

PROPOSED PROJECT SUMMARY

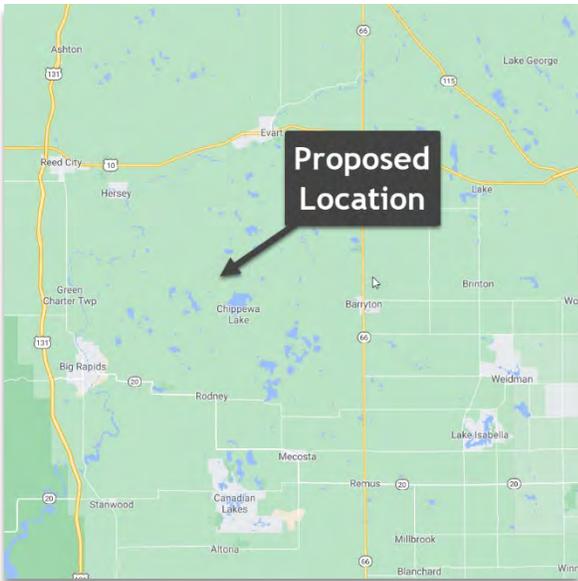
MICHIGAN POTASH OPERATING, LLC – EVART TOWNSHIP, OSCEOLA COUNTY, MICHIGAN

MICHIGAN POTASH OPERATING, LLC

The Michigan Department of Environment, Great Lakes, and Energy, Air Quality Division (AQD), is asking for comments from the public on a proposed Permit to Install (PTI) for Michigan Potash Operating, LLC (Michigan Potash). The AQD will accept comments on the proposed PTI until the close of the comment period on October 18, 2021. A virtual public hearing is being held on October 7, 2021. We will review all comments before we make a final decision on the proposal.

WHAT IS MICHIGAN POTASH PROPOSING TO DO?

Michigan Potash is proposing to build and operate a new facility to produce salt and potash. Salt (sodium chloride) would be used as road salt, water softening salt, and food-grade salt and potash (potassium chloride) would be used as an agricultural fertilizer.



WHAT IS A PTI AND WHY IS ONE NEEDED?

A PTI, commonly known as an air use permit, is required for projects that involve installing, constructing, reconstructing, relocating, or modifying most processes or process equipment that emit, or may emit, air contaminants, such as the facility Michigan Potash is proposing to construct.

Although this type of facility does have air emissions, the AQD looks at all air quality rules and regulations that apply. The proposed permit

is written to keep public health and the environment protected.

WHAT DO I REALLY NEED TO KNOW ABOUT THE PROPOSED PERMIT?

The proposed permit has a lot of specific requirements Michigan Potash would have to follow if the permit is approved. Key areas that you may be interested in, or that you may want more details on, include:

- Emission limits – this is the amount of air emissions Michigan Potash would be allowed to emit for various pollutants.
- Testing Requirements – this has emission testing Michigan Potash would have to do to show they meet their emission limits.
- Monitoring and Recordkeeping – this has monitoring Michigan Potash would have to do and records they must keep showing they are meeting the requirements of their permit.

HOW WOULD THE FACILITY OPERATE?

Using a process known as solution mining, Michigan Potash would pump heated water and brine (concentrated salt water) into a deep geologic formation known as the A1 Evaporite. These fluids would dissolve salt and potash out of the formation and the resulting salt and potash rich fluids would be pumped back to the surface.

It is possible the salt and potash brought to the surface may have hydrogen sulfide (H₂S) in it.

Michigan Potash would remove H₂S from the brine using an air stripper. Potential air emissions of H₂S from the air stripper would be controlled or reduced using an air scrubber and thermal oxidizer.

The salt and potash would be separated using a crystallization process. The crystallized salt and potash would be sent to separate natural gas fired dryers. Each dryer would have a wet scrubber to control or reduce particulate emissions.

The dried salt would be cooled, compacted, and packaged and the dried potash would be cooled and compacted inside enclosed buildings. The particulate emissions from these processes would be controlled or reduced by two baghouse dust collectors.

Michigan Potash would also have two natural gas fired boilers, a diesel emergency generator engine, a diesel emergency fire pump engine, a cooling tower, space heaters, and storage tanks.

Please see Figure 1 below for a diagram of the salt and potash manufacturing process.

The proposed process would emit particulate matter (PM), particulate matter less than or equal 10 microns in diameter (PM₁₀), particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}), oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), H₂S, volatile organic compounds (VOCs), hydrogen sulfate (H₂SO₄), and lead (Pb).

WHAT IS THE CURRENT AIR QUALITY IN THE AREA?

The United States Environmental Protection Agency has developed health-protective standards for specific air pollutants. These standards are called the National Ambient Air Quality Standards (NAAQS).

There are NAAQS for [SO₂](#), [nitrogen dioxide \(NO₂\)](#), [CO](#), [PM₁₀](#), [PM_{2.5}](#), [ozone](#), and [lead](#).

Poor air quality from high levels of pollution can cause health problems. NAAQS are developed

from research studies and set at levels to protect public health. This includes health protection for sensitive groups, like those with heart and lung problems.

The proposed location of the Michigan Potash facility is in Osceola County, Michigan which is currently meeting all of the NAAQS. The nearest AQD [air monitoring station](#) is near Houghton Lake in Missaukee County. This station measures ozone, PM_{2.5} and NO₂. For graphs of the Houghton Lake station air monitoring results compared to the NAAQS, please see the [Technical Fact Sheet](#).

IF INSTALLED, WILL AIR QUALITY STANDARDS BE MET?

A computer model was used to look at the expected impacts of the proposed project's emissions on the air quality in the area around the proposed Michigan Potash facility. This type of computer model is called an air dispersion model and considers many factors, such as quantity and type of emissions, prevailing wind direction, and other factors.

The model showed the expected impacts of the emissions, plus the existing monitored levels, are less than the applicable NAAQS.

Michigan has developed health-based screening levels for additional pollutants referred to as toxic air containments (TACs) under its Air Toxics rules. The proposed TAC emissions from the project would also comply with the AQD's health-based screening levels.

WHAT ABOUT ODORS?

The AQD has received odor complaints in the past about similar facilities. The caustic scrubber and thermal oxidizer would control H₂S emissions, minimizing the potential odors around the facility.

WHAT ABOUT WATER OR LAND CONCERNS?

The AQD does not regulate water or land use; however, Michigan Potash is required to have all applicable permits prior to construction of the

facility, including state and federal Non-Hazardous Disposal Well Permits and Artificial Brine Production/Solution Mining Permits. These other permits are required to ensure the proposed project complies with environmental regulations protecting the land and water in the area. For more information about the Production/Solution Mining Permits, please contact Mark Snow, Oil, Gas, and Minerals Division, at: SnowM@Michigan.gov or 517-230-8233.

WHAT ABOUT NOISE, TRAFFIC, AND ZONING?

The AQD evaluates the potential air emissions from the proposed facility to determine if they comply with the air quality rules and regulations. The AQD does not have authority to regulate noise or traffic outside the facility and does not have authority to evaluate compliance with local zoning requirements.

WHERE CAN I FIND MORE INFORMATION?

Other information, like the Technical Fact Sheet and the draft permit conditions can be found at: Michigan.gov/Air, choose “Public Notice.” The Technical Fact Sheet has additional details about the project and how it will meet the rules and regulations, such as:

- A summary of the reviews completed by the AQD staff.
- How the project will affect air quality and public health.
- A summary of what the proposed permit would require Michigan Potash to do.
- A summary of the allowed emissions included in the proposed permit.
- The rules and regulations that apply to the proposed project.

AQD staff can provide additional information upon request.

SUMMARY:

The AQD has reviewed the PTI application submitted by Michigan Potash and prepared a proposed permit. If the proposed permit is approved, it will ensure the facility meets the applicable air quality requirements. Therefore, we recommend approving the proposed permit.

However, before the AQD acts on the PTI application, we are requesting comments from the public. The AQD will review all comments received during the public comment period and the virtual public hearing, then decide whether to

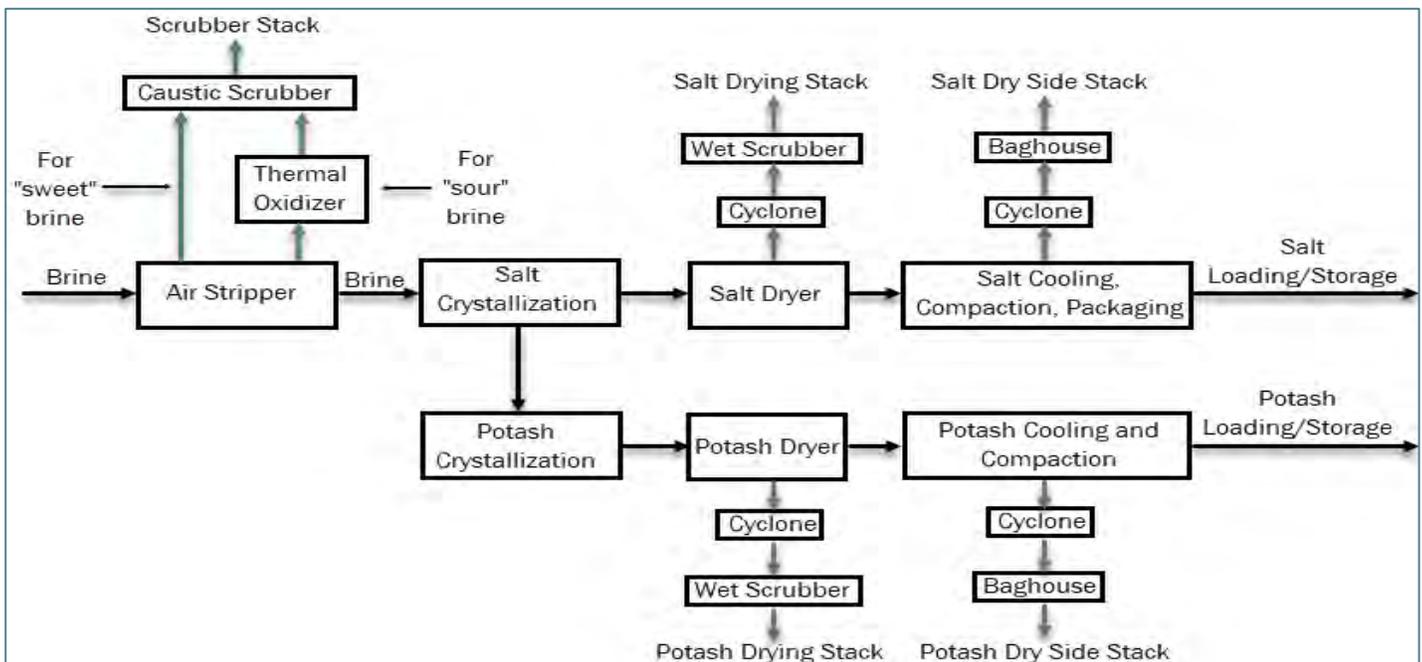


Figure 1. Simplified Process Flow Diagram – Salt and Potash Manufacturing

approve, approve with modifications or deny the PTI application. If approved, the AQD may decide to add or change permit conditions based on the comments received.

WHO CAN I TALK TO ABOUT THE PROPOSED PERMIT?

For more information about the proposed permit, please contact Andrew Drury, AQD, at: DruryA@Michigan.gov or 517-648-6663

WHAT PUBLIC COMMENTS CAN EGLE CONSIDER?

Comments from the public are very important. It is also important to know the law is clear about what we can and cannot consider when we make our decision.

What we can consider	What we can't consider
<ul style="list-style-type: none"> ✓ Technical mistakes in the review ✓ Grammar and spelling mistakes ✓ Other rules the action should consider and why ✓ Why the action will not follow the rules 	<ul style="list-style-type: none"> • Air, land, or water issues not part of the project • Indoor air pollution • Traffic • Noise and lights • Zoning issues • Anything unrelated to the project

HOW CAN I MAKE A COMMENT?

The AQD welcomes comments from the public during the comment period. Prior to making a comment, it is a good idea to “[View an Example](#)” of how to do it. You may also want to read the “[Public Hearings - What you should know](#)” card.



Via email

EGLE-aqd-ptipubliccomments@Michigan.gov



Via US mail

Annette Switzer, Permit Section Manager,
EGLE, AQD, P.O. Box 30260
Lansing, MI 48909-7760



Via voicemail

by calling 517-284-0900



At the Virtual Public Hearing

The [virtual public hearing](#) will be held on October 7, 2021.

Comments must be received by **October 18, 2021**

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