MINNESOTA
ENVIRONMENTAL QUALITY BOARD

# Environmental review: Mandatory category for gas resource development projects

Rule summary and justification

## Purpose of rulemaking

The purpose of this rulemaking is to establish new mandatory categories requiring the completion of environmental review – either an environmental assessment worksheet (EAW) or environmental impact statement (EIS) – for certain projects that involve the production of gas.

### Legislative Directive

In 2024, the Minnesota legislature passed a law that prohibited the production of gas or oil in the state unless a permit for such production was obtained from the Department of Natural Resources. (Minn. Law 2024, Art. 3, Sec. 24, codified as Minn. Stat. § 93.513).

The legislation also recognized the need to develop a regulatory framework for gas and oil exploration and production. It established a Minnesota Gas and Oil Resources Technical Advisory Committee (GTAC), to develop recommendations "to guide the creation of a temporary regulatory framework" for permitting gas and oil production in the state, and directed or allowed multiple state agencies to "adopt rules governing gas and oil exploration or production." (Minn. Stat. § 93.514).

The Environmental Quality Board (EQB) was authorized, but not required, to "adopt or amend rules to establish mandatory categories for environmental review as they pertain to oil and gas production." The legislature provided that any agency adopting rules under this authority was to use the expedited rulemaking procedure in Minn. Stat. § 14.389, and that the agency must publish the notice of intent to adopt expedited rules by May 22, 2026.

## Background on mandatory categories in environmental review

The Minnesota Environmental Policy Act (MEPA), Minnesota Statutes, chapter 116D, established Minnesota's environmental review program. MEPA gives EQB the authority to adopt rules; specifically, Minn. Stat. § 116D.04, Subd. 2a., paragraph (b) directs the board to, "by rule establish categories of actions for which environmental impact statements and for which environmental assessment worksheets must be prepared as well as categories of actions for which no environmental review is required…".

The rules that lay out these "categories of action" are referred to as the mandatory category rules and are found in Minn. R. 4410.4300 for environmental assessment worksheets (EAWs) and Minn. R. 4410.4400 for environmental impact statements (EISs). If a project is of a type listed within the mandatory categories and meets or exceeds the thresholds defined by the rules, then environmental review is required. According to a Statement of Need and Reasonableness (SONAR) for rule amendments adopted in 1982, the establishment of these mandatory categories was "to establish greater predictability to the process, i.e. if parties know at the onset that an EAW or an EIS must be prepared, they can proceed with environmental review immediately."

The mandatory categories require completion of an EAW or EIS depending on the project's potential for significant environmental effects. For projects that the EQB has determined *have* the potential for significant environmental effects, an EIS must be completed. An EAW must be completed for projects that *may* have the potential for significant environmental effects. In addition, the mandatory category rules establish the responsible governmental unit (RGU) that is to prepare and review the environmental documents for each project type.

The environmental documents (whether an EAW or EIS) are meant to be "guides in issuing, amending, and denying permits and carrying out other responsibilities of governmental units to avoid and minimize adverse environmental effects and to restore and enhance environmental quality" (Minn. R. 4410.0300, subp. 3).

The scope of this rulemaking is, per the legislative direction, *solely* the establishment of mandatory categories for environmental review, and per the Board resolution, *solely* for gas production. All other parts of the environmental review process – including content, form, preparation, publication and distribution, decisions, etc. – are not changing.

### Other components of the regulatory framework for gas production

This mandatory category rulemaking is being conducted at the same time as the Department of Natural Resources (DNR) is developing rules to establish a permitting system for gas production, based on the same legislative directive. Because of the interaction between environmental review and permitting actions, the environmental review rules need to effectively coordinate with the regulatory program for gas resource development.

Changes to those proposed regulations could impact the types of projects that should undergo environmental review, or how those are identified in rule, and also potentially who should be the RGU responsible for reviewing those projects. Acknowledging these interactions, EQB staff have been closely collaborating with staff from the DNR.

## Rulemaking Process

Minnesota's environmental review program does not currently contain any mandatory categories related to gas production. This is likely because traditional gas production – i.e., extraction of natural gas – has not occurred or been seen as likely to occur within the state. The legislative directive permitted, rather than required, EQB to adopt rules to establish mandatory categories for gas and oil production.

In April 2025, the board passed a resolution "to use the authority granted in Minn. Stat. § 93.514 to adopt or amend rules to establish mandatory categories for environmental review for gas production using the expedited rulemaking process."[1] The board then directed staff to begin the process of developing the rules and to bring forward a notice of intent to adopt expedited rules in order to meet the timelines laid out in Minn. Stat. § 93.514.

### Coordination and Engagement

Following the board direction, EQB staff began to gather information to develop mandatory category rules. The staff conducted coordination with Tribal staff, stakeholder engagement, and provided updates to the board throughout the rule drafting process. Details on this coordination and engagement are provided in Attachment 1 (Tribal coordination) and Attachment 2 (engagement).

[1] No oil production is expected or likely in Minnesota, and EQB has and retains the authority to develop categories for oil production in the future as needed.

# Proposed Rule Amendments

In documentation for the 1982 rule amendments, the EQB identified that when developing mandatory categories, "four major questions must be considered:

1. Is there a need for a mandatory category relating to that type of project or that impact;
2. What is the proper qualitative measure of that type of project or that impact (for example, should size of industrial facilities be measured in sq. ft. of ground area occupied, sq. ft. of floor space, cost of the facility, type of end product, type of waste products, number of employees, etc.);
3. What is the proper quantitative measure of that type of project or that impact, i.e. how many units of whatever was selected as the basis of measurement…; and,
4. Is the threshold administratively manageable?"

In addition, developing a mandatory category requires establishing an RGU to complete the review.

These questions remain relevant and this memo lays out how EQB staff considered them.

## Recent mandatory category revisions and additions

When beginning development of this rule, EQB staff reviewed rule documents for the establishment of existing mandatory categories, to understand the environmental effects that were considered and how any numeric thresholds were developed.

It is relatively rare in recent years for EQB to establish an entirely new mandatory category type *and* develop thresholds.

### Amendments to mandatory categories

Most updates to mandatory category thresholds have been revisions that relied on data and information from the application of the existing rules; made modifications based on existing thresholds; or aligned with levels set in other rules or permitting programs. For example:

- In 2019, EQB amended the highway projects mandatory category (Minn. R. 4410.4300, subp. 22, item B), changing the threshold for construction of additional through lanes or passing lanes on an existing road from one mile to two miles, based on a historical data review (conducted by the Minnesota Department of Transportation) of projects that completed an EAW, which found that projects between one mile and two miles did not have the potential for significant environmental effects.
- In 2011, EQB added a threshold to the air pollution mandatory category (Minn. R. 4410.4300, subp. 15) requiring review at 100,000 tons per year of greenhouse gas emissions. The thresholds in the air pollution category have been set based on the U.S. Environmental Protection Agency's Clean Air Act permitting requirements.
- In 2006 and 2007, EQB made amendments including adding mandatory categories for projects in shoreland, varying the thresholds based on existing thresholds applicable to the same project types in non-shoreland. EQB also updated thresholds in the wastewater mandatory category based on the Minnesota Pollution Control Agency's experience implementing that category.

### New mandatory category creation

In 2019, EQB added thresholds specific to silica sand projects into some existing mandatory categories, making permanent the thresholds established by the legislature in Minn. Stat. § 116C.991.

In adding the thresholds within the existing mandatory categories for transfer facilities (Minn. R. 4410.4300, subp. 8, item C) and storage facilities (Minn. R. 4410.4300, subp. 10, item H), EQB identified the following potential environmental impacts in the rulemaking SONAR:

- *[P]rocessing, transloading and storage of silica sand have the potential for causing environmental impacts relating to land use, transportation, noise, facility lights, air quality, recreation, economic, and water quality and water quantity…transloading, processing and storage facilities may be very large-scale, which in some cases may increase the potential for environmental impacts including fugitive dust emissions, transportation related issues and water pollution issues.*

In adding thresholds for silica sand within the existing mandatory categories for nonmetallic mineral mining (Minn. R. 4410.4300, subp. 12, item D), EQB identified the following potential environmental impacts:

- *The extraction, mining, and ancillary features associated with extraction and mining of silica sand deposits have the potential for significant environmental effects relating to land use, transportation, noise, air quality, water quality and vibrations. Activities and features associated with the extraction and mining processes and mine area land disturbance directly relate to the need for environmental review due to the potential for significant environmental effects caused by these activities. Specifically, the activities include truck transport…which has the potential to result in increased traffic impacts, road degradation, increased noise, safety concerns and increased dust…Additional activities and features associated with the extraction and mining process that have the potential to change the way-of-life include lights, noise, and hours of operation… Mine activities and features with the potential for significant environmental effects include: clearing the mine site, removal of vegetation, compaction, stripping, grading, grubbing, filling, storing materials, settling ponds, berms, constructed buildings associated with mine activities, haul roads and refuse piles.*

In both categories, EQB identified the specific thresholds as being reasonable because they were established by the legislature and because a 2015 EQB survey of local governments identified general agreement with the specific thresholds.

### Mandatory category rulemaking considerations

In developing mandatory category thresholds, EQB has made reasonable choices based on the available information concerning environmental effects. Because gas production does not yet exist in Minnesota, information is limited and there are not any existing thresholds that can be used. EQB's proposed mandatory category thresholds therefore rely on multiple factors, including:

- An understanding of the environmental effects identified as important or significant in past mandatory category rulemakings.
- Available information about gas production projects and their environmental effects, both quantitative and qualitative.
- The likelihood of public interest in gas production projects.
- The program's objectives (as laid out in Minn. R. 4410.0300) to: provide usable information to the project proposer, governmental decision makers and the public concerning the primary environmental effects of a proposed project; provide the public with systematic access to decision makers; delegate authority and responsibility for environmental review to the governmental unit most closely involved; reduce delay and uncertainty in the environmental review process; and eliminate duplication.

## Need for a mandatory category for gas production

EQB staff have determined that there is a need for a mandatory category for gas production due to the likelihood of these types of projects; the types of environmental effects that could result; and the need for an approach specific to gas production.

### Gas production potential

There is demonstrated potential for production of both helium and hydrogen gases within the state. In February 2024, a helium exploration company (Pulsar Helium) confirmed that the site of a previous accidental discovery of helium gas in the northeastern part of the state appeared to contain commercial quantities of helium gas. Pulsar suggested that it might be able to start commercial production of helium, along with carbon dioxide, within twelve to eighteen months.

At the same time, state agency staff became aware that other exploration companies were identifying drilling targets for geologic hydrogen in Kansas and Nebraska. These targets were located along a geologic formation known as the Midcontinent Rift System. The Midcontinent Rift System extends northwards into Minnesota, from the Iowa border up to Lake Superior. The United States Geological Survey has identified the Midcontinent Rift System as one of the top two prospective regions for geologic hydrogen production in the United States.

Minnesota has not previously been the site of industrial extraction of gas, although it has a long history of other extractive industries, i.e., mining of sand, gravel, and iron ore. Because gas production is new to Minnesota, the need and desire for information about the possible impacts, especially of larger projects, is likely to be high among both the public and permitting authorities at all levels of government. The environmental review process is intended to inform decision makers and the public, and adding a mandatory category threshold for these projects helps ensure this objective is accomplished.

### Environmental effects of gas production

The environmental concerns or effects from a gas production project are critical in determining if and when these types of projects should be required to do environmental review. These environmental effects result from the actions undertaken during gas production.

A typical gas production project begins with exploration. During exploration, a project proposer gathers information about a site and its gas deposit. The goal of exploration is to identify a suitable location for drilling a well to extract the desired gas. This step includes research to determine if the geology is likely to result in sufficient extractable gas to warrant development. This research may include drilling exploratory borings to collect samples and make subsurface measurements. From there, the next steps or actions for development of a gas project include drilling, completion, and production. These steps typically involve the processes and time periods described below:

- **Drilling** of a gas well typically takes 30-60 days, but that time can vary. Drilling starts with preparing the site (clearing and leveling) and setting up a drilling rig to drill a well and feed steel pipe into the well bore. Drilling mud may be needed to manage downhole pressures, provide information about the rock layers being drilled through, and keep the drill bit cool. Casing and cementing are performed to stabilize the well bore and to prevent contamination. Safety equipment, such as a blowout preventer, is installed to prevent the gas from being released in rare, unexpected, overpressure situations.
- **Completion** is a one-to-five-week process of bringing a gas well into production after initial drilling has been completed. Completion steps may involve: removal of the drill string; casing, cementing, and perforating the well bore; hydraulically fracturing the reservoir to stimulate production; expelling drilling and fracturing fluids; and installing the production valves. Additional equipment is then installed to allow for extraction of the gas.

- **Production** of gas from a completed well can last from 20 to more than 50 years. During production, the well is monitored, maintained, and managed. When a gas stream is extracted, it is typically made up of a combination of gases.[2] For example, the gas stream in Pulsar's exploratory wells has been identified as being comprised of helium, nitrogen, carbon dioxide, and methane. The target gas resource is typically separated from the rest of the gas stream and sent to an end user.[3] The process of sending gas to an end user varies; it may be transported in a gaseous state or may be liquefied. It can then be shipped via trucks or piped to off-site processing facilities. The unwanted gas components are disposed of according to applicable rules and regulations.
- The **closure and reclamation** phase occurs after the underground gas reservoir has been depleted and the site must be closed. Any equipment is removed, wells are sealed to protect groundwater resources, and the land is returned to a natural state. While removal of equipment and well sealing can be completed within a relatively short period of time (months), restoration of impacted natural resources may take much longer, depending on the setting and scale of the gas production operation.

EQB staff then reviewed the potential for environmental impacts from all stages of a gas production project. Based on available information, there are the following potential environmental impacts:

- **Surface impacts**. Initial development of the project location and ongoing operations may lead to environmental effects from clearing land for construction of drilling pads, facilities to process and ship gas, roads to access extraction sites, and construction of "flowlines" to transfer gas from multiple wells to a collection or processing area. Land clearing can impact surface water quality, wildlife habitat, and threatened and endangered species. There may also be surface impacts due to spills or leaks from material storage. There may be noise, light, and odor from both construction and ongoing operations.
- **Subsurface impacts**. Well drilling, gas extraction, injection of drilling waste (if proposed), and spills or leaks from material storage have the potential to cause pollution of groundwater and drinking water. Additionally, depending on the type of operations, there may be potential for impacts to the geology or groundwater due to fracking or other gas production methods.
- **Air impacts**. Extracting and processing gas can lead to air pollution. Gas reservoirs may contain a variety of components such as helium, hydrogen, methane, carbon dioxide, and nitrogen. Some of these components may need to be disposed of, which could include processes such as venting and flaring. Potential air impacts also come from the operating equipment, which is often powered by generators, as well as from vehicle traffic.

Supporting documentation for the existing mandatory categories (such as the documentation of environmental impacts from silica sand described above) demonstrates that these types of impacts have long been considered reasons to require certain projects to undergo environmental review.

## Existing categories or specific approach

Gas production projects could, in some cases, exceed *existing* mandatory category thresholds (particularly impact-based thresholds such as air pollution or land use conversion) and be required to undergo review without a new mandatory category applicable to gas production projects. However, EQB anticipates that gas production projects that have a potential for significant environmental impacts will generally not be covered by

[2] The well can also produce waste waters (called "produced water") that require management due to the presence of contaminants.

[3] Separation or purification can be accomplished through multiple different methods.

the existing categories because the categories most likely to be applicable generally focus on one particular impact source, and not the variety of impacts associated with gas production.[4]

Not establishing project-specific categories under the assumption that a gas production project will fit within the existing rules is likely to result in projects that may or do have the potential for significant environmental effects not being properly reviewed.

The potential for environmental effects from gas production demonstrates the need for mandatory environmental review.

## Project type and definition

Having established that there is a need for a mandatory category, the next step is to consider how to define the project type and the actions that require review.

The existing mandatory categories largely require review when there is construction or expansion of a specific project type. EQB is proposing to maintain that structure here, proposing that environmental review be required for construction or expansion of a "gas resource development project."[5]

To implement this, EQB is proposing multiple definitions in the amended rules.

**Minn. R. 4410.0200, subp. 32a.** Gas. "Gas" has the meaning given in Minnesota Statutes, section 93.514.

> This definition incorporates the identical legislative definitions of "gas" in Minn. Stat. § 93.513, subd. 1 and Minn. Stat. § 93.514(c). These provisions establish the prohibition on production of gas and oil from consolidated or unconsolidated formations (geological sources as opposed to gas generated by other processes such as anaerobic digestion) without a permit from the DNR commissioner and issued pursuant to rules adopted by the DNR, and the authority or requirement for various agencies to adopt rules. The statutes do not define "oil." Because geological sources of "oil" are not known to exist in the state, it is reasonable to limit this rulemaking to "gas."

**Minn. R. 4410.0200, subp. 32b.** Gas production. "Gas production" means production, as defined under Minnesota Statutes, section 93.514, of gas.

> The legislation establishing the permitting program defines "production" as including the extraction and beneficiation of gas or oil in the state. Minn. Stat. § 93.513, subd. 1; Minn. Stat. § 93.514(c). To clarify that a facility that involves any of these activities is subject to the environmental review requirements described in this rule and to simplify drafting, it is reasonable for the EQB to use this definition, but without reference to oil.

**Minn. R. 4410.0200, subp. 32c.** "Gas resource development project" means an operation that is designed for gas production from consolidated or unconsolidated formations and that is required to hold a permit from the DNR under Minnesota Statutes, section 93.513, and rules adopted by the DNR under Minnesota Statutes, section 93.514.

> The requirement for a project to be subject to environmental review relies on whether that project involves a major "governmental action…which would cause physical manipulation of the environment…"

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[4] One exception may be a stand-alone or off-site gas processing facility for liquefying gas. These are larger industrial facilities that are more likely to involve pipelines and to process a larger volume of gas and are quite rare. A facility of this type would likely be reviewed under the existing industrial facility or pipeline mandatory categories, and therefore no mandatory category is proposed for these types of projects in this rulemaking.

[5] Gas resource development is the definition of a gas production project that EQB is proposing to utilize as this is the terminology being utilized in DNR's draft regulations.

as defined by Minn. R. 4410.0200, subp. 65 and as required by Minn. Stat. § 116D.04. Here, the main governmental action required will be a permit from the DNR, and the legislature has required DNR to adopt rules before it may grant a permit. (Minn. Stat. § 93.513.) It is reasonable for the EQB to reference the legislative definitions of "gas production" and DNR's permitting authority in establishing a definition that will be used to describe the type of facility that may be subject to environmental review requirements. DNR's rules will further establish the specifics of what types of projects need a permit.

**Minn. R. 4410.0200, subp. 32d.** Gas well. "Gas well" means a well that is intended for gas production and that is included as part of a gas resource development project.

To access gas for production, it is necessary to drill or bore a shaft into the geological formations containing the gas. In the gas industry, these openings are called "wells." The legislature has not defined "wells" in this context, although other "well" definitions exist in state law, in particular definitions adopted by the Minnesota Department of Health in rules intended to ensure proper construction and sealing of water wells used for water supply and environmental wells used for monitoring and remediation. Because the number of gas wells is related to the environmental impacts from a gas resource development facility, the EQB proposes to use the number of wells involved in a gas resource production facility to determine when environmental review is necessary. As a result, EQB needs to define what is meant by a "gas well." EQB has limited the gas well definition to those wells that are included in the gas resource development project. This is reasonable to ensure that other borings (for example, exploratory borings that are not ultimately used for production) do not trigger environmental review requirements.

Defining the project type as gas resource development is meant to broadly capture the actions that involved in extracting and producing gas.

## Thresholds

The next step is to determine the thresholds that should be imposed for environmental review of gas resource development projects. This requires determining a metric that corresponds with the level of effects EQB concludes requires environmental review.

An EAW is required for projects that **may** have the potential for significant environmental effects, while an EIS is required for projects that **do** have the potential for significant environmental effects. Thresholds must align with potential for significant environmental effects and be easy to apply so that project proposers and permitting authorities know early on which projects require environmental review, and of what type (EAW or EIS).

Developing reasonable thresholds for the mandatory categories requires understanding, to the extent possible, the potential for significant environmental effects from projects of this type, while recognizing that there are always going to be limitations in the available data. In the case of gas resource development, because these are new project types to this state, many unknowns are present. This highlights the need to utilize an evidence-based but conservative approach when developing environmental review thresholds.

The goal of mandatory category thresholds is to ensure, to the extent possible, that the right projects are reviewed so that permitting authorities have the environmental information necessary to support their permitting decisions, and the public has an opportunity to participate in the process of developing that information. The environmental review rules recognize that the mandatory categories may not always capture projects that should require environmental review. If the thresholds fail to trigger environmental review for a particular project that poses unique impacts, the environmental review rules provide for discretionary review or review by petition.

Many of the existing project-based mandatory categories require review when a project reaches a certain size, such as the capacity of a storage facility, acres of land excavated for mining, or the square feet of a building.

Therefore, EQB staff began by evaluating at what size the environmental effects from a "basic" gas resource development project may or do become potentially significant. EQB staff then considered whether there were specific instances where the effects from smaller gas resource development projects may or do become potentially significant, due to specifics of their location or operations.

## Size-based threshold

The EQB is proposing that an EAW be required for any gas resource development project that is proposing a project consisting of five or more production wells, either as a new project or an expansion of an existing facility. (See proposed rule part **Minn. R. 4410.4300, subp. 38, item A**.)

This size-based threshold, applicable statewide, is intended to capture gas resource development projects that may have the potential for significant environmental effects, based on the total effects to the surface, air, and subsurface.

EQB staff determined that the best metric for the "size" of a gas resource development project is the number of production wells. Each additional well adds to the impacts of the project generally. While EQB staff considered other possible metrics – such as the volume of gas extracted - the number of wells is a metric that is easily applied by permitting authorities and regulated parties to assess whether a project requires environmental review.

As discussed below, a gas resource development project utilizing a **single** production well (assuming it does not incorporate techniques discussed in other sections below), generally would have limited environmental effects that do not reach the threshold for environmental review. However, the potential impacts increase as project size increases – i.e., as more production wells are developed. This is mainly due to the **combined** impact of surface disturbance, noise, light, truck traffic, and air emissions that come with increases in gas production.

This size-based threshold is based on understanding the impacts from a "basic" gas resource development project of the type anticipated in Minnesota, consisting of a development or production area with production wells and a centralized processing facility connected to each individual production well via flow lines.

EQB staff reviewed projects in other states to understand the development of the typical gas production project like those expected to occur in Minnesota. For example, a helium gas production project in Colorado began with two production wells and a single production facility; it has added wells over time and is to be comprised of 11 production wells, all of which will be connected to a centrally-located processing facility. The gas stream is predominantly nitrogen, with smaller percentages of helium and carbon dioxide. The processing facility purifies the gas to around 90% helium by removing the other gas components.

Assuming gas production projects are likely to consist of multiple production wells within a single general area, with all wells connected to a centralized processing area, it is logical to use a project's number of production wells to create an environmental review threshold. Such a threshold can encompass the impacts of a project as a whole. The number of wells will directly influence the level of the likely environmental effects, namely the collective impacts to the surface, subsurface, and the air from the activities at the site.

The section below expands upon the analysis and supports the reasonableness of a mandatory EAW for a gas resource development project consisting of five production wells.

### Analysis

EQB staff's analysis began by looking at the potential for environmental effects from a single production well and then extrapolating the potential impacts as a project increases in size in order to determine at what level the environmental effects may have the potential to be significant.

At a minimum, viable commercial gas production must include:

- A way to extract the gas, necessitating drilling at least one well.
- A way to process or beneficiate the gas after extraction.
- A way to deliver or ship the purified gas to an end user.

### *Subsurface Impacts*

A single, basic, gas well that is designed to produce gas without enhanced or specialized techniques is unlikely to have significant subsurface impacts. EQB proposes to classify projects that propose to use enhanced or specialized techniques for production differently with regard to environmental review (as noted in sections below).

### *Surface Impacts*

Gas resource development projects require a proper working space for drilling wells, installing flowlines, and constructing a processing facility, all serviced by appropriate roads. These actions will cause surface impacts from land use change, construction, and ongoing operations. Due to the potential remote locations of these projects, land use conversion and land cover changes are anticipated.

Land use conversion involves environmental impacts related to construction from removal of natural vegetation and cover – including loss of habitat, erosion, and runoff – and is associated with increased light, noise, and traffic impacts. Increased light and noise may lead to impacts on both people and the environment. Existing environmental review categories recognize that changes to land use can cause environmental effects that justify environmental review. Land use conversion (typically acreage) and facility size (building square footage or gross floor space) are common considerations in mandatory category development and existing thresholds.

Noise levels from gas production projects are also important environmental effects.[6] The main sources of noise from oil and gas operations can be grouped into the following two categories: (1) construction and preparation (e.g., road construction, site and well pad preparation, truck traffic) and (2) production and completion (e.g., flaring operations, drilling, hydraulic fracturing, compressor stations). It is difficult to assume all operations will exhibit the same noise impacts; but, for comparison, the State of New York completed a Generic Environmental Impact Statement (GEIS) for the oil and gas sector. This study notes composite noise levels at a distance of 15 to 610 m (50 to 2000 ft) ranged from 57 dBA to 89 dBA for access road construction, 52 dBA to 84 dBA for well pad preparation, 44 dBA to 76 dBA for horizontal drilling, and 52 dBA to 104 dBA for hydraulic fracturing.

Operations at these types of facilities are typically 24 hours a day and therefore require lighting. Development of oil and gas fields has been shown to increase light pollution, especially in rural areas.[7] Impacts from lighting may have the potential to negatively impact people's way of life in areas where gas resources are developed, especially as they grow in size. Impacts from lighting have been shown to have negative impact on animals and insects, disrupting circadian and seasonal behavior.

Gas resource development facilities will require equipment necessary to produce and beneficiate the gas and may incorporate industrial equipment as well as generators to power such equipment. Land use conversion will be necessary for accessing a space to drill a gas well and construct a processing facility. Road access to these sites will be necessary as well as installing flow lines to connect the well(s) to the processing facility.

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[6] State noise standards, industrial facilities such as gas production are likely to be classified as NAC 3.

[7] Boslett, A., Hill, E., Ma, L., & Zhang, L. (2021). Rural Light Pollution from Shale Gas Development and Associated Sleep and Subjective Well-Being. *Resource and energy economics*, *64*, 101220. https://doi.org/10.1016/j.reseneeco.2021.101220

Based on available information, a single-well gas resource development project including these components would potentially result in two to five acres of land conversion although that total is dependent on location and other project circumstances.

As a project grows in size and continues to add production wells, the amount of land disturbance will grow, the amount of road access will increase, and the flowline distances will increase. Additionally, the amount of equipment and potential industrial development that the production space would require to facilitate more production can be expected to increase.[8]

### *Traffic impacts and air impacts*

Traffic impacts and air pollution are also key components of the anticipated environmental impacts from a gas resource development project. The overall impacts of these two components are connected and are dependent upon the volume of gas that is available to extract from each well (flow rates) and the composition of the gas that is being targeted.

Once gas is extracted from the subsurface, that gas must be managed. The amount of gas production per day will be a key factor in the amount of gas shipped, which will vary based on the methods that a project uses to manage and ship the gas (likely via trucks). The composition of the gas and unwanted components will influence how much gas is shipped and any waste gas disposal (which could include venting or flaring) potentially causing air pollution, including climate pollution.

Data from Minnesota[9] and Colorado[10] show that gas wells are capable of producing 500,000 cubic ft/day of gas, made up of multiple components. Pulsar's published test data estimates that the gas deposit it is evaluating for production consists of 10.5% helium (ranging from 5.6% to 13.8%), 13.2% nitrogen, 2.4% methane, and 73.8% carbon dioxide. This information can be used to understand the range of potential environmental effects from shipping the desirable gas and managed unwanted components.

The targeted gas (such as helium or hydrogen) must be transported to end users. Shipment of gas can be done in a variety of ways. Gases are typically shipped via "tube trucks," which come in various sizes and can transport various volumes of gas in liquid or gaseous states. There are numerous factors that impact truck sizing for shipment (production levels, road restrictions, shipping contracts, etc.). The truck selection used in this analysis is an 80,000-pound truck, which would represent the largest load allowed on Minnesota roads. Local jurisdictions and seasonal road restrictions would likely impact the amount of product that can be shipped and may not allow for an 80,000-pound truck; if lighter loads are required to meet the road limitations this would result in increased truck trips.

Existing environmental review categories identify traffic as a significant driver of environmental impacts due to safety concerns from road congestion, but also to the degradation of the roads. Truck traffic also may have air pollution and other impacts.

If *all* of the produced gas were shipped (assuming a flow rate of 500,000 cubic ft/day), EQB estimates that shipping the gas from one well could require 1022 trucks per year (2044 total trips) for non-liquified gas; if the

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[8] This is assuming a scenario where new production wells are being added to sites where existing production wells continue to produce. When production wells are no longer producing, DNR's rule will likely require them to be sealed and reclaimed. In some cases, a new production well may replace a sealed well, keeping the total number of wells constant.

[9] Pulsar Helium has published test data showing flow rates as low as 21,000 cubic ft/day (unpressurized) and as high as 1.3 million cubic ft/day (pressurized).

[10] Data from the helium project in Colorado shows flow rates for wells operating in 2025 that range from 140,000 cubic ft/day to 526,000 cubic ft/day, all of which are pressurized flow rates.

facility is shipping liquified gas, many fewer trucks would be needed – about 1/5$^{th}$ of the initial estimate.[11] Although producers are unlikely to ship all produced gas due to gas streams having components that are not marketable, this is a reasonable upper or worst-case estimate for truck traffic, especially considering that under some estimates a single well could produce more than the 500,000 cubic ft/day amount used here.

Non-targeted or undesirable components of the gas stream also have to be managed and/or disposed of. Looking across the country at gas concentrations in projects producing helium, the gases present are similar to those reported by Pulsar, but with a wide variety in the relative percentages. Projects in Colorado have reported gas compositions of 77% nitrogen and 15% $CO_2$ but companies have reported wells consisting of up to 98% $CO_2$. There are also wells in Colorado that mostly produce methane with helium making up one to six percent of the overall gas composition. Information on hydrogen gas production is more difficult to find. However, the associated gases are anticipated to be of similar composition (nitrogen, carbon dioxide, helium, methane) but (as with helium) the percentages are expected to vary significantly. Hydrogen exploration projects in Kansas, for example, have reported gas compositions of up to 96% hydrogen.

Existing environmental review categories identify air pollution as a significant source of environmental impacts.

If *all* of the gas extracted were released to the atmosphere, using the amount of $CO_2e$ from Pulsar's gas evaluation at the same 500,000 cubic ft/day, one well could emit 10,461 tons $CO_2e$/year from the entire gas stream. Again, although not all gas would ever be released, this calculation provides a reasonable upper or worst-case estimate for climate pollution impacts from production at this level (again considering that under some estimates a single well could produce more than the 500,000 cubic feet/day amount used here) and demonstrates the potential for increased emissions for projects where more greenhouse gases require management or disposal.

The calculations of potential truck traffic and air emissions combined with the likely degree of other potential impacts discussed above (surface disturbance, light, and noise) from a gas resource development project suggest that a project consisting of a single well generally should not require mandatory environmental review. However, as wells are added, the aggregate effects increase. The aggregate impacts (surface disturbance, light, noise, traffic, and air) from a project with five or more wells justify a mandatory EAW.

### Size threshold conclusion

The existing mandatory categories established in rule, and their supporting documents, provide useful comparisons about the relevant potential for environmental effects. For example, multiple mandatory categories include thresholds based on acres of clearing for land use conversion or the amount of space necessary for operating facilities. These include required EAWs for projects that convert 80 acres of natural land, 20 to 40 acres of land in shoreland, or incorporate structures totaling 100,000 – 600,000 square feet. As discussed above, a gas resource development project with five wells could result in a wide range of total land clearing potentially 10 – 25 acres from road development, flowline installation, and well pad construction,

The air pollution mandatory category requires an EAW for projects generating 100,000 tons per year of greenhouse gas emissions. The estimates provided above, based on estimated flow rates and Pulsar's specific gas composition data, show that a gas resource development with five wells could result in levels of greenhouse gas emissions approaching half this threshold.

The supporting documents for the inclusion of the silica sand mandatory category note a particular concern for truck traffic at transfer facilities, with the threshold of 200,000 tons per year of silica sand resulting in truck traffic of 7,692 loaded trucks per year. From the estimates above based on estimated flow rates, at five wells the

[11] However, this would require more operating equipment to liquify the gas product, which would likely result in increased surface disturbance and potential air emissions.

potential truck traffic from a gas production project may reach 5,110 trucks per year, about 2/3 of the figure considered for silica sand transfer facilities.

Not all of the potential environmental effects can be quantified; the impacts of noise, light, and similar effects must be judged more qualitatively. In addition, none of these effects stand alone; evaluation of potential for environmental effects must incorporate all potential impacts.

At five production wells, the amount of truck traffic, land use conversion, construction requirements, potential air emissions, potential noise levels, and lighting requirements combine together to indicate that a project of this size *may* have the potential for significant environmental effects. Although much of the analysis is based on information from the one known potential project – Pulsar Helium – the potential environmental concerns relating to air pollution, traffic, noise, lighting, land conversion, all remain no matter the type of gas being produced.[12]

A size of five wells also strikes a reasonable regulatory balance. In the GTAC process, which was to recommend a *temporary* framework for regulation of gas production, EQB staff recommended that all gas production projects go through an EAW, due to the newness of the project type and the unknowns. Some comments on the GTAC report felt that this requirement would be too burdensome. The research conducted since that report, described above, shows that the smallest projects are unlikely to require mandatory review based on their potential for significant environmental effects. This is consistent with many project-based mandatory categories which have thresholds that exclude the smallest projects.

Based on EQB's understanding of the gas production project in Colorado noted above, a five well threshold is likely to align with potential projects expected to occur in Minnesota. At a higher size threshold, mandatory environmental review becomes less likely. The public interest in the impact of gas production – demonstrated by comments on the GTAC report that raised concerns about drilling noise, lighting, dust, traffic, carbon dioxide emissions, PFAS in drilling mud and materials, and threatened and endangered species – supports the need for environmental review.

There is insufficient information to set an EIS threshold – i.e., to determine that a basic gas resource development project, particularly of the types of projects expected to be located in Minnesota, *does* have the potential for significant environmental effects – based solely on the size of the project. If the EAW finds the potential for significant environmental effects (applying the decision criteria under Minn. R. 4410.1700), an EIS would be required.

The weight of evidence demonstrates that setting a mandatory category threshold requiring an EAW for a gas resource development project consisting of five wells is appropriate, based on data from potential production levels from comparable helium projects while recognizing the variabilities that may arise from other gas resource development projects. This threshold recognizes the potential for significant environmental effects utilizing project specific data while incorporating the potential variations that may arise on a project-to-project level.

### Location-based threshold

The proposed size-based threshold would apply across the state. The next evaluation is whether there is a need for a different (lower) threshold in certain areas. Some existing mandatory category thresholds vary by location. For instance, there are separate mandatory categories for certain kinds of development (residential,

[12] Some interested party input has suggested that EQB develop categories that are differentiated based on the type of gas being extracted. EQB believes that this would make the rules overly complicated, highlighted by the variabilities in flow rates and gas compositions. Setting a threshold for requiring environmental review based on the number of production wells, regardless of targeted gas, is appropriate for all gas extraction projects

campgrounds) in shoreland, and the feedlots EAW mandatory category has a lower threshold for projects located in certain sensitive areas.

Based on known geology, gas resource development projects have the potential to be located across the state. EQB is proposing certain thresholds that would require environmental review for gas resource development projects that are located on or near certain sensitive areas. This mandatory category threshold (see proposed rule **Minn. R. 4410.4300, subp. 38, items B and C)** is meant to align with DNR's rules.

EQB staff understand that the DNR plans to identify locations where gas production would not be allowed (excluded) and those where certain kinds of actions will be prohibited or restricted. While environmental review would not be required in areas where production is completely excluded because no projects would occur in those areas, it is reasonable to require environmental review in those areas where DNR will allow a gas production project to be sited but the DNR will impose limitations on the type of operations to reduce potential impacts to sensitive environmental areas.

In these areas, gas production may have the potential for significant environmental effects and therefore an EAW should be required. Where DNR rules place restrictions on the location of projects, or the actions that can be taken within certain locations, it is reasonable to assume that the projects pose particular risks to the environment, suggesting that environmental review should be conducted to ensure that all risks are understood and addressed through the permitting process.

EQB is proposing that an EAW be required for a gas resource development project if it is to be located within or intended to incorporate directional drilling methods to extract gas from underneath areas of the state that are recognized as needing special protection. Specifically, EQB is proposing a mandatory category threshold that requires an EAW:

- For any gas resource development project proposing to produce gas from beneath a location where the DNR imposes regulations to prohibit both surface disturbance and directional drilling.
- For any gas resource development project proposing to directionally or horizontally drill underneath areas where the DNR imposes siting regulations to prohibit only surface disturbance, if that drilling is within ¼ mile of the surface.

The vertical buffer for directional drilling (less than ¼ mile below the surface) is added based on potential for shallow drilling to impact the subsurface, in particular the potential to impact drinking water aquifers. These aquifers are more likely to be encountered when drilling horizontally at depths less than ¼ mile, and environmental review will ensure that detailed information identifies the potential effects of drilling.

EQB staff considered other ways of incorporating location – such as listing out specific sensitive locations – but ultimately determined that alignment with DNR's siting locations would be more efficient and take advantage of DNR's expertise in understanding the protections required for different areas (such as state and national parks, scientific and natural areas, etc.)

EQB staff also considered whether different thresholds were needed in proximity to Tribal reservations and communities. Considering a specific location-based threshold means understanding whether there is the need to require (through creation of a mandatory category) environmental review of projects in specific areas, because of particular effects of the project type, the nature of that location, and the interaction between the two. Ultimately, it is a complex programmatic issue that is beyond the scope of this expedited rule to define a boundary that:

1. Is relevant to Tribal resources;
2. Fits with the program's requirements for significant environmental effects; and
3. Is repeatable and easily implemented.

Although EQB is not proposing a mandatory category based on proximity to Tribal lands, EQB understands that DNR's rules will provide Tribes with early notice of projects. This will support consultation and coordination under Minn. Stat. § 10.65. As the RGU, DNR has the authority to order discretionary review, and members of the public can file a petition for an EAW on a project.

## Project-specific techniques thresholds

The size and location-based thresholds are meant to capture "basic" gas resource development projects, regardless of the type of gas they are extracting or how they intend to extract it. However, certain kinds of project techniques are likely to influence a project's potential for significant environmental effects. EQB is proposing three specific thresholds where environmental review would be required, based on whether the gas resource development project would include injection of substances in the subsurface for waste disposal, to enhance the recovery of the gas, or in order to create a gas to eventually extract. Projects that involve these techniques pose special concerns due to the potential subsurface impacts, such as to groundwater and drinking water, in addition to the potential effects discussed previously.

Underground injection techniques, or the process of placing fluids underground via a well, are common in parts of the oil and gas sector and may be utilized by a gas resource development project in a few different ways.[13] In general the process of injecting a substance or a fluid in to the subsurface presents environmental concerns including the potential contamination of drinking water and induced seismic activity. Injecting fluids may contain wastes that when injected into the subsurface offer a direct path to then contaminate underground sources of drinking water. Injecting fluids underground may lead to induced seismic events.[14] In Minnesota underground injection is prohibited within water wells and borings, apart from a few exceptions per Minn. R. 4725.2050. Because these prohibitions and regulations are limited to water wells and borings, they are unlikely to apply to gas production. The existing regulations and prohibitions on certain types of underground injection demonstrate a long-standing awareness that these actions have the potential for significant environmental effects; this understanding applies even within this new industry that was not considered at the time existing regulations were developed.

The types of underground injection that EQB staff believe should require environmental review and the potential environmental effects are discussed below.

### Class II injection wells for waste disposal

EQB is proposing that an EAW should be required for any gas resource development project proposing to incorporate underground injection for waste disposal. (See proposed rule **Minn. R. 4410.4300, subp. 38, item D).**

Underground injection control (UIC) is a federal program that regulates the construction, operation, and closure of injection wells across the nation. States can apply to be given regulatory authority over this program ("primacy"); to date, Minnesota has not done so. One type of injection well that falls within this federal program

[13] While underground injection is common, projects may be designed not to use or require these techniques. For example, Pulsar Helium has indicated no need to use these techniques in producing helium.

[14] The largest earthquake induced by fluid injection that has been documented in the scientific literature was a magnitude 5.8 earthquake in Oklahoma. Four magnitude 5+ earthquakes have occurred in Oklahoma, three of which occurred in 2016. In 2011, a magnitude 5.3 earthquake was induced by fluid injection in the Raton Basin, Colorado. Earthquakes with magnitudes between 4.5 and 5.0 have also been induced by fluid injection in Arkansas and Kansas. See USGS, How large are the earthquakes induced by fluid injection?

is Class II oil and gas related injection wells. These wells are used for waste disposal from oil and gas projects utilizing underground injection as well as underground injection for enhanced recovery of oil and gas.

Enhanced recovery methods ultimately are meant to achieve the same thing as fracking (increased recovery of gas), just under less intense pressures and volumes. (Fracking is discussed in a section below.) Liquid is pumped underground with pressures low enough that the geology will not be forced into fracturing, but still improve displacement of the target substance underground, allowing for increased extraction rates.

Underground injection waste disposal is utilized in many oil and gas wells to dispose of waste encountered during the drilling process and is often used for produced waters (typically brine waters).

The volumes of water and anticipated impacts from enhanced recovery (without fracking) utilizing a federally-permitted Class II injection well are anticipated to be relatively similar to that of hydrofracturing water wells, which is currently allowed in Minnesota and does not require environmental review (further discussion of hydrofracturing is provided in the section below). However, if project-related waste is incorporated into the enhanced recovery process, there may be potential for significant environmental effects. The prohibition on using water wells or borings for injection of waste disposal provided in Minn. R. 4275.2050 clearly demonstrates the environmental concerns by limiting what is allowed to be injected in order to protect drinking water sources. This argues that regulated injection under the federal Class II program might have the potential for environmental impacts. Waste disposal into the subsurface by injection has the potential to create a direct pathway for pollution of drinking water resources. Additionally, there is the potential for seismic events occurring from prolonged and high-volume disposal from underground injection wells.

For these reasons, EQB staff propose that any project that includes a Class II injection well for project-related waste disposal should require an EAW prior to approval. This threshold would only apply for enhanced recovery Class II injection wells if the injection materials include project-related waste.

### Stimulated gas production

EQB is proposing an EAW be required for any gas resource development project that will produce (i.e. extract and beneficiate) gas created in the subsurface as a result of a chemical reaction from underground injection. (See proposed rules **Minn. R. 4410.4300, subp. 38, item E)**

This type of underground injection is the type of process used to create "stimulated hydrogen." Geology in certain areas of Minnesota may allow hydrogen gas to be created in the subsurface by injecting a solution to induce a reaction between that solution and the minerals within a targeted geologic formation.[15]

This type of project is mostly theoretical and there is limited information available on real world implementation. Despite the lack of available data, there is a conceptual understanding of what is included in these projects. This project type and its potential impacts are different from that of a typical gas resource development project; the techniques used along with the necessary fluids combined with potential additives (underground injection to create a gas in the subsurface) present an increased potential for impacts to the subsurface with the potential to significantly impact drinking water and groundwater sources.

Geologically these projects have an opportunity to occur in areas of the state where drinking water aquifers are present. Similar to waste disposal, underground injection leading to the creation of a gas in the subsurface presents environmental concerns due to potential for pollution of drinking water via direct pathways to aquifers

[15] EQB staff note that the regulatory framework for the *creation* of a gas using these techniques is unclear; these types of projects may be federally regulated or may need ongoing development of a state regulatory framework. However, it is not clear that such projects are absolutely prohibited, and it is clear that a permit from DNR would be required for production (extraction and beneficiation) of the resulting gas.

utilized for drinking water as a result of the underground injection. Additionally, there are concerns regarding induced seismic activity associated with injecting potentially large volumes of water in the subsurface.

Therefore, EQB believes that a project of this nature may have the potential for significant environmental effects and should require a mandatory EAW.

### Hydraulic fracturing (fracking)

EQB is proposing an EIS should be required for any gas resource development project proposing to utilize high volume fracturing methods to produce gas. (See proposed rule **Minn. R. 4410.4400, subp. 29)**

Hydraulic fracturing (fracking) is a process of gas extraction that involves injecting fluids (a combination of mostly water with proppants (usually sand) and other chemical additives included) underground at high pressures to create new pathways (fractures) for trapped gas within the geologic formations to ultimately be released, allowing for improved extraction of the gas.

Hydrofracturing of a water supply well is allowed in Minnesota and regulated under Minn. R. 4725.5475 as one of the exceptions to the prohibition of underground injection within water wells and borings. Hydrofracturing can be done using potable water only, with a chlorine residual or certain approved additives;[16] it is also only allowed within certain geologic settings (igneous or metamorphic bedrock). Additional restrictions regarding the process and setbacks are listed within the rules. Based on information from the Department of Health, hydrofracturing in Minnesota typically utilizes 2,000 to 4,000 gallons for a single well, potentially reaching volumes of up to 10,000 gallons. Rough estimates from the Department of Health are that 145 to 270 water supply wells in the state are hydrofractured each year. This process does not require environmental review.

Modern (high-volume) fracking techniques associated with gas resource development differ from hydrofracturing. These modern fracturing techniques are typically associated with well drilling that results in deeper/longer wells, leading to increased potential impacts to water quality at the surface and groundwater as well as potential impacts to water quantity. These techniques are typically associated with greater pressures, increased water volumes, and addition of a variety of chemicals needed to facilitate the fracturing of the rocks.

Other states have noted environmental concerns from these activities and have responded with regulations due to concerns from high-volume hydraulic fracturing.[17] Research of these other states with oil and gas regulations provided a definition of “high volume hydraulic fracturing” (HVHF). The definition included in the proposed rules is based on the Michigan definition which says HVHF is hydraulic fracturing using a combined total of 100,000 or more gallons of water during all stages in a well completion,[18] whether the well is vertical or directional, including horizontal, and whether the water is fresh or recycled and regardless of the chemicals or other additives mixed with the water. These definitions are intended to capture projects employing modern fracking techniques utilizing high volumes of water and incorporating chemical additives for which environmental concerns are present. Projects that require high volume fracking can result in millions of gallons of water being used and are known to incorporate a variety of chemicals into the fluids presenting known environmental concerns.

EQB is proposing a definition of HVHF at **Minn. R. 4410.0200, subp. 38a.** “High-volume hydraulic fracturing” means injecting fluid, with or without proppants, into the subsurface under pressure to create fractures within a

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[16] Additives must meet the requirements of ANSI/NSF Standard 60, ANSI/NSF Standard 60 is a standard that sets minimum health effects for chemicals added to drinking water.

[17] Michigan and New York have regulations and information regarding high-volume hydraulic fracturing.

[18] Well completion is the process of bringing a gas well into production after initial drilling has been completed. Completion steps may involve removal of the drill string, casing, cementing, perforating, hydraulically fracturing in the reservoir to stimulate production, expelling drilling and fracturing fluids, and installing the production valve.

geologic formation for the purpose of improving the deliverability and production of gas for a gas resource development project, using a combined total of 100,000 gallons or more of any fluids.

To describe gas resource development projects that require a higher level of environmental review as the result of their use hydraulic fracturing under EQB's environmental review rule, a definition is needed. This definition is reasonable because it describes what is meant by "hydraulic fracturing" using terms found in rules successfully adopted and used by other states (New York, Michigan) and specifies the volume that triggers the "high-volume" designation (based on a Michigan definition). EQB staff evaluated if high-pressure (as opposed to the volume of water used) would work as a way to identify projects that require environmental review. However, the available information showed that the pressures required for fracturing are highly variable, and there were no existing definitions based on pressure.

HVHF has the potential for significant environmental effects due to the potential impacts in the subsurface. HVHF has the potential to significantly impact drinking water and groundwater sources as well as potential seismicity concerns.

The process of creating fractures within geologic formations has the potential of creating direct pathways to drinking water aquifers. Not only would the fluids utilized for the fracking process have a direct connection to drinking water aquifers, increasing the potential for contamination, but the gas reservoirs will also have increased potential for connectivity due to the creation of new pathways for the gas to travel. While a project proposer can control the injection (fluid volumes and pressures), the geologic response is a variable that cannot be controlled. The precise location and extent of fractures is unknown and can lead to impacts on drinking water. The injection of water to the subsurface for HVHF also results in increased wastewater because the injected fluid sometimes returns to the surface. In addition to drinking water impacts, high volume underground injections have been linked to induced seismicity events felt at the surface. Because fracking requires large volumes of water, the potential for induced seismic events must also be considered when making determinations for potential for significant environmental effects.

Therefore, EQB staff believe that any gas project proposing to utilize HVHF does have the potential for significant environmental effects and therefore should require an EIS.

## Responsible government unit

EQB is proposing that the mandatory categories designate the DNR as the responsible government unit (RGU) for conducting the review. The DNR is the appropriate choice for serving as the RGU as they have the greatest responsibility for supervising or approving a gas resource development project as a whole. This determination is based upon the authority given to the DNR to regulate gas production. This proposal is in keeping the general procedures for RGU selection currently laid out in Minn. R. 4410.0500, subp. 5.

MINNESOTA
ENVIRONMENTAL QUALITY BOARD

# Environmental review: Mandatory category for gas resource development projects

Attachment 1 to rule summary and justification

## Tribal coordination

The Environmental Quality Board (EQB or Board) seeks to foster and facilitate positive government-to government relations between EQB and all federally recognized Tribal Nations that share geography with the state of Minnesota. To help fulfill this goal, EQB adopted a Tribal Coordination and Consultation Policy that aligns with Minn. Stat. § 10.65. This statute encourages and allows all agencies and boards to "engage in consultation and communication with the Minnesota Tribal governments for all matters that have Tribal implications."

This document provides a summary of the Tribal coordination that took place from June 2025 to March 2026, prior to publishing the notice of intent to adopt rules for the environmental review of gas production projects.[1]

## Coordination summary

The EQB's Tribal Coordination and Consultation Policy focuses largely on staff-to-staff coordination, defined as "an affirmative process where EQB staff will proactively identify and seek input from Tribal government staff in a timely and meaningful manner as part of its decision-making process on projects, programs, policy developments, and similar items..."

Coordination generally proceeds through multiple steps: identification, notification, information sharing, listening to and considering input, and communicating decisions.

Prior to the rulemaking of developing mandatory categories for gas projects, EQB was part of an interagency team, called the gas resources technical advisory team (GTAC) led by the Department of Natural Resources (DNR). GTAC was tasked with developing recommendations for a temporary regulatory framework for gas production in Minnesota. From the start of this work, it was clear that gas production is a matter with significant Tribal interest. Tribes expressed concerns over potential impacts to cultural resources and treaty-protected hunting, fishing, and gathering rights.

Therefore, once the Board directed staff to begin rulemaking for environmental review mandatory categories for gas production projects, staff conducted coordination with Tribal environmental staff.

[1] This document does not cover the communication with Tribes that happened as part of the development of the GTAC recommendations, though EQB staff participated in that process and were informed by Tribal comments on that document.

EQB staff recognize the matters that are important to Tribes include potential impacts from gas production projects on cultural resources and treaty-protected hunting, fishing, and gathering rights. EQB staff began to reach out to appropriate Tribal staff (coordinated via the Minnesota Tribal Environmental Committee, MNTEC) early in the rule development process and had discussions that are documented below.

EQB staff also sent an annual update and offer of consultation to Tribal leaders on July 1, 2025. It included a summary of this rulemaking requirement and outlook and offered consultation if requested. No formal consultation requests have been received to date.

After the initial notification, EQB staff provided regular updates on the rule process to MNTEC, which meets on a regular basis (approximately monthly). EQB also heard comments from Tribal staff at ERIS and Board meetings. EQB staff had regular communication with any interested Tribal staff (particularly members of MNTEC and the Tribal gas extraction task force) in order to discuss issues and ongoing development of the rule concepts. The following table illustrates the main points of communication between Tribal and EQB staff between June 2025 and May 2026.

**Table 1. Dates of coordination**

| | |
|---|---|
| June 2025 | EQB staff invited all MNTEC members to a meeting to share information with Tribal environmental staff regarding: the rule process; gas production projects; what EQB needs to consider in developing environmental review mandatory categories. |
| July 2025 | Tribal staff (the Tribal Gas Extraction Task Force) provided draft rule language to EQB staff. EQB held a meeting to discuss that draft rule language. There was general discussion on the language and how mandatory category rules are structured. EQB staff identified portions of the draft language that could be considered in scope for mandatory category rules moving forward and identified portions that would be difficult to implement or out of scope for EQB to implement. |
| September 2025 | EQB staff participated in a meeting organized by Tribal staff, where all state agencies that participated in the GTAC process could provide an update on their rulemaking for gas resource development projects. Prior to this meeting, revised draft rule language written by a group of Tribal staff (the Tribal Gas Extraction Task Force) was shared with all GTAC participating agencies. This Tribal Gas Extraction Task Force document contained suggested rule language pertaining to topics ranging across the entire framework development for gas resource projects, including permitting and environmental review. One goal of this meeting was to communicate how DNR and EQB's rulemakings were distinct, but inter-related. |
| October 2025 | EQB staff met with Tribal staff and talked through EQB's responses to the Tribal draft language document. EQB staff provided draft rule language and a detailed response to each item of the Tribal Gas Extraction Task Force's language in advance and discussed this language at the meeting. The response document included responses to each item of the Tribal draft language pertaining to environmental review, including why any language could not be used as provided. Simultaneously, EQB staff provided draft rule language for review and input and requested input by November 20, in order to help inform the upcoming December board meeting. No additional input was received by that time. |
| November 2025 through January 2026 | EQB staff shared updates on the gas rulemaking at the November MNTEC meeting highlighting the October discussion and that EQB staff were working on terminology clarifications, incorporating underground injection thresholds, and are still evaluating all previously discussed thresholds. EQB staff noted they would update ERIS on December 17. After the ERIS meeting, EQB staff provided brief updates to MNTEC at their early January meeting and shared out a draft discussion document regarding the development of thresholds and a rulemaking summary memo with MNTEC. |
| February and March 2026 | Additional meetings were held between EQB staff and Tribal environmental staff to provide updates on the rulemaking process and discuss the ongoing evaluation of potential environmental review thresholds and resulting rule language. In the February meeting, EQB staff walked through the rulemaking timeline, recent changes based on uncovering new data, and asked Tribes to request consultation if desired. On March 19 a finalized draft rule version was shared with Tribal environmental staff for review. Meetings were held March 26 and April 1 to discuss. |

## Specific input

The following section summarizes what EQB staff heard from Tribal staff and how EQB staff considered and used the information, or how it may be used in the future. Please refer to the summary and justification document for evaluations of the potential for significant environmental effects from gas resource development projects. The available data supported an EIS threshold for high-volume hydraulic fracturing and an EAW for any other proposed thresholds.

**Table 2. Initial input received and EQB response**

| Area of input | Summary of Tribal input | EQB response |
|---|---|---|
| Programmatic definitions | "Culturally significant area" means any mapped or discovered location of ceremonial, spiritual, subsistence, burial, or historic significance to Tribal Nations, including but not limited to historic properties (such as traditional cultural properties) eligible for listing on the federal National Register or as recognized under state historic properties laws. | Adding this definition was determined to be out of scope for this rulemaking; it would have broad implications for the whole program. |
| Programmatic definitions | Various proposed definitions of "Cumulative Impacts", related to the combined, incremental effects of multiple projects or activities over time (past, present, reasonably foreseeable) on the same environmental, cultural, or public health resources, including effects on natural resources subject to Treaty-reserved rights in ceded territories | Cumulative impacts and cumulative potential effects are concepts with existing definitions within the environmental review rules that have been subject to past litigation. Changes affect the entirety of the program and are beyond the scope of this rulemaking. |
| Programmatic definitions | "Treaty-Ceded Territory" means all lands and waters within the State of Minnesota that were ceded to the United States by Indian Tribal Nations under Treaties, within which Tribes retain reserved rights. | Adding this definition was determined to be out of scope for this rulemaking; it would have broad implications for the whole program. |
| Programmatic definitions | Tribal Governments and Indian Country. "Tribal Governments" has the meaning given in Minnesota Statutes section 10.65, subdivision 2. "Indian Country" has the meaning given in United States Code, title 18, section 1151, and means all land within the limits of any Indian Reservation, dependent Indian communities, lands held in trust, and Indian allotments | Adding this definition was determined to be out of scope for this rulemaking; it would have broad implications for the whole program. |
| Environmental review process | The scope of environmental review must include the full footprint of the project, including roads, pipelines, well pads, compressor stations, processing plants, and any other supporting infrastructure | RGUs are responsible for identifying all aspects of the project and any connected or phased actions, in order to review the project as a whole and determine potential environmental effects. The definition of "project" is inclusive of all parts of a project, but the rules do not list the specific aspects of each project type that must be included; it is up to the RGU to determine. Writing specifics in rule could be limiting, preventing the review from capturing all pertinent information. |

| Area of input | Summary of Tribal input | EQB response |
|---|---|---|
| Environmental review process | Environmental review notices and scoping documents must be sent directly to affected Tribal governments for comment and consultation | The distribution of ER documents affects all projects and is out of scope for this rulemaking. EQB staff will keep this input in mind as we continue to work with Tribes on the "guidance for considering Tribal resources" project on our workplan. |
| Environmental review process | Require evaluation of cumulative environmental impacts and potential effects on culturally important species, subsistence resources, and overburdened communities. Require cumulative impact analysis for projects near sensitive or cultural resources. | Cumulative potential effects analysis is required for any environmental review. The EAW form includes a prompt to identify culturally significant properties that may be impacted. EQB staff will keep this input in mind as we continue to work with Tribes on the "guidance for considering Tribal resources" project on our workplan. |
| Environmental review process | Co-lead review authority. Upon request, an affected Tribal Nation may serve as a co-lead agency for purposes of scoping, public engagement, or impact analysis under Minn. Stat. § 116D.04. | The environmental review rules do not support multiple RGUs for a single project. However, working collaboratively to complete review is encouraged. |
| Environmental review process | Each application must include a lifecycle greenhouse gas emissions assessment consistent with best practices under EPA and state climate policy | The EAW form includes greenhouse gas emission analysis and guidance for completing it. EQB also has a climate calculator that can be used. |
| Environmental review process | Any proposed permit, regulatory action, or amendment affecting lands within 10 miles of a Reservation, Treaty-Ceded Territory, or culturally significant area shall be accompanied by a Tribal Impact Statement (TIS). A TIS must include: assessment of impacts to Treaty rights and subsistence resources; cultural, historical, and health impacts; cumulative effects on Tribal interests; alternatives considered to avoid or mitigate harm | This is beyond the scope of this rulemaking. The EAW form prompts information on traditional cultural properties on or near the project's site. EQB staff will keep this input in mind as we continue to work with Tribes on the "guidance for considering Tribal resources" project on our workplan. |
| Project-related definitions | "Gas resource development" means exploration, drilling, extraction, production, transport, development of well pads, pipelines, roadway expansions, compressor stations, or storage of natural gas or associated substances, and all associated infrastructure. | The rules must define the project for environmental review purposes; the proposed rule aligns with the definitions being proposed by the DNR for permitting. |
| Project-based environmental review thresholds | All gas resource development projects must undergo environmental review consistent with Minn. Stat. § 116D.04. | As described in the justification document, EQB staff do not believe all gas production projects need to undergo review. Any projects triggering any mandatory categories do undergo review consistent with Minn. Stat. § 116D.04. |

| Area of input | Summary of Tribal input | EQB response |
|---|---|---|
| Project-based environmental review thresholds | EIS for projects that construct three wells within a 5-mile radius, if the total projected production exceeds 5 million cubic feet/day | EQB staff considered the concept of "wells within a given radius". However, the threshold for which EQB staff are pursuing would not be bound by a defined distance. As described in the justification document the number of wells threshold would be determined by the design of the project/permitting action. EQB staff have determined a threshold for number of wells constrained by a defined radius would prevent effective consideration of a project as a whole and would create difficulties in implementation for environmental review needs determinations.<br>The number of production wells is a more reliable indicator of environmental impacts due to the size of a project. At the higher flow rates published by Pulsar, 5 wells would be near 5 million cf/day. In combination with other environmental impacts, EQB staff believe this is significant to trigger review. |
| Project-based environmental review thresholds | EIS for projects that construct three wells within a 5-mile radius, if the project uses hydraulic fracturing, acid stimulation, or any enhanced recovery technique | Discussions with Tribal staff helped inform and support EQB's decision to include thresholds for projects that use certain kinds of production techniques that involve underground injection. The proposed rule includes an EIS for a project using high-volume hydraulic fracturing, as well as EAW thresholds for projects that use other types of underground injection. |
| Location-based environmental review thresholds | EIS for projects that construct three wells within a 5-mile radius, if the project occurs within the 1854, 1837, or 1855 Treaty Territories | As discussed in the justification document, the only type of gas production projects that EQB staff have determined align with the need for an EIS based on the potential for significant environmental effects is projects that incorporate high-volume hydraulic fracturing.<br>The proposed rule does not include any location-based thresholds for these treaty-ceded territories.<br>Considering a specific location-based threshold means understanding whether there is the need to require (through creation of a mandatory category) environmental review of projects in specific areas, because of particular effects of the project type, the nature of that location, and the interaction between the two.<br>Ultimately, it is a complex programmatic issue that is beyond the scope of this expedited role to define a boundary that:<br>1. Is relevant to Tribal resources;<br>2. Fits with the program's requirements for significant environmental effects; and<br>3. Is repeatable and easily implemented. |

| Area of input | Summary of Tribal input | EQB response |
|---|---|---|
| | | Arguably many different project types could impact treaty-reserved resources if located in ceded territory.<br>When environmental review is completed for a project, the review does consider historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Impacts to treaty-reserved resources can also be included when considering other effects – such as water resources, air pollution, land use changes, etc. EQB staff will keep this input in mind as we continue to work with Tribes on the "guidance for considering Tribal resources" project on our workplan. |
| Project-based environmental review thresholds | EIS for the construction and operation of gas processing, storage, or injection facilities that emit more than 25,000 tons of carbon dioxide equivalent (CO2e) per year | The proposed rule does not include separate mandatory categories for gas processing or storage facilities, as these are incorporated into the definitions of what must be permitted as a gas resource development project (and therefore part of the gas production project for which environmental review would be required). If not co-located, these facilities would likely be subject to one of the existing industrial mandatory categories. There is an existing mandatory category for $CO_2e$ emissions requiring a mandatory EAW at 100,000 tons of $CO_2e$ emissions per year. |
| Project-based environmental review thresholds | EIS for the construction and operation of gas processing, storage, or injection facilities that require a state air permit. | This is not included in the proposed rule; it is not consistent with other categories. Many facilities require a state air permit but not environmental review. The existing air pollution category, which requires an EAW for construction of a stationary source facility that generates 250 tons per year or more of an air pollutant (above the EPA's major source threshold of 100 tons per year) may be applicable. |
| Location-based environmental review thresholds | EIS for the construction and operation of gas processing, storage, or injection facilities that are located within 50 miles of ceded territories and Indian Lands (including Lake Superior); exterior boundaries of any reservation; or Tribal Government buildings, schools, nursing homes, or residential areas | The proposed rule does not include separate mandatory categories for gas processing or storage facilities, as these are incorporated into the definitions of what must be permitted as a gas resource development project (and therefore part of the gas production project for which environmental review would be required). If not co-located, these facilities would likely be subject to one of the existing industrial mandatory categories.<br><br>The proposed rule does not include any location-based thresholds for ceded territories or Indian Lands. |

| Area of input | Summary of Tribal input | EQB response |
|---|---|---|
| | | Considering a specific location-based threshold means understanding whether there is the need to require (through creation of a mandatory category) environmental review of projects in specific areas, because of particular effects of the project type, the nature of that location, and the interaction between the two.<br>Ultimately, it is a complex programmatic issue that is beyond the scope of this expedited role to define a boundary that:<br>1. Is relevant to Tribal resources;<br>2. Fits with the program's requirements for significant environmental effects; and<br>3. Is repeatable and easily implemented. |
| Location-based environmental review thresholds | EIS for the projects that cross or impact key resources, including: wild rice waters or wetlands; critical habitat; culturally sensitive areas; for any project that affects treaty-reserved resources (such as wild rice, sugarbush, medicinal plants, hunting/fishing grounds, or traditional subsistence activities) or culturally significant areas (such as traditional cultural properties, ceremonial sites or cultural landscapes) | When environmental review is completed for a project, that review needs to consider historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site (EAW item 15). Impacts to treaty-reserved resources can also be considered in other items of the form – such as consideration of water resources, air pollution, land use changes, etc.<br>EQB staff's expectation would be that these kinds of impacts would be clearly laid out in the completed EAW form.<br>RGUs also have discretion to order environmental review based on the potential for significant environmental effects to these resources. |
| Project-based environmental review thresholds | EIS for projects that generate or handle radioactive by-products | This is not included in the proposed rule as it was determined unlikely to ever be encountered as a part of a gas resource development project. |
| Location-based environmental review thresholds | An EIS for projects located within Treaty-Ceded Territory, or within 10 miles of a culturally significant area | The proposed rule does not include any location-based thresholds for ceded territories or culturally significant areas. Considering a specific location-based threshold means understanding whether there is the need to require (through creation of a mandatory category) environmental review of projects in specific areas, because of particular effects of the project type, the nature of that location, and the interaction between the two.<br>Ultimately, it is a complex programmatic issue that is beyond the scope of this expedited role to define a boundary that:<br>1. Is relevant to Tribal resources;<br>2. Fits with the program's requirements for significant environmental effects; and<br>3. Is repeatable and easily implemented. |

| Area of input | Summary of Tribal input | EQB response |
|---|---|---|
| Project-based environmental review thresholds | An EIS for projects that require a state air emissions permit, water discharge permit, or any other environmental permit under Minn. Stat. § 116.07 or Minn. R. ch. 7007, 7008, or 7050. | This is not included in the proposed rule; EQB staff find it to be too broad, as many facilities require these permits but not environmental review. |

## Specific rule language input

February and March 2026, EQB staff presented an update on the development of the mandatory category concepts (what projects need review at what size). Also in March 2026, EQB staff shared draft final proposed rule language. Tribal input was received, and that input and EQB's response is documented below.

**Table 3. Rule language input received and EQB response**

| Draft rule language – from EQB staff | Tribal input on draft rule language | EQB response |
|---|---|---|
| Definition of gas resource development project and gas well | Include citations to DNR rule | The proposed rule aligns with DNR's draft rules. Although it would be preferable to cite specific definitions in DNR's rules this is not feasible because those rules are also still in development. EQB will work with DNR to see if citations can be improved as the rules are adopted. |
| N/A | Include definition of Tribal Governments and Indian Country. "Tribal Governments" | Adding this definition was determined to be out of scope for this rulemaking; it would have broad implications for the whole program. |
| N/A | Include suggested definition of cumulative impacts. | There is a definition of cumulative impacts in Minn. R. 4410.0200. |
| N/A | Add a definition of injected fluid or material. | This is not needed; "substance" is sufficiently specific. |
| N/A | Include definition of Treaty-Ceded Territory. | Adding this definition was determined to be out of scope for this rulemaking; it would have broad implications for the whole program. |
| EAW required for construction of a gas resource development project designed to include 5 or more gas wells or expansion of an existing gas resource development project by the addition of 5 or more wells. | The threshold should be three wells | EQB staff had considered a three well threshold based on preliminary information on gas production levels per well in Colorado. However, later updated information changed the EQB staff's understanding of the potential range of production. Production per well was less than previously thought, raising the appropriate threshold to five wells as discussed in the justification document. |

| Draft rule language – from EQB staff | Tribal input on draft rule language | EQB response |
|---|---|---|
| EAW for construction of a gas resource development project designed to produce gas by injecting a substance into the subsurface to create or stimulate a chemical reaction | Change substance to injected fluid or material | Not needed. Substance is sufficiently specific. |
| N/A | EAW for construction of a gas resource development project that will result in surface disturbance of 40 or more acres or cumulative total of 40 or more acres | EQB staff believe the five well threshold will ensure that projects with this level of surface disturbance will be reviewed. |
| N/A | EAW for construction of a project where any part is located within one mile of a designated trout stream, public water, or public water wetland; or within one mile of a municipal or community public water supply well, wellhead, or delineated wellhead protection area. | The draft proposed rule aligns location-based environmental review thresholds with DNR's siting rules. EQB staff understand that water resources and siting within a certain distance of water resources were discussed with DNR as part of siting and were ultimately not included. |
| N/A | The RGU must not segment a gas resource development project into smaller components; all parts of a single coordinated gas production operation must be considered together in determining whether a mandatory EAW threshold is met. | This concept is part of the overall EAW process, and is articulated in the rules around "connected actions" and "phased actions" defined in Minn. R. 4410.0200. Minn. R. 4410.1000, subp. 4 specifies that "multiple projects and multiple stages of a single project that are connected actions or phased actions must be considered in total when determining the need for an EAW, preparing the EAW, and determining the need for an EIS." |
| N/A | Early Tribal notification. When an EAW or EIS is required, there should be specific requirements for notification of Tribal governments whose reservation, Trust lands, or ceded territory may be affected by the proposed project. | As noted above, the distribution of ER documents affects all projects and is out of scope for this rulemaking process. EQB staff will keep this input in mind as we continue to work with Tribes on the "guidance for considering Tribal resources" project on our workplan. |
| N/A | Phased development. When a gas resource development project is proposed to be constructed or expanded in phases, all phases must be considered together in determining whether a mandatory EAW or EIS threshold under this subpart is met. | This is not needed in the proposed rules. The first subparts of Minn. R. 4410.4300 pertain to all EAW mandatory categories and reiterate that, "Multiple projects and multiple stages of a single project that are connected actions or phased actions must be considered in total when comparing the project or projects to the thresholds of this part and part 4410.4400" (part 4410.4400 is the mandatory EIS categories rule). |

| Draft rule language – from EQB staff | Tribal input on draft rule language | EQB response |
|---|---|---|
| N/A | Cumulative impacts assessment. An EAW or EIS prepared for a gas resource development project under this subpart must assess the cumulative environmental effects of the proposed project | This is not needed in the proposed rules. As noted above, this is a required part of all environmental review. |
| N/A | Groundwater and Drinking Water Assessment. An EAW or EIS prepared for a gas resource development project under this subpart must include a groundwater and drinking water assessment that addresses certain key components | This is not needed in the proposed rules. The EAW form includes groundwater and drinking water assessment; the RGU determines what specific information to include. Writing specifics in rule could be limiting, preventing the review from capturing all pertinent information. |
| EIS for construction of a gas resource development project designed to use high volume fracturing | Add "or expansion"; identify that HVHF thresholds apply to the cumulative total volume of fluid injected across all wells within a gas resource development project | The proposed definition of HVHF incorporates this as noted "using a combined total of 100,000 or more gallons of any fluids".<br>The 100,000 gallons threshold for the definition of HVHF is meant to identify the degree of hydraulic fracturing that is needed for gas production. Based on EQB staff's research, this volume of fluid is best indicative of the type of hydraulic fracturing for which potential for significant environmental effects are anticipated. |
| N/A | EIS for a cumulative well count of 10 or more | The proposed rule does not include any cumulative threshold for number of wells. EQB staff considered whether some kind of cumulative threshold was appropriate, but upon review of existing mandatory categories, including one in this rule would be difficult to implement. (For example, if an EIS was done when a gas resource development facility expanded to 11 wells, it would also need to be done if one well was added for an expansion to 12 wells.) |
| N/A | EIS for a cumulative well count of 5 or more and total new surface disturbance of 5 acres or greater | This is not included. It is difficult to aggregate two thresholds together, and an additional surface disturbance of 5 acres is well below any existing EIS thresholds. |
| N/A | EIS for construction of a new compressor, processing, dehydration, or produced-water facility (excluding routine wellsite equipment), or any on-site facility that would be a major source of air emissions as defined by the EPA | This is not included. The existing air pollution category, which requires an EAW for construction of a stationary source facility that generates 250 tons per year or more of an air pollutant (above the EPA's major source threshold of 100 tons per year) may be applicable. |

| Draft rule language – from EQB staff | Tribal input on draft rule language | EQB response |
|---|---|---|
| N/A | EIS for more than 5 miles of new above – or below-ground pipeline associated with the project | This is not included. The existing pipeline categories may be applicable and are more appropriate. |
| N/A | EIS for total projected combined lateral well length of 20,000 feet or more | The number of production wells threshold analysis did not identify differences in environmental effects based on the length of well. |
| N/A | EIS for any project element that the commissioner determines is likely to cause significant adverse environmental effects based on location, intensity, or reasonably foreseeable cumulative impacts | This is not included. The RGU (in this case the DNR) can order an EAW under Minn. R. 4410.1000 if they determine that the project may have the potential for significant environmental effects, and an EIS if the EAW demonstrates that the project does have the potential for significant environmental effects. |
| N/A | EIS for a project with 2 or more gas wells and any portion of the project is located within one mile of a designated trout stream, public water, public water wetland, or municipal public water supply wellhead protection area | The draft proposed rule aligns location-based environmental review thresholds with DNR's siting rules. EQB staff understand that water resources and siting within a certain distance of water resources were discussed with DNR as part of siting and were ultimately not included. |
| N/A | EIS for a project with projected greenhouse gas emissions of 25,000 tons of carbon dioxide equivalent ($CO_2e$) or more per year. | This is not included. There is an existing EAW threshold that is applicable to projects with greenhouse gas emissions of 100,000 tons of $CO_2e$ or more per year. |
| N/A | For the construction or expansion of a gas resource development project any portion of which is located within five miles of the boundary of a federally recognized Tribal Nation's reservation or trust lands, or within one mile of a water body identified in the Minnesota DNR's Native American Sacred Sites and Burial Grounds inventory or the Section 106 area of potential effects for an affected Tribal Nation as documented in prior federal consultation, or within an area where a federally recognized Tribal Nation has notified the commissioner in writing that it actively exercises treaty-reserved harvesting, fishing, or gathering rights, the DNR is the RGU. | The proposed rule does not include any location-based thresholds for ceded territories or culturally significant areas. Considering a specific location-based threshold means understanding whether there is the need to require (through creation of a mandatory category) environmental review of projects in specific areas, because of particular effects of the project type, the nature of that location, and the interaction between the two.<br>Ultimately, it is a complex programmatic issue that is beyond the scope of this expedited role to define a boundary that:<br>1. Is relevant to Tribal resources;<br>2. Fits with the program's requirements for significant environmental effects; and<br>3. Is repeatable and easily implemented. |

## Conclusion

EQB staff greatly appreciate the time and effort spent by Tribal staff in coordinating and discussing these issues. EQB thoroughly considered Tribal input and appropriate concepts were integrated into the draft rule.

Additionally, many of these discussions supported the need for big-picture consideration of the way Tribes, Tribal sovereignty, and important resources are considered in the Environmental Review Program. Defining such areas and incorporating this concept into the program should be considered more broadly than just gas production. This is likely to include a variety of ideas that will need additional coordination. The EQB and staff may consider such work in future organizational workplans.

MINNESOTA
ENVIRONMENTAL QUALITY BOARD

# Environmental review: Mandatory category for gas resource development projects

Attachment 2 to rule summary and justification

## Pre-publication engagement

The EQB was authorized to "adopt or amend rules to establish mandatory categories for environmental review as they pertain to oil and gas production." Following the board direction to pursue rulemaking for gas production projects, EQB staff began to gather information in order to set appropriate mandatory category thresholds. The staff also conducted coordination with Tribal staff, stakeholder engagement, and provided updates to the board throughout the rule drafting process.

This memo provides a summary of the engagement that took place amongst stakeholders or interested parties prior to publishing the notice of intent to adopt rules. A separate document summarizes the Tribal coordination.

### Interested parties

A memo was sent out to interested parties in October 2025 providing an update about the rule development process to date, including the concepts for mandatory category thresholds. EQB staff also offered the opportunity to provide input regarding determinations about what type of gas production projects should require environmental review.

A written response was received from Pulsar Helium, and additional stakeholders (Minnesota Center for Environmental Advocacy, Water Legacy) asked for a short meeting where they could ask questions and provide feedback. In addition, EQB staff held short meetings with The Nature Conservancy, Pulsar Helium, and Koloma Hydrogen in early 2026 to discuss the rule development; comment letters from both The Nature Conservancy and Pulsar Helium were received and incorporated into Board meeting materials in February and March 2026.

The following table summarizes the input from interested parties and considerations from EQB staff.

**Table 1. Input received and considerations**

| Interested party | Input received | EQB staff response |
|---|---|---|
| Pulsar Helium | Three-Tier Gas Categories: Clearly distinguish gas projects by type of gas extracted.<br>Create separate categories for hydrocarbon gas; hydrogen (with/without inert gases); and helium (with/without inert gases).<br>Each category can have its own size or production triggers for an EAW or EIS. | EQB staff decided that creating multiple mandatory categories for distinct gases will make the rules overly complicated.<br>Available information, highlighted by the variabilities in flow rates and gas compositions, would make it difficult to determine separate thresholds. In addition, many of the environmental effects identified are associated with the process of drilling, extracting, and producing any gas. Therefore, setting a threshold for review based on the number of production wells, regardless of targeted gas, is appropriate for all gas extraction projects and considers the impacts of extraction that are shared across gas types. |
| Pulsar Helium | Helium exploratory and appraisal wells should not require mandatory EAW or EIS review when no stimulation or enhanced recovery techniques are used. | Environmental review applies to projects for which there is one or more "governmental action" (defined in Minn. R. 4410.0200, subp. 33 and generally constituting a permit or approval decision). The typical notification process for exploratory drilling is not seen as a governmental action, and so, to date, exploratory borings generally have not been subject to environmental review. |
| Pulsar Helium | Minnesota should adopt or reference proven, risk-based Federal regulatory standards (e.g., BLM Onshore Orders 1, 2, 3; NEPA thresholds) rather than attempt to independently draft new frameworks for an inert, low-impact gas sector. | The BLM onshore orders provide permitting requirements, and do not identify specific projects or characteristics when the NEPA process must be completed. |
| Pulsar Helium | No EIS for inert gas projects: Ensure inert, non-emitting gas projects do not automatically trigger an EIS based on thresholds designed for hydrocarbons. A standard helium well should not be treated as if it were a high-impact natural gas well. Such projects might warrant at most an EAW, or no mandatory review at all, at certain scales if their impacts are clearly below significance levels. | EQB staff are not pursuing a rule that differentiates based on gas type, but under the proposed rule there is no mandatory EIS unless specific extraction techniques are used.<br>EQB staff believe that once gas production projects of any type reach a certain size there is an indication that these projects may have the potential for significant environmental effects and an EAW needs to be completed. |

| Interested party | Input received | EQB staff response |
|---|---|---|
| Pulsar Helium | Explicit low-impact exemptions: Codify exemptions or adjusted thresholds for low impact operations.<br>For example, exploratory or appraisal helium wells (small number of wells, no stimulation, no flaring) should be categorically excluded from mandatory EAW/EIS requirements. Projects with no subsurface injections should be explicitly excluded from the EIS threshold. Only projects utilizing high-impact techniques like hydraulic fracturing, chemical injections, or artificial gas generation would trigger an EIS, consistent with the EQB's draft concept memo.<br>Pulsar suggested incorporating conditional rule language that allows regulators to exercise case-by-case discretion for inert gas projects in special situations, without defaulting to burdensome reviews in all cases. | The proposed rule does not include any specific exemptions for gas production projects from environmental review.<br>The proposed rules do largely align with the comment, in that projects will a small number of wells will not be subject to mandatory review, unless specific high impact techniques are used.<br>Discretionary review remains an option for projects where the nature and location of individual projects may indicate a different potential for significant environmental effects. |
| MCEA/Water Legacy (per discussion via a meeting with EQB staff) | Concerns were noted about projects containing methane gas and the potential impacts from these projects needing to be considered based on potential for significant environmental impacts. | EQB staff decided that multiple mandatory categories for distinct gases will make the rules overly complicated. Available information would make it difficult to determine separate thresholds. Methane production is not expected in Minnesota.<br>Setting a threshold for review based on the number of production wells, regardless of targeted gas, is appropriate for all gas extraction projects and considers the impacts of extraction that are shared across gas types.<br>The air pollution mandatory category based on greenhouse gas emissions also needs to be considered, and may apply to projects with higher levels of methane. |
| MCEA/Water Legacy (per discussion via a meeting with EQB staff) | Concerns were noted about the development of thresholds that would allow certain gas production projects to proceed to permitting without first having to do environmental review. | From the available information, EQB staff determined there are certain gas production projects that are likely to not have the level of effects that would indicate the need for mandatory environmental review.<br>Recognizing that the threshold may not always align with each individual project's potential for significant environmental effects based on the nature and location of individual projects, the environmental review program allows for discretionary environmental review. |

| Interested party | Input received | EQB staff response |
|---|---|---|
| MCEA/Water Legacy (per discussion via a meeting with EQB staff) | Exploration activities from oil and gas production should be incorporated into environmental review requirements. | Environmental review applies to projects for which there is one or more "governmental action" (defined in Minn. R. 4410.0200, subp. 33 and generally constituting a permit or approval decision). The typical notification process for exploratory drilling is not seen as a governmental action, and so, to date, exploratory borings generally have not been subject to environmental review. |
| MCEA/Water Legacy (per discussion via a meeting with EQB staff) | Concerns about risks related to underground injection, not just the types of projects that would create a gas underground but for those that intend to dispose of waste or intend to utilize fracking techniques. | The proposed rule includes thresholds that would require an EAW for projects proposing to utilize underground injection for waste disposal, an EAW for projects proposing to utilize underground injection for creating a gas in the subsurface, and an EIS for projects proposing to utilize high-volume hydraulic fracturing techniques. |
| The Nature Conservancy | Establish inclusive definition of conservation lands and align to Minnesota's conservation objectives. | The proposed rule does not include any specific definitions regarding conservation lands. Recognizing that gas production projects may have varying potential for significant environmental effects depending on location, the proposed rule includes a location-based mandatory EAW threshold. This mandatory category is meant to align with DNR's permitting authority, requiring review for projects locating in areas where DNR's siting rules will place conditions or limitations on their ability to operate due to potential impacts to sensitive environmental areas. |

## Board discussion

Staff presented to the Board or its environmental review implementation subcommittee (ERIS) on multiple occasions and provided supporting documents. Each meeting also contained opportunity for public comment.

- April 16, 2025 – Board members were informed about the legislation regarding the development of regulations for gas and oil production and the legislative directive that EQB "may" develop mandatory categories. The presentation consisted of a high-level introduction to gas production projects and why environmental review mandatory categories should be developed. The Board approved a resolution to begin the rulemaking process for developing mandatory categories for gas production projects. There were no public comments.
- December 17, 2025 – ERIS was given an update on the rulemaking process, including high-level concepts for those characteristics of gas production projects that staff were considering and evaluating for development of mandatory category thresholds. Information included discussion of engagement and Tribal coordination. Comments were received raising concern about the lack of environmental review for gas exploration.

- February 18, 2026 – Board members were further informed on the rulemaking progress and the development of the mandatory category thresholds, including the overall concepts for the components of the rule. Written comments were received from The Nature Conservancy (see above) and oral comments from Water Legacy that "the EQB seems to be setting up a regulatory scheme that is easy to apply for the producer but not protective of the communities…should consider methane, combustible gases, toxic gases, groundwater pollution, and surface water pollution, etc."
- March 18, 2026 – ERIS members were provided an additional update, along with the opportunity to make recommendations about the information that the full board would benefit from hearing during the upcoming April board meeting. Written comments were received from Pulsar Helium (see above) and oral comments from Tribal environmental staff about the process and timing of sharing draft language. Additional information on Tribal comments is found in attachment 1.
- April 15, 2026 (future) – Board members were provided with draft rule language to be proposed for comment and accompanying justification documents, in order to approve moving forward with the rulemaking process by publishing a notice of intent to adopt rules.