Water Bureau Part 5 rules of Part 31 of Act 451 (e.g., solvents, ethylene glycol used in antifreeze, sulfuric acid in lead acid batteries, etc.). These requirements apply if you store these chemicals outside in an amount equal to or greater than 220 pounds, or inside a building in amounts equal to or greater than 2,200 pounds. The Water Bureau requirements include preparing a Pollution Prevention Incident Plan (PIPP) along with surveillance, storage requirements, secondary containment, release reporting, and notifications to local agencies and the DEQ when a company falls under these chemical storage criteria. A PIPP documents information such as what chemicals are on site and how the company will respond to releases of these chemicals. Go to the Web at **www.michigan.gov/deqwater** and select "Emergency Response to Releases to Water" from the left drop-down menu for a checklist of what is in a PIPP, a list of regulated chemicals, and other information along with a list of Water Bureau staff contacts.

Handling Oil Products Including Vehicle And Heating Fuel Storage

There are several agencies that oversee the environmental regulations pertaining to the storage of oil products and heating fuel storage. A federal Spill Pollution Control and Countermeasure (SPCC) Plan that addresses storage requirements including secondary containment and emergency response measures, is required when a company's site has 1,320 gallons or more of storage capacity for all oil products and wastes. The definition of oil products includes lubricating oils, motor oils, hydraulic oils, diesel fuel, and gasoline. If you would like more information on the proposed changes to the SPCC, go to the U.S. Environmental Protection Agency's (U.S. EPA's) Web site at **www.epa.gov/oilspill** or contact a U.S. EPA Region 5 staff person at (312) 886-0185.

Storage Tanks

Many crushers utilize aboveground storage tanks (ASTs), liquefied petroleum gas (LPG) tanks, LPG containers, and other storage containers in their day-to-day operations. The storage and handling of products such as gasoline, diesel fuel, fuel oils, and other liquid chemicals can have environmental and safety consequences if the tanks are not properly installed and maintained. Also, the product transfer operations must be properly managed to minimize the possibility of spillage, releases, and possible fire hazards. Storage tank regulations were designed to promote the safe storage and handling of flammable and combustible liquids such as petroleum products and other hazardous substances. The following requirements are designed to promote safer storage and handling practices at a company, and result in overall economic benefits to crushing operations and consumers.

An Overview of the WHMD's Storage Tank Program

The DEQ's Waste and Hazardous Materials Division (WHMD) Storage Tank Unit (STU) oversees the storage and use of the flammable and combustible liquids (FL/CL) and regulates ASTs. It also oversees the regulations for LPG systems in Michigan. Proper certifications for these tank units must be in place prior to conducting a fueling or storage activity. Companies that *supply* flammable or combustible liquids with flash points less than 200 degrees Fahrenheit *and* that have an individual tank storage capacity of more than 1,100 gallons must obtain a permit from the WHMD, STU.

The tank systems, storage tanks, portable tanks, generator tanks, or containers must have their engineering and layout plan reviewed and certified and the tanks inspected. In order for the permit to be granted, a fee must also be paid. Additionally, any FL/CL AST system greater than 660 gallons and containers 60 gallons or more in capacity must meet secondary containment requirements. More information on this requirement is available on the Web at **www.michigan.gov/deqland**. Select "Storage Tanks" from the left drop-down menu. Questions regarding this permitting program can be directed to staff in the DEQ's STU at 517-335-7211.

Basic Requirements for FL/CL Aboveground Storage Tank Systems

- Have spill containment of 110 percent for the largest container at the company (which is the volume of the container plus 10 percent in case of precipitation).
- Meet isolation distances from property lines and buildings based on the size of the storage system.
- Protect storage area from trespassers.
- Keep area free from weeds, combustible materials, and other debris.

Liquid Petroleum Gas (LPG) Tanks

Companies with any of the following are also regulated by the WHMD STU program:

- Any flammable compressed gas or LPG container filling location.
- A company that supplies flammable compressed gas or any LPG that has a tank with a water capacity of more than 2,000 gallons or two or more tanks with an aggregate water capacity of more than 4,000 gallons.

The LPG systems listed above require an installation application, must pay annual fees, have field inspections, and be certified. Any LPG tank in connection with a building heating system or its equipment is also regulated by the Mechanical Division of the Michigan Department of Labor and Economic Growth (DLEG) under the State Construction Code Act. For more information about these separate requirements, go to the DLEG Web site at **www.michigan.gov/dleg**.

Basic Requirements for LPG Tank System or Containers

LPG storage is defined as any vessel containing a material having a vapor pressure not exceeding that allowed for commercial propane, which is composed predominately of the following hydrocarbons, either by themselves or as mixtures, and is used to store or transport this mixture:

- Propane
- Propylene
- Butane (normal butane or isobutane)
- Butylene

In addition, LPG tank systems or containers must:

- Meet isolation distances from property lines and buildings based on the size of the storage system.
- Have a protected storage area from trespassers.
- Have an area free from weeds, combustible materials, and other debris.

Transportation of LPG, Similar Hydrocarbons, and Mixtures

The Michigan State Police Traffic Safety Division oversees the transportation of LPG and other similar hydrocarbons in Michigan. To learn more about the transportation regulations, please visit the Michigan State Police Web site at **www.michigan.gov/msp**. Select "Specialized Divisions," then "Traffic Safety Division," and then "Hazardous Materials" from the left-hand menu. Mobile fueling tanks are not regulated by the WHMD if the tank meets the transportation requirements, is insured, and has a current vehicle license (i.e., sticker).

Finally, in association with the transportation requirements for fuel sources, it is also important to contact your local fire authority and the DLEG Michigan Occupational Safety and Health Administration (MIOSHA) program at 517-322-1809 regarding their requirements for flammable and combustible liquids used above ground. Their Web site is **www.michigan.gov/miosha**.

Where to Go For More Assistance

As you go through this guide and have additional questions or concerns about the application of the regulations to your crushing facility, please feel free to call the DEQ's Environmental Assistance Program at (800) 662-9278.

The DEQ's Environmental Assistance Program provides:

- ***FREE*** consultations to business and industry.
- Answers to your questions.
- The resources to help you come into and maintain compliance with the environmental regulations.

When you call the toll-free telephone number, tell the operator you need help with one or more of the following environmental topics, and a staff person who specializes in that area will be more than happy to answer your questions.

- Air quality
- Water quality
- Waste management
- Aboveground storage tank management

The EAP also has numerous guidance documents developed to help you complete permits and achieve compliance with the environmental regulations. Access to the EAP's staff and resources can also be obtained by visiting the DEQ's Web page at **www.michigan.gov/deqenvassistance**.

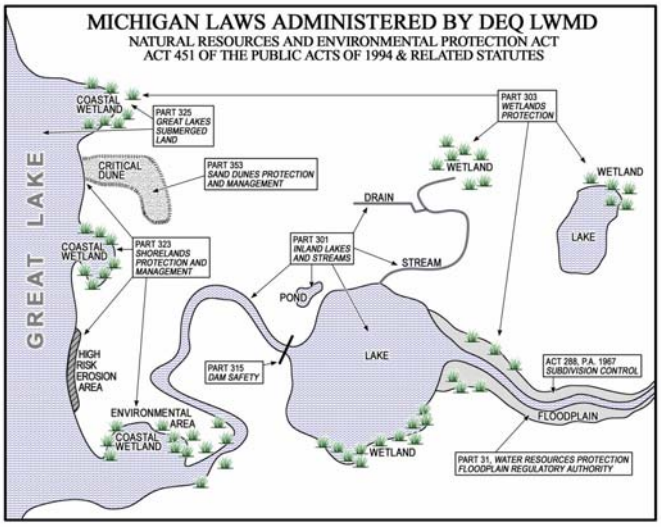
PART 5

LAND DEVELOPMENT AND LAKE/POND CREATION REQUIREMENTS

Significant changes to the landscape, and the creation of lakes and ponds are a common result of rock crushing facilities and their associated mining operations. Frequently, regulated impacts to natural features such as wetlands, floodplains, lakes, and streams, occur with the development of land for mining or rock crushing facilities. With the exception of designated sand dune areas along the Lake Michigan shoreline, non-metallic mining is not specifically regulated as an activity. Yet the creation of water bodies, and impacts to wetlands, floodplains, lakes, streams, and sand dunes that occur as a result of rock crushing and mining operations may require authorization from Michigan Department of Environmental Quality (DEQ).

Overview of Land and Water Management Division (LWMD) Permit Programs

The DEQ, Land and Water Management Division (LWMD), administers several parts of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended (Act 451), that regulate activities that occur on, within, or involve any of the following land/water features:



- A wetland.
- A stream, river, ditch, drain, channel, or canal.
- A 100-year floodplain or floodway.
- A pond, an inland lake greater than 5 acres, or a Great Lake.
- A dam.
- Land change activities that result in the creation or alteration of a canal, ditch, lagoon, pond, or lake within 500 feet of an existing water body.

In Great Lakes coastal counties, the LWMD also regulates activities in designated high-risk erosion areas, critical dune areas, and coastal wetland areas.

The U.S. Army Corps of Engineers (U.S. ACE) regulates some of the above activities at the federal level that occur within Great Lakes coastal counties, as well. To simplify the permit process for Michigan's residents, the LWMD has developed a "**DEQ/USACE - Joint Permit Application**" form (EQP 2731) with the U.S. ACE that can be used to obtain permits from both LWMD and the U.S. ACE.

Part 301 of Act 451: Inland Lakes and Streams

Open pit mining that occurs below the groundwater table frequently results in the creation of a lake or pond. Creation of water bodies are regulated under Part 301, Inland Lakes and Streams, of Act 451. Other land development activities in lakes or streams that may be associated with rock crushing operations may also be regulated under Part 301. For example, road crossings of streams, stormwater outfalls, stream relocations or enclosures, and ditches connected to a lake or stream created as part of rock processing facilities may also require a Part 301 permit.

Under Part 301, a permit is required for the following activities below the ordinary high-water mark of inland lakes and streams:

- Dredge or fill bottomlands.
- Construct, enlarge, extend, remove, or place a structure on bottomland.
- Erect, maintain, or operate a marina.
- Create, enlarge, or diminish an inland lake or stream.
- Structurally interfere with the natural flow of an inland lake or stream.
- Construct, dredge, commence, extend, or enlarge an artificial canal, ditch, lagoon, pond, lake, or similar waterway through which the purpose is ultimate connection with an existing inland lake or stream, or where any part of the artificial waterway is located within 500 feet of the ordinary high-water mark of an existing inland lake or stream.
- Connect any natural or artificially constructed waterway, canal, channel, ditch, lagoon, pond, lake, or wetland with an existing inland lake or stream for navigation or any other purpose.

Under Part 301, a lake is defined as a body of surface water greater than 5 acres in size, and a pond any water body smaller than 5 acres. If dewatering of the mining pit occurs during operations, a permit is still required for creation or alteration of a lake or pond even if it is completed in dry conditions.

As indicated in Part 2, a National Pollution Discharge Elimination System (NPDES) permit may also be required for a wastewater discharge from a dewatering operation. Construction of an outfall pipe in a lake or stream for the dewatering operation may require a permit under Part 301, in addition to a NPDES permit.

Part 303 of Act 451: Wetlands Protection

Part 303 defines a wetland as *"land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog, swamp, or marsh."* The definition applies to public and private lands regardless of zoning or ownership. The following activities are prohibited in wetlands unless a Part 303 permit has been obtained from the DEQ:

- Deposit or permit the placing of fill material in a wetland.
- Dredge, remove, or permit the removal of soil or minerals from a wetland.
- Construct, operate, or maintain any use or development in a wetland.
- Drain water from a wetland.

Development of a property for mining or rock crushing operations that may involve wetland filling, draining, or excavating may require a permit under Part 303.

The drainage of surface or sub-surface water from wetlands is often associated with dewatering of open pit mines. Dewatering operations frequently result in a drawdown of local groundwater tables. Wetlands located within the area of influence of a groundwater drawdown could be incidentally drained by the dewatering operations. This influence of wetland hydrology by sub-surface drawdown of groundwater may require a permit under Part 303.

Wetlands Identifications

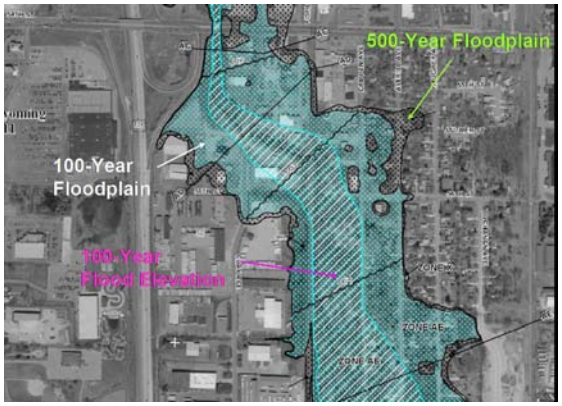
The DEQ, LWMD, Wetland Identification Program (WIP) offers two levels of service to help identify wetland and upland areas on a property. A Level 2 Identification can be conducted for properties up to 5 acres in size. With this service, a LWMD technical specialist conducts an on-site review to determine the presence or absence of wetlands. A technical specialist can also provide a Level 3 Identification, which is an on-site review to confirm specific wetland boundaries established by a wetland consultant. Individuals interested in WIP services must submit a WIP application to the LWMD, Wetlands, Lakes and Streams Unit. The WIP application and a fee calculator can be downloaded at **www.michigan.gov/deqwetlands** or you may call (517) 241-8485.

Part 31 of Act 451: Water Resources Protection, Floodplain Regulatory Authority

A Part 31 permit is required for any occupation, construction, filling, or grade change that occurs within the 100-year floodplain of a river, stream, drain, or lake. Bridges, culverts, access roads, and stockpiles are considered an occupation of the floodplain. Stockpiling material, whether temporarily or permanently, within the floodplain is regulated under Part 31.

These activities are regulated under Part 31 with the purpose of ensuring that the channels and floodways are kept clear and uninhabited, and that filling and grade changes do not result in harmful increases in flood stages or stage characteristics of the water body. The floodway includes the stream channel and that portion of the floodplain that is required to convey the flow of floodwater. Any grade changes, filling, or stockpiling of material within the floodway must be placed so that it will not result in harmful increases in flood stages to obtain a permit under Part 31. Permanent grade changes, filling, or stockpiles of material that are placed outside of the floodway portion of the floodplain must be properly compensated by removing material from the site to prevent harmful changes in flood stages. This can be accomplished by excavating an equivalent volume of material from the floodplain at similar elevations to the fill that has been placed on the site.

Under Part 31, the 100-year floodplain is defined by the 100-year flood elevation. A 100-year flood has a one (1) percent chance of occurring or being exceeded in any given year. The 100-year floodplain elevation for a given location can be obtained from Flood Rate Insurance Maps produced by the Federal Emergency Management Agency at **www.msc.fema.gov**. If the floodplain is not mapped, floodplain elevations can be obtained from LWMD by requesting an on-line floodplain service at **www.michigan.gov/deqwatermanagement** or by calling (517) 335-3181.



Section 404 of the Federal Clean Water Act of 1977 and Section 10 of the Rivers and Harbors Act of 1899

The federal government regulates discharges of dredged or fill materials into lakes, streams, and wetlands through Section 404 of the Clean Water Act (CWA). Under the oversight of the U.S. Environmental Protection Agency (USEPA), Michigan is one of only two states authorized to administer Section 404. With the exception of very large projects and projects located in Section 10 waterways, issuance of a single DEQ permit by LWMD is all that is needed to meet the requirements of the CWA and no separate federal permit is required. Section 10 of the Rivers and Harbors Act requires a permit for construction, dredging, or filling in specific designated navigable waterways connected to or within the Great Lakes. The USACE has retained jurisdiction over projects in these waterways, and their adjacent wetlands. In these areas, DEQ and the USACE share the responsibility for administering the CWA, so a permit is necessary from both agencies. The DEQ/USACE - Joint Permit Application**" form (EQP 2731)** can be used to apply for a permit from both agencies for projects in Section 10 waters.

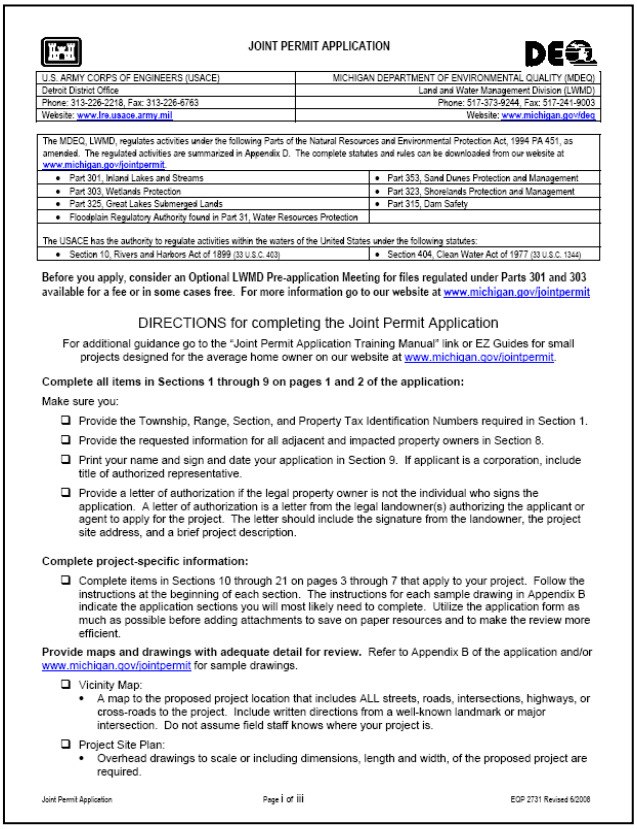
Applying for a Permit

An Application Training Manual and EZ Guides are available on line to help you submit a complete DEQ/U.S. ACE - Joint Permit Application. Go to **www.michigan.gov/jointpermit**, send an email to **DEQ-LWM-PCU@michigan.gov**, or call the PCU at 517-373-9244 to order hard copies.

The "DEQ/USACE - Joint Permit Application" (EQP 2731) is used for activities regulated by the parts of Act 451 listed above. Complete only the portions of the application that are applicable to your proposed activity.

Permit applications and the required application fee should be mailed to the Permit Consolidation Unit (PCU), LWMD, DEQ, P.O. Box 30204, Lansing, MI 48909-7704. The PCU conducts a preliminary review of permit applications to ensure they are administratively complete and publishes public notices when required. The LWMD district offices review permit applications, conduct site inspections, and issue permits for regulated activities covered on the DEQ/USACE - Joint Permit Application.

Technical assistance and permit review negotiations conducted by field staff minimize negative impacts to natural resources from new development. District staff may make a site inspection, collect comments, or ask for modifications to the proposal. It can take 90 days or more to receive an issued or denied permit. District staff and the PCU can answer questions regarding the applications and regulations. Contact information for District offices and staff can be obtained by calling the Environmental Assistance Program at (800) 662-9278.



JOINT PERMIT APPLICATION

U.S. ARMY CORPS OF ENGINEERS (USACE)	MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY (MDEQ)
Detroit District Office	Land and Water Management Division (LWMD)
Phone: 313-226-2216, Fax: 313-226-6763	Phone: 517-373-9244, Fax: 517-241-9003
Website: www.lre.usace.army.mil	Website: www.michigan.gov/deq

The MDEQ, LWMD, regulates activities under the following Parts of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The regulated activities are summarized in Appendix D. The complete statutes and rules can be downloaded from our website at www.michigan.gov/jointpermit.

- Part 301, Inland Lakes and Streams
- Part 303, Wetlands Protection
- Part 325, Great Lakes Submerged Lands
- Floodplain Regulatory Authority found in Part 31, Water Resources Protection
- Part 353, Sand Dunes Protection and Management
- Part 323, Shorelands Protection and Management
- Part 315, Dam Safety

The USACE has the authority to regulate activities within the waters of the United States under the following statutes:

- Section 10, Rivers and Harbors Act of 1899 (33 U.S.C. 403)
- Section 404, Clean Water Act of 1977 (33 U.S.C. 1344)

Before you apply, consider an Optional LWMD Pre-application Meeting for files regulated under Parts 301 and 303 available for a fee or in some cases free. For more information go to our website at www.michigan.gov/jointpermit

DIRECTIONS for completing the Joint Permit Application

For additional guidance go to the "Joint Permit Application Training Manual" link or EZ Guides for small projects designed for the average home owner on our website at www.michigan.gov/jointpermit.

Complete all items in Sections 1 through 9 on pages 1 and 2 of the application:

Make sure you:

- ❑ Provide the Township, Range, Section, and Property Tax Identification Numbers required in Section 1.
- ❑ Provide the requested information for all adjacent and impacted property owners in Section 8.
- ❑ Print your name and sign and date your application in Section 9. If applicant is a corporation, include title of authorized representative.
- ❑ Provide a letter of authorization if the legal property owner is not the individual who signs the application. A letter of authorization is a letter from the legal landowner(s) authorizing the applicant or agent to apply for the project. The letter should include the signature from the landowner, the project site address, and a brief project description.

Complete project-specific information:

- ❑ Complete items in Sections 10 through 21 on pages 3 through 7 that apply to your project. Follow the instructions at the beginning of each section. The instructions for each sample drawing in Appendix B indicate the application sections you will most likely need to complete. Utilize the application form as much as possible before adding attachments to save on paper resources and to make the review more efficient.

Provide maps and drawings with adequate detail for review. Refer to Appendix B of the application and/or www.michigan.gov/jointpermit for sample drawings.

- ❑ Vicinity Map:
  - A map to the proposed project location that includes ALL streets, roads, intersections, highways, or cross-roads to the project. Include written directions from a well-known landmark or major intersection. Do not assume field staff knows where your project is.
- ❑ Project Site Plan:
  - Overhead drawings to scale or including dimensions, length and width, of the proposed project are required.

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APPENDIX A

Completing the Air Quality General Permit to Install Application

The *"General Permit to Install Application for Nonmetallic Mineral Crushing Facilities"* consists of three forms: the General Information form (EQP5727), the Process Information form (EQP5756), and the Relocation Notice form (EQP5757). These can be downloaded from the Air Quality Division (AQD) Web page at **www.deq.state.mi.us/aps.** Select "General Permits – Application Forms and Instructions" or contact the AQD Permit Section at 517-373-7023.

The General Information Form (EQP 5727)

Facility Codes - Two Facility Codes are required. The State Registration Number (SRN) is an alphanumeric identifier assigned to a stationary source by the AQD. The SRN is unique to the physical location of a source (except for portable equipment) and is comprised of a letter followed by four digits (i.e., A1497). The SRN for a facility can be found on the Michigan Air Emissions Reporting (MAERS) forms that are submitted annually to the AQD or on a previously issued PTI. If the application is for a new facility or one that has not had previous business with the AQD an SRN may not exist. The AQD will assign an SRN during the review of the permit application. If you are a new owner of an existing company, it is likely the source already has an SRN. To verify the existence of an SRN for your company, contact your local AQD district office (*see Appendix E*).

The North American Industry Classification System (NAICS) provides a numeric code that identifies an industry. The NAICS, which has replaced the Standard Industrial Classification (SIC) system, was developed jointly by the USA, Canada and Mexico to provide new comparability in statistics about business activity across North America. Information about NAICS and links to the NAICS codes are available at the following sites: **http://www.census.gov/epcd/www/naics.html** or **http://www.epa.gov/ttn/chief/codes/index.html#naics**. A six digit code is preferred for a more exact description, however five digits are acceptable. Table A-1 lists some common NAICS codes used for the crushing industry:

Table A-1: Common NAICS Codes for the Crushing Industry

NAICS Code	INDUSTRY DESCRIPTION
212311	Dimension Stone Mining and Quarrying
212312	Crushed and Broken Limestone Mining and Quarrying
212313	Crushed and Broken Granite Mining and Quarrying
212319	Other Crushed and Broken Stone Mining and Quarrying
212321	Construction Sand and Gravel Mining
212322	Industrial Sand Mining
212391	Potash, Soda, and Borate Mineral Mining
212392	Phosphate Rock Mining
212393	Other Chemical and Fertilizer Mineral Mining
212399	All Other Nonmetallic Mineral Mining

To review the NAICS descriptions refer to the U.S. Census Bureau's online NAICS reference guide at **www.census.gov/epcd/naics02/N02TOS87.HTM**.

APPENDIX A – COMPLETING THE GENERAL PERMIT TO INSTALL APPLICATION

Applicant Name – The applicant should be the entity (e.g., corporation, partnership, individual owner, or government agency) that actually owns and/or is responsible for the operation of the process or process equipment. If the crushing equipment is leased from another company, you must first establish who has the legal responsibility to complete this application to meet the state of Michigan's air permitting requirement. In most cases, the operator of the equipment bears the responsibility for applying for state environmental permits; however, the leasing agent of the equipment may already have applied for and received an air quality permit for the equipment.

If the leasing agent already has a permit, the operator may operate the equipment under the existing permit; however, the permit must be updated to reflect the new job site where the equipment will be used. Either you or the leasing agent must provide this update by using the *Relocation Notice* form (EQP5757). For more information on how to relocate your equipment, see page 1-15.

Applicant Mailing Address - This is the mailing address to receive correspondence regarding the application. Include the actual street address, post office box (if applicable), city, state, and zip code.

Authorized Employee – The application must be signed by an authorized employee of the applicant. This signature certifies the truth of the information provided in the application. Provide the name, title, telephone number (extension if applicable) and e-mail address for the individual signing the application.

Contact – Complete this if someone other than the authorized employee should be contacted with questions regarding this application. Provide the name, title, telephone number (extension if applicable) and e-mail address for the contact. A contact person not employed directly by the applicant, such as an attorney or a consultant, may file an application as an agent of the applicant; however, an agent may not sign the application. If the contact is an agent, include the name of the company the agent is affiliated with (e.g., consulting firm, law firm).

Equipment or Process Location – This is the site where the crushing facility will be located. This item need only be completed if the process location is different from the mailing address or if the mailing address is a P.O. Box.

Equipment New/Existing – Check the appropriate box. If the equipment is existing, either purchased from a previous owner or already owned by your company, please include the installation date (approximate month and year) when the equipment was first put into use.

Existing Permits – If any or all of the equipment in the application has been covered by a previously issued Permit to Install, either obtained by your company or another company if the equipment was purchased from a previous owner, include the permit number. If you are unsure whether the equipment may have been covered under a previous permit, contact the local AQD district office (*see Appendix E*).

Renewable Operating Permit (ROP) - Facilities that meet the definition of a major source are required to obtain an ROP. A source that has the potential to emit 10 tons/year of a single hazardous air pollutant (HAP), 25 tons/year of all HAPs combined, or 100 tons/year of any regulated air pollutant like particulate matter (PM) is considered a major source. Guidance on how to calculate potential to emit is available at **www.michigan.gov/deqair**. Select "Clean Air Assistance," and then "Potential to Emit." However, most nonmetallic mineral processing facilities are not large enough to meet the definition of a major source.

Consent Orders – If your company has an outstanding consent order or judgment, or is currently involved in an environmental enforcement case, you cannot use the General Permit to Install. A consent order or judgment may be issued against your company or against you as a subcontractor of another company. An outstanding consent order or consent judgment means your equipment is not in compliance with the environmental regulations. You must apply for a regular Permit to Install.

Forms Submitted - You are required to fill out the Process Information form (EQP5756). Check the box and write the form number in the space provided. Check the box for Additional Information for all additional information submitted such as a detailed site map (required), process layout drawings or equipment specifications.

Signature of Authorized Employee – The application must be signed by an authorized employee of the applicant. This signature certifies the truth of the information provided in the application. A missing signature will result in an application being returned and a delay in processing.

The Process Information Form (EQP5756)

The Process Information form must be completed for each crushing facility (production line). A production line means all of the equipment (crushers, grinding mills, screening operations, elevators, conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or connected together by a conveying system.

Facility Code – This is the SRN from the General Information form. See detailed explanation on page A-1.

Mine/Quarry Name and Location - Enter the mine/quarry site name. This may be the same as the parent company name or may have a unique identifying name that denotes the physical location of the site. If the mine/quarry does not have a street address, provide the section, township, and range where the crushing facility will be located. These coordinates can be determined from a plat map. Plat maps are coordinate-based maps, with all distances and location bearings based on the directions of north-south and east-west. Plat maps are considered legal records showing real estate divisions in Michigan's cities, townships, and villages.

- A *section* comprises one mile square (640 acres).
- A *township* is defined as land that is divided into 6-mile-squares and runs north to south.
- A *range* is defined as the east or west position of a land site.

Plat maps can be obtained from your local city, township, village, or county clerk office. Some plat maps are available online through the Michigan Department of Labor and Economic Growth at **www.cis.state.mi.us/platmaps/sr_subs.asp.**

New General Permit or Modification - Identify if this application is for a new General Permit to Install or if you are making a significant change to an existing General Permit to Install. A modification to an existing General Permit is required if equipment is being added or removed. Refer to the section of this guide that discusses modifications beginning on page 1-17. Include the existing General Permit number for a modification.

Process Description - Provide a brief description of the crushing operation and accurately describe the type of product being crushed (i.e., concrete building debris, limestone, rocks, sand and gravel, etc.). A site map is also required to identify where equipment will be located on the property and to document any residential homes, commercial establishments, and places of public assembly located within 1,000 feet of the site.

Amount of Material Processed at the Site – The General Permit limits production to 2 million tons per year of nonmetallic mineral products at any one site. If the facility will process more than this amount, a regular Permit to Install is required.

Outstanding or Unresolved Violations – A Violation Notice (VN) is issued if a company is not in compliance with the state air pollution control rules and/or federal regulations. A VN is not the same as an environmental consent order or judgment. It is a tool used to initiate enforcement action to bring a company into compliance. If you have a pending VN, you do not qualify for the General Permit to Install.

Distance of Crusher to Other Area Residents/Establishments - The General Permit requires your crushing operation be a minimum of 500 feet from residential or commercial establishments, and places of public assembly such as a government building, church, or school. This distance is needed to limit the adverse health effects or damage to personal property from the dust. Include a standard map that clearly identifies the distances from your crushing process to the nearest property line in all directions.

Compliance Verification with an Existing Permit – If this application is to modify a current General Permit, verify whether or not the facility is in compliance with the current permit. If your company has received a VN or is referenced in an ongoing VN through your contractual services with another company, you must check NO.

Process/Equipment Information – Each piece of equipment must be identified and described. For each crusher, screen, conveyor, elevator, grinder, etc. provide the following:

Device Description and Device ID - Describe the type of equipment using the technical name (i.e., jaw crusher, cone crusher, impact crusher, etc.), as well as the role it plays in the crushing operation (i.e., primary jaw crusher, secondary cone crusher, etc.). The Device ID is a unique equipment identifier. A Device ID may be any combination of up to 10 letters, numbers, or keyboard characters (i.e., SCREEN01, Conveyor #3, PRICRUSHER).

Make and Model, Serial Number, and Manufactured Date - Identify the manufacturer of the equipment, model number, and a serial number. You may need to contact the manufacturer of the equipment to obtain the make and model information. A manufactured date is required. This date can be obtained from the equipment name plate. Do not confuse the manufactured date with the installation date. If the equipment was shop built (i.e., from miscellaneous parts), indicate that the equipment is shop-built in the Make and Model field and write NA in the Serial Number field. Try to approximate the date (month and year) when the equipment was built and added to the crushing operation. The AQD will not process your application without this information.

Maximum Rated Capacity or Dimensions - The maximum rated capacity can be found in an equipment manual or specification book. The maximum rated capacity for crushers is measured in tons/hour. For screening operations or conveyor belts, give the dimensions for the total surface area of the top screen or the width of the conveyor belt. Storage bin capacity is measured in tons.

Device Control - Each crusher and screening operation must have water sprays installed prior to operation. A baghouse dust collector or wet scrubber may be used in place of the water sprays. Conveyors, material storage piles, and other process equipment related to the crushing operation are required to have dust control on an as-needed basis.

Federal New Source Performance Standard (NSPS) - Indicate whether the equipment is subject to the NSPS for nonmetallic mineral processing facilities (Subpart OOO). If the equipment is not subject, you must include a reason. Equipment that is not subject to the NSPS includes:

- Equipment at fixed sand and gravel plants and crushed stone plants with capacities of 25 tons per hour or less.
- Equipment at portable sand and gravel plants and crushed stone plants with capacities of 150 tons per hour or less.
- Equipment that replaces existing equipment and is of equal or smaller size and has the same function as the existing equipment, unless all existing equipment in a production line is being replaced.
- Equipment listed in the Table A-2 that was manufactured prior to August 31, 1983, and was never modified or reconstructed after that date. See page 1-17 for definitions of modification and reconstruction.
- Equipment not listed in the Table A-2.

Table A-2: Crusher Equipment Subject to NSPS Subpart OOO

Crushers	Belt conveyors
Grinding mills	Bagging operations
Screening operations	Storage bins
Bucket elevators	Enclosed truck or railcar loading station

If the equipment is subject to the NSPS Subpart OOO, it may be subject to an initial performance test. Performance testing is discussed on page 1-13. If the equipment requires a performance test, include the date the equipment passed the performance test, or if a performance test has not yet been done, the date that the test is scheduled. If the equipment does not require a performance test, you must explain why. Equipment that is not subject to a performance test under the NSPS includes:

- Equipment in Table A-2 that was manufactured prior to August 31, 1983, and never modified or reconstructed on or after August 31, 1983.
- Equipment in Table A-2 that was manufactured, modified, or reconstructed on or after August 31, 1983, and replaces equipment that was larger in size. Testing will not have to occur until all existing equipment has been replaced with new equipment.
- Wet screening operations and subsequent wet screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to, but not including the next crusher, grinding mill, or storage bin.
- Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, that process saturated materials up to the first crusher, grinding mill, or storage bin the in the production line.

Signature - Include a signature by an authorized employee of the applicant as on the General Information form. This signature certifies the truth of the information provided in the application. A missing signature will result in an application being returned and a delay in processing.

Make additional copies of Page 2 of the Process Information form (EQP5727) to include all equipment associated with your crushing process.

The Additional Information Form (EQP 5759)

An Additional Information form should be filled out for any piece of equipment for which you plan to submit additional documentation. Failure to complete this form and include the attachments can result in delay of processing the application.

The Facility Code - This is the SRN from the General Information form.

Device ID – This is the ID created on the Process Information form.

Type of Additional Information - Check one or more of the boxes as applicable. Attachments include:

- A site map, a building layout map, or information such as a plat map. Site drawings or building layout maps should be properly marked showing:
  - The spot where the crusher operation, equipment, storage piles, etc. are located.
  - A scale showing the distance in feet, yards, or meters to surrounding population areas and places of public assembly.
  - A north pointing directional arrow.
- Process diagrams or drawings showing equipment type and layout.

Examples of a site or building layout map and a process diagram/drawing are available in Appendix C.

Technical information includes documentation which pertains to the installation, construction, or use of your company's equipment such as:

- Flow charts and production rates
- Flow rate calculations
- Design parameters or descriptions
- Documentation from an operator manual (i.e., maximum rated capacity of the equipment)

An example of a flow chart showing production rates is available in Appendix D.

General information includes any supplemental information that is not technical in nature such as written descriptions of the process layout and production schedule.

Additional Information Narrative - Use this space to describe or explain any of the additional information rather than providing it as an attachment.

APPENDIX B

Completing the Relocation Notice Form (EQP5757)

Facility Codes, Applicant Name, Applicant Mailing Address, Authorized Employee, and Contact – See detailed instructions for these fields in Appendix A.

CURRENT PLANT LOCATION

Facility/Site Name and General Permit Number – Provide the facility/site name at the current location. Include the General Permit Number issued by the AQD for this facility.

Address – Provide the current location of the facility. This item need only be completed if the process location is different from the mailing address or if the mailing address is a P.O. Box. If a street address is not available, provide the section, township, and range for the facility.

NEW PLANT LOCATION

Facility/Site Name – Provide the proposed facility/site name.

Address – Provide the proposed location for the facility. Include the street address, city, zip code, and county. If a street address is not available, provide the section, township, and range of the proposed site.

Location Dates and Process Amounts – Include the dates the facility will be located at the proposed site and the amount of material to be processed at the site. Note that the General Permit limits the amount of material processed at any one site to 2 million tons per year.

Directions from the Nearest Town – Include brief driving directions to locate the plant.

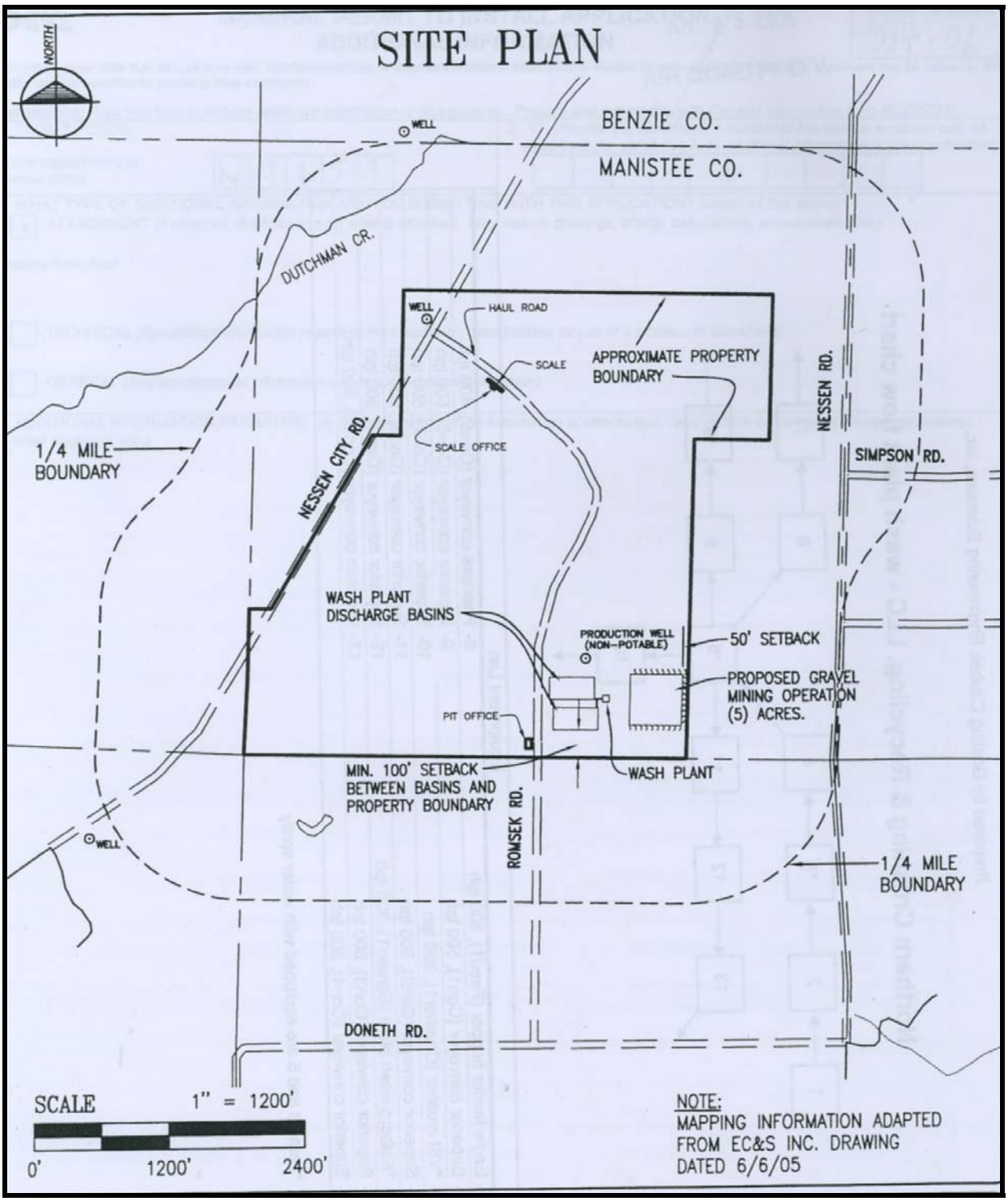
Attach Additional Information – Attach a copy of the original General Permit forms (EQP5727, EQP5729, and EQP5756) plus any Process forms for modifications that have been approved. A detailed site map showing any residential and/or commercial establishments and places of public assembly within 1,000 feet of the proposed site is also required.

Signature of Authorized Employee – The application must be signed by an authorized employee of the applicant. This signature certifies the truth of the information provided in the application. A missing signature will result in an application being returned and a delay in processing.

Submit the completed form and attachments to both the AQD Permit Section (see page 1-7 of this guide for Permit Section contact information) and the AQD district office for the proposed plant location. To locate the appropriate district office, see Appendix E.

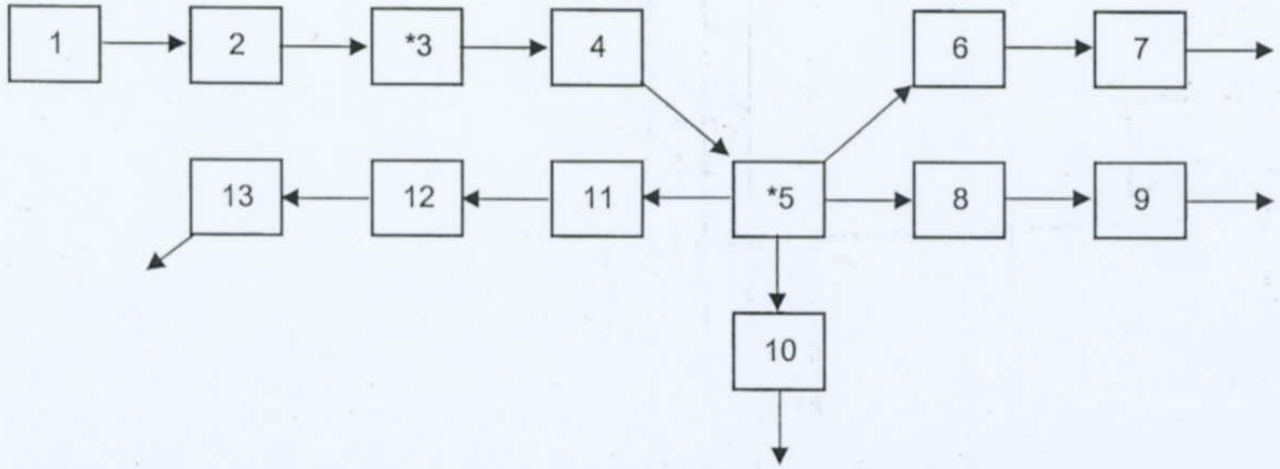
APPENDIX C

Sample Site/Plan Layout Map



APPENDIX D

Sample Flow Chart

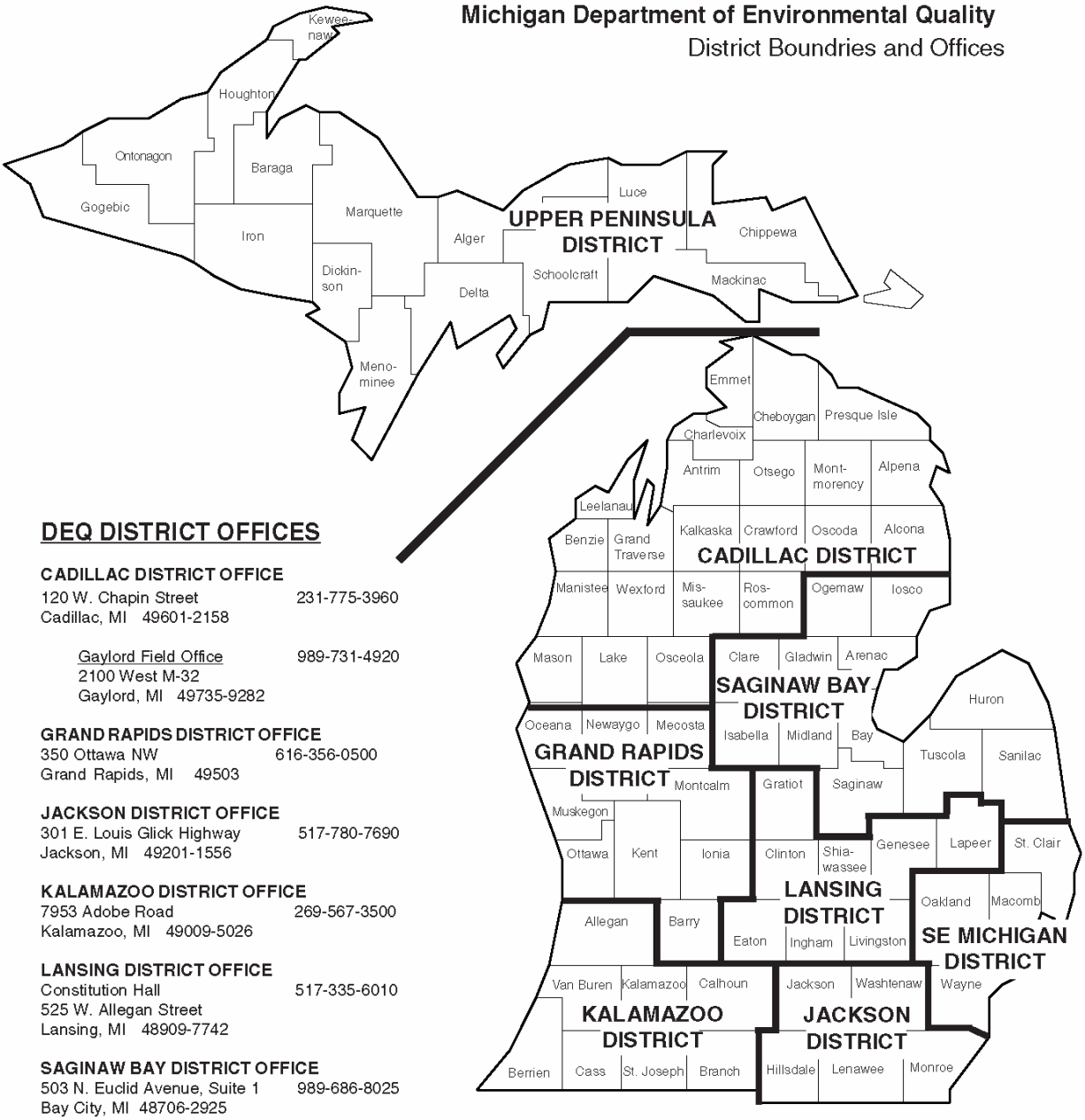


Equipment List	
1- Eagle feeder hopper (Feed1), 500 tph	8- Peerless conveyor (Con5), 400 tph
2- Superior conveyor (Con1), 500 tph	9- Superior conveyor (Con6), 500 tph
3- *VSI crusher (Crusher1), 300 tph	10- Superior conveyor (Con7), 500 tph
4- Superior conveyor (Con2), 500 tph	11- Superior conveyor (Con8), 500 tph
5- *Kolberg wash plant (Screen1), 300 tph	12- Superior conveyor (Con9), 500 tph
6- Superior conveyor (Con3), 500 tph	13- Hartman conveyor (Con10), 500 tph
7- Superior conveyor (Con4), 500 tph	

*Items 3 and 5 are equipped with water spray

APPENDIX E

District Map



DEQ DISTRICT OFFICES

CADILLAC DISTRICT OFFICE
120 W. Chapin Street 231-775-3960
Cadillac, MI 49601-2158

Gaylord Field Office 989-731-4920
2100 West M-32
Gaylord, MI 49735-9282

GRAND RAPIDS DISTRICT OFFICE
350 Ottawa NW 616-356-0500
Grand Rapids, MI 49503

JACKSON DISTRICT OFFICE
301 E. Louis Glick Highway 517-780-7690
Jackson, MI 49201-1556

KALAMAZOO DISTRICT OFFICE
7953 Adobe Road 269-567-3500
Kalamazoo, MI 49009-5026

LANSING DISTRICT OFFICE
Constitution Hall 517-335-6010
525 W. Allegan Street
Lansing, MI 48909-7742

SAGINAW BAY DISTRICT OFFICE
503 N. Euclid Avenue, Suite 1 989-686-8025
Bay City, MI 48706-2925

SOUTHEAST MICHIGAN DISTRICT OFFICE
27700 Donald Court 586-753-3700
Warren, MI 48092-2793

Detroit Field Office 313-456-4700
Cadillac Place
3058 West Grand Boulevard, Suite 2-300
Detroit, MI 48202-6058

UPPER PENINSULA DISTRICT OFFICE
420 5th Street 906-346-8300
Gwinn, MI 49841

ENVIRONMENTAL ASSISTANCE CENTER
(for general information):
Telephone: 800-662-9278
Fax: 517-241-0673

POLLUTION EMERGENCIES
Telephone: 800-292-4706

DEQ WEB PAGE
www.michigan.gov/deq

APPENDIX F

Emission Calculation Fact Sheet

Michigan Department of Environmental Quality ◆ Environmental Science and Services Division ◆ (800) 662-9278

MINERAL PRODUCT PROCESSES

The purpose of this document is to provide guidance for calculating emissions from mineral product processes at lime manufacturing, limestone, gypsum, stone quarrying, concrete recycling, asphalt pavement recycling, and sand and gravel facilities. These processes include, but are not limited to, Standard Industrial Classifications (SIC) 1422, 1423, 1429, 1442, 1446, and 1499. This document lists Source Classification Codes (SCC) and emission factors for mineral product processes. The emission factors were obtained from the Factor Information Retrieval (FIRE) Data System, Versions 6.23 & 6.24 or the Environmental Protection Agency's (EPA) *Compilation of Air Pollutant Emission Factors (AP-42).* Both are available on the Internet at **www.epa.gov/ttn/chief/index.html**.

It is not required that facilities use these listed factors to quantify their emissions. If a facility disagrees with any emission factor in this document, it may use other emission factors or another method of calculating emissions providing the emission factor or method correctly characterizes the processes and the resulting emissions at the facility. A facility doing so must submit calculations and documentation showing the source of the factors or method used and justification for their use.

In addition to the specific individual component emission factors, this document also contains a combination plant-wide general emission factor for use by sand and gravel, concrete recycling, limestone, asphalt pavement recycling, gypsum, and stone quarrying operations with an annual production of 2,000,000 tons or less. The combination general factor was developed by the Air Quality Division to aid these smaller sources in making calculations. A facility is not required to use the plant-wide general emission factor – it may use the more specific emission factors for each individual process or it may calculate emissions by some other method.

Portable Sources
Portable sources must submit a Supplemental Portable Form (SP-101) when reporting their emissions. For information about the SP-101 form and other portable source requirements, refer to the *MAERS General Instructions*.

Control Factors
If a facility has control equipment, the emissions can be multiplied by a control factor. Calculate the control factor by subtracting the percent control efficiency from 100 and then divide that number by 100. For example, if the control efficiency is 87%, the control factor would be (100 - 87)/100 = 0.13. Control efficiencies may be listed on the equipment or in the equipment documentation. Alternatively, equipment suppliers can provide control efficiency values. Facilities with a DEQ, Air Quality Division approved Fugitive Dust Plan are allowed to use an 80% control efficiency for fugitive dust emissions. However, the use of this value is not mandated and derived control factors may be used if information and documentation showing the source of the control factor and justification for its use are submitted.

Scientific Notation
The emission factors are expressed in scientific notation, which means that the decimal point has been moved. If the exponent is negative, move the decimal point to the left. If the exponent is positive, move the decimal point to the right. If the exponent is zero, the decimal point does not move. For example, if a number is expressed as 2.0E-1, move the decimal point one place to the left to get 0.20. If a number is expressed as 2.0E2, move the decimal point 2 places to the right to get 200. If a number is expressed as 2.0E0, the decimal point does not move – the number is 2.0. A number expressed as E3 is 1,000.

TOTAL PLANT-WIDE emission factors are permissible, instead of reporting emissions for individual processes, provided less than 2,000,000 tons of product is produced annually at the site. Facilities may use 80% as the control efficiency for a combined wet suppression and comprehensive fugitive dust control program. Emissions from generators and compressors must also be calculated (see Fuel Combustion Sources).

SCC	DESCRIPTION	POLLUTANT	EMISSION FACTORS
3-05-025-01	Plant-wide particulate processes – uncontrolled	PM10,FLTRBLE PM,FLTRBLE*	5.0E-2 LB/TON SAND & GRAVL 1.0E-1 LB/TON SAND & GRAVL

*You do not have to report PM,FLTRBLE emission in MAERS. This factor is provided for other emission calculation purposes (e.g., demonstrating compliance with R 336.1290(a)(iii)).

APPENDIX F: MINERAL PRODUCT PROCESSES EMISSION CALCULATION FACT SHEET

SAND AND GRAVEL OPERATIONS include wash plants, crushers, screens, etc. Sand and gravel is defined as unconsolidated granular materials resulting from the natural disintegration of rock or stone. They are products of the weathering of rocks and unconsolidated or poorly consolidated materials. Facilities may use the uncontrolled emission factors with 80% control efficiency if using a wet suppression system and a comprehensive fugitive dust control program or an alternate control factor with justification.

SCC	DESCRIPTION	POLLUTANT	EMISSION FACTORS
3-05-025-02	Aggregate storage - uncontrolled	PM10,FLTRBLE	1.2E-1 LB/TON PRODUCT
3-05-025-03	Material transfer points and conveying – uncontrolled	PM10,FLTRBLE PM,FLTRBLE*	6.4E-3 LB/TON SAND & GRAVL 2.9E-2 LB/TON SAND & GRAVL
3-05-025-04	Hauling – uncontrolled	PM10,FLTRBLE	6.2E0 LB/MILE DEVICE
3-05-025-05	Pile forming – stacker – uncontrolled	PM10,FLTRBLE	6.0E-2 LB/TON SAND & GRAVL
3-05-025-06	Bulk (truck) loading – uncontrolled	PM10,FLTRBLE PM,FLTRBLE*	2.4E-3 LB/TON SAND & GRAVL 2.0E-2 LB/TON SAND & GRAVL
3-05-025-10	Primary crushing – uncontrolled	PM10,FLTRBLE	2.4E-3 LB/TON SAND & GRAVL
3-05-025-10	Secondary crushing – uncontrolled	PM10,FLTRBLE	2.4E-3 LB/TON SAND & GRAVL
3-05-025-10	Tertiary crushing – uncontrolled	PM10,FLTRBLE	2.4E-3 LB/TON SAND & GRAVL
3-05-025-11	Screening – uncontrolled	PM10,FLTRBLE	1.2E-1 LB/TON SAND & GRAVL

*You do not have to report PM,FLTRBLE emission in MAERS. This factor is provided for other emission calculation purposes (e.g., demonstrating compliance with R 336.1290(a)(iii)).

STONE QUARRYING OPERATIONS, LIME MANUFACTURING, LIMESTONE OPERATIONS, CONCRETE RECYCLING, AND ASPHALT PAVEMENT RECYCLING OPERATIONS are facilities primarily engaged in mining, quarrying, and crushing granite and associated rock (such as gneiss, gyenite and diorite). This category can also be used for limestone and lime processing because alternative emission factors are not readily available at this time. Facilities may use the uncontrolled emission factors with 80% control efficiency if using a wet suppression system and a comprehensive fugitive dust control program or other alternate control efficiency with justification.

SCC	DESCRIPTION	POLLUTANT	EMISSION FACTORS
3-05-020-01	Primary crushing – uncontrolled	PM10,PRIMARY	2.4E-3 LB/TON STONE
3-05-020-02	Secondary crushing – uncontrolled	PM10,PRIMARY	1.5E-2 LB/TON STONE
3-05-020-03	Tertiary crushing – uncontrolled	PM10,PRIMARY	1.5E-2 LB/TON STONE
3-05-020-04	Screening – uncontrolled	PM10,FLTRBLE	1.5E-2 LB/TON STONE
3-05-020-05	Fines crushing – uncontrolled	PM10,PRIMARY	1.5E-2 LB/TON STONE
3-05-020-06	Material transfer points and conveying – uncontrolled	PM10,PRIMARY	1.4E-3 LB/TON STONE
3-05-020-07	Open storage – uncontrolled	PM10,FLTRBLE	1.2E-1 LB/TON-YR PRODUCT

APPENDIX F: MINERAL PRODUCT PROCESSES EMISSION CALCULATION FACT SHEET

GYPSUM OPERATIONS are facilities primarily engaged in mining, quarrying, and crushing gypsum. Facilities may use the uncontrolled emission factors with 80% control efficiency if using a wet suppression system and a comprehensive fugitive dust control program or other alternate control efficiency with justification.

SCC	DESCRIPTION	POLLUTANT	EMISSION FACTORS
3-05-015-01	Rotary Ore Drier	PM10,FLTRBLE PM,FLTRBLE*	1.0E-2 LB/TON GYPSUM 4.0E-2 LB/TON GYPSUM
3-05-015-02	Primary Grinder/Roller Mills	PM10,FLTRBLE PM,FLTRBLE*	2.2E0 LB/TON GYPSUM 2.6E0 LB/TON GYPSUM
3-05-015-04	Conveying	PM10,FLTRBLE	1.5E-1 LB/TON GYPSUM
3-05-015-05	Primary Crushing	PM10,FLTRBLE	2.6E-1 LB/TON GYPSUM CRUDE
3-05-015-06	Secondary Crushing	PM10,FLTRBLE	1.13E0 LB/TON GYPSUM CRUDE
3-05-015-07	Screening	PM10,FLTRBLE	1.2E-1 LB/TON GYPSUM CRUDE
3-05-015-08	Open Storage – uncontrolled	PM10,FLTRBLE	1.2E-1 LB/TON GYPSUM CRUDE

*You do not have to report PM,FLTRBLE emission in MAERS. This factor is provided for other emission calculation purposes (e.g., demonstrating compliance with R 336.1290(a)(iii)).

STONE QUARRYING OPERATIONS, LIME MANUFACTURING, LIMESTONE OPERATIONS, GYPSUM OPERATIONS, CONCRETE RECYCLING, AND ASPHALT PAVEMENT RECYCLING OPERATIONS *(continued)*

SCC	DESCRIPTION	POLLUTANT	EMISSION FACTORS
3-05-020-09	Blasting – uncontrolled	PM10,FLTRBLE	7.6E-2 LB/TON STONE**
3-05-020-10	Wet drilling- uncontrolled	PM10,PRIMARY	8.0E-5 LB/TON STONE
3-05-020-11	Hauling - uncontrolled	PM10,FLTRBLE	6.2E0 LB/MILE DEVICE
3-05-020-31	Truck unloading - uncontrolled	PM10,PRIMARY	1.6E-5 LB/TON STONE
3-05-020-32	Truck loading – Conveyor - uncontrolled	PM10,PRIMARY	1.0E-4 LB/TON STONE
3-05-020-33	Truck loading – Front end loader - uncontrolled	PM10,FLTRBLE	1.0E-4 LB/TON STONE

****** The following equation can be used instead of the emission factor: **PM10,FLTRBLE emissions = 1.4E-5 x $A^{1.5}$** where A is the horizontal area of the blast in square feet.

OVERBURDEN REMOVAL calculations should be performed in conjunction with the Limestone, Lime Manufacturing, Gypsum, and Stone Quarrying Operation calculations. Sand and gravel, concrete recycling, and asphalt pavement recycling operations are not required to perform the following calculations.

SCC	DESCRIPTION	POLLUTANT	EMISSION FACTORS
3-05-010-30	Topsoil removal - uncontrolled	PM10,FLTRBLE PM,FLTRBLE*	5.8E-2 LB/TON TOPSOIL 6.0E-2 LB/TON TOPSOIL
3-05-010-32	Topsoil unloading - uncontrolled	PM10,FLTRBLE PM,FLTRBLE*	4.0E-2 LB/TON TOPSOIL 4.0E-2 LB/TON TOPSOIL

APPENDIX F: MINERAL PRODUCT PROCESSES EMISSION CALCULATION FACT SHEET

OVERBURDEN REMOVAL *(continued)*

SCC	DESCRIPTION	POLLUTANT	EMISSION FACTORS
3-05-010-37	Truck loading overburden - uncontrolled	PM10,FLTRBLE	1.5E-2 LB/TON OVERBURDEN
3-05-010-42	Truck loading – bottom dumping, overburden - uncontrolled	PM10,FLTRBLE PM,FLTRBLE*	1.0E-3 LB/TON OVERBURDEN 2.0E-3 LB/TON OVERBURDEN

*You do not have to report PM,FLTRBLE emission in MAERS. This factor is provided for other emission calculation purposes (e.g., demonstrating compliance with R 336.1290(a)(iii)).

FUEL COMBUSTION SOURCES include emissions from generators and compressors. Emissions from front-end loaders and trucks do not have to be calculated.

SCC	DESCRIPTION	POLLUTANT	EMISSION FACTORS
2-02-001-02	Distillate oil (Diesel)	CO NOX M10,FLTRBLE M2.5,FLTRBL OX TOC	1.30E2 LB/E3 GAL DIESEL FUEL 6.04E2 LB/E3 GAL DIESEL FUEL 4.25E1 LB/E3 GAL DIESEL FUEL 4.25E1 LB/E3 GAL DIESEL FUEL 3.97E1 LB/E3 GAL DIESEL FUEL 4.93E1 LB/E3 GAL DIESEL FUEL
2-02-002-02	Natural gas	CO NOX M10,PRIMARY M2.5,PRIMRY SOX VOC	3.99E2 LB/MMCF NATURAL GAS 2.84E3 LB/MMCF NATURAL GAS 2.011E1 LB/MMCF NATURAL GAS 2.011E1 LB/MMCF NATURAL GAS 6.0E-1 LB/MMCF NATURAL GAS 1.16E2 LB/MMCF NATURAL GAS
2-02-005-01	Residual/Crude oil	CO NOX PM10,FLTRBLE SOX TOC	1.3E2 LB/E3 GAL RESIDUAL OIL 6.04E2 LB/E3 GAL RESIDUAL OIL 4.25E1 LB/E3 GAL RESIDUAL OIL 1.55E2 LB/ KGAL-S% RESIDUAL OIL* 4.93E1 LB/E3 GAL RESIDUAL OIL
2-02-010-01	Liquefied petroleum gas (LPG) – Butane	CO NOX M10 VOC	3.57E1 LB/E3 GAL LPG 2.54E2 LB/E3 GAL LPG 8.95E-1 LB/E3 GAL LPG 1.04E1 LB/E3 GAL LPG
2-02-010-02	Liquefied petroleum gas (LPG) – Propane	CO NOX M10 VOC	3.57E1 LB/E3 GAL LPG 2.54E2 LB/E3 GAL LPG 8.95E-1 LB/E3 GAL LPG 1.04E1 LB/E3 GAL LPG

* KGAL-S% = (E3 GAL) X (S%) S% = WT% SULFUR IN OIL

SAMPLE CALCULATIONS

- For a facility using the plant-wide emission factor that processes 600,000 tons of product per year, the emissions would be as follow (the facility is not controlled):
  PM10: 600,000 ton product x 0.05 lb PM10/ton product x 0.0005 ton PM10/lb PM10 = 15 tons of PM10

- If the facility was controlled by a wet suppression system and a comprehensive fugitive dust control program, the controlled emissions (using 80% control) would be the following:
  PM10: 15 tons PM10 x (100 - 80) / 100 = 3 tons of PM10