



Request for Coverage under the General Air Quality Permit for New or Modified Minor Source Stone Quarrying, Crushing, and Screening Facilities in Indian Country

Technical Support Document

Permittee: US Silica
180 North LaSalle Street, Suite 2890
Chicago, Illinois 60601

Project Name: Parshall Transload Facility

Location: Parshall Transload Facility, located northwest of the 366th Street SW and 247 Avenue SW intersection, near Makoti, North Dakota, on Indian country lands within the Fort Berthold Indian Reservation; Section 13, Township 152N, Range 88W and Section 18, Township 152N, Range 87W

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Date: February 5, 2016

Facility ID#: TAT-000767

Permit #: GEN-TAT-000767-2015.001

Background

The Clean Air Act (CAA) provides the EPA with broad authority to protect air resources throughout the nation, including air resources in Indian Country. Unlike States, Indian Tribes are not required to develop CAA new source review (NSR) permitting programs. See, for example, Indian Tribes: Air Quality Planning and Management, 63 FR 7253 (February 12, 1998) (also known as the Tribal Authority Rule, or TAR). In the absence of an adequately implemented EPA-approved NSR program on the Fort Berthold Indian Reservation, the EPA has the authority to implement a Federal Implementation Plan (FIP) in order to protect tribal air resources from impacts due to the construction of new or modified stationary sources of air pollutants. In 2011, EPA finalized the Review of New Sources and Modifications in Indian country (Tribal NSR Rule), codified at 40 CFR Part 49, as part of a FIP under the CAA for Indian Country (see 76 FR 38748 (July 1, 2011)). Among other requirements, the Tribal NSR Rule set forth procedures and terms under which the Agency would administer a minor NSR permitting program in Indian Country (MNSR Permit Program).

As part of the Tribal NSR Rule, the EPA adopted the option of developing general permits for certain categories of minor sources to which the MNSR Permit Program would apply. The purpose of a general permit is to provide for the protection of air quality while simplifying the permit issuance process for similar facilities in order to minimize the burden on the reviewing authority and the regulated sources. The EPA finalized the General Air Quality Permit for New or Modified Minor Source Stone Quarrying, Crushing, and Screening Facilities in Indian Country (SQCS General Permit) effective June 1, 2015 (80 FR 25068 (May 1, 2015)). New and modified minor sources that are true

minor sources may apply for coverage under the SQCS General Permit if their potential to emit for new, modified, and existing units is below major source thresholds and the source can meet the throughput limits and other terms and conditions set forth in the SQCS General Permit. Sources seeking coverage under the SQCS General Permit must also demonstrate that they meet certain additional eligibility criteria.

Request for Coverage under SQCS General Permit

On December 21, 2015, EPA Region 8 received an initial Request for Coverage under the SQCS General Permit from US Silica for the construction and operation of the proposed Parshall Transload Facility to transport silica sand from rail cars to trucks in support of ongoing oil and natural gas development in the Bakken region. The project for which SQCS General Permit coverage is sought is the construction and operation of a new rail transload facility to transport silica sand from rail cars to trucks near Parshall, North Dakota, on Indian country lands within the Fort Berthold Indian Reservation (the Project). On January 6, 2016, the EPA sent an email to US Silica indicating that additional information was needed for the EPA to determine the Project's eligibility for SQCS General Permit coverage under the listed species and historic properties eligibility criteria. In response, US Silica sent an addendum to the Request for Coverage under the SQCS General Permit on January 20, 2016, which served to demonstrate sufficient eligibility under the listed species and historic properties eligibility criteria and, thus, completed the Request for Coverage under the SQCS General Permit. Accordingly, we refer hereinafter to the December 21, 2015 Request for Coverage submittal and the January 20, 2016, addenda to that request (and all attachments to these two submittals), collectively, as the "Request for Coverage". US Silica is considered the "Applicant" and the "Permittee" for the Project. This Technical Support Document (TSD) describes our analysis of the Applicant's Request for Coverage for the Project and our determinations concerning this request.

The Project will be located on approximately 330 acres of land owned by Canadian Pacific (CP) Railway and under easement to US Silica in Section 13, Township 152N, Range 88W and Section 18, Township 152N, Range 87W, on Indian country lands within the Fort Berthold Indian Reservation in North Dakota. Construction of the Project would include installation of new rail line parallel and adjacent to the existing CP railway and a new rail loop to be used for unloading rail cars. Silica sand would be conveyed from the rail cars either directly into trucks using portable conveyors and/or into a newly constructed offloading building and then sorted and stockpiled by grade. Inside the offloading building, an end loader would move the enclosed stockpiled sand to a second conveyor to transfer it into day bins and then empty it into haul trucks.

All outdoor material handling conveyors and conveyor feed and discharge points are designed to be covered and are equipped with a dust collection or baghouse unit. Manufacturer information for these dust collection and baghouse units is included in the Request for Coverage. Process flow diagrams that illustrate the step-by-step process and emissions calculations that quantify estimated emissions are also included in the Request for Coverage. A paved parking area would be constructed to accommodate incoming and outgoing trucks and approximately 20 daily US Silica employees.

The geographic area where the Project will be located is designated attainment/unclassifiable under the CAA for all National Ambient Air Quality Standards (NAAQS) pollutants.

Approval of Request for General Permit Coverage

The EPA has carefully reviewed the Request for Coverage, and other relevant information, to determine whether the Project meets all of the criteria to qualify it to apply for coverage under this General Permit. Based on our review of, and in reliance on, all of the information and representations provided in the Request for Coverage, the EPA has determined that the Project meets all such criteria, is eligible for coverage under the SQCS General Permit, and is approving the Request for Coverage for the Project. The EPA's review with respect to some of these criteria is discussed in more detail below in this TSD. The EPA's Approval of the Request for Coverage for the Project is based in part on the EPA's determination that the engines powering equipment for the Project do not qualify as nonroad mobile engines, as represented by US Silica in the Request for Coverage. The definition of nonroad engine at 40 CFR 89.2 excludes internal combustion engines that remain or will remain at a location for more than 12 consecutive months, of which a location is any single site at a building, structure, facility, or installation. Based on the descriptions of operations for the Project in the Request for Coverage, the diesel-fired 60 hp engines have the potential to operate on an indefinite full time basis (24 hours per day, 365 days per year) to power sand unloading operations at the permitted source. Therefore, these engines are considered stationary sources and are subject to any applicable requirements for stationary engines under the SQCS General Permit.

The EPA's Approval of the Request for Coverage for the Project is also based on representations by US Silica in the Request for Coverage that there are no stone quarrying, crushing, and screening operations and emissions units for the Project that would be subject to the fugitive emissions limits and associated visible emissions survey and performance testing requirements in Conditions 21, 27, 29, and 30 of the SQCS General Permit. The Request for Coverage requested approval only for belt conveyors, storage bins, storage piles, truck loading stations, and railcar loading stations to handle the transport of silica sand from rail cars to trucks in support of ongoing oil and natural gas development in the Bakken region. We note that if such stone quarrying, rock crushing, and/or screening operations are actually conducted as part of the Project, the operations would be subject to further requirements under the SQCS General Permit and the Project would not be eligible for coverage based on the current Request for Coverage, which does not indicate that such operations will be conducted for the Project. Thus, to conduct stone quarrying, crushing, and screening operations at the Parshall Transload Facility would require an additional request for coverage and approval under the SQCS General Permit and compliance with this General Permit's requirements for stone quarrying, rock crushing, and/or screening operations, or, alternatively, approval under an individual permit issued pursuant to the Tribal NSR Permit Program or other applicable NSR program implemented by the EPA depending on the magnitude of the source's potential emissions.

Equipment Description

Table 1. List of Affected Emission Units Covered by this Approval of Request for General Permit Coverage

ID #	Description of Affected Emissions Unit	Control Technology	Date of Construction
DUSTC-1, DUSTC-2, DUSTC-3, DUSTC-4	Train Sand Unloading Stations	Fully covered conveyors dust collectors	TBD
DUSTC-8800	Sand Transfer Station	Baghouse	TBD
DUSTC-8303, DUSTC-8313, DUSTC-8403, DUSTC-8413	Sand Truck Load-out Stations	Fully covered conveyors dust collectors	TBD
Building Exhaust	Sand Storage and Handling Building	Enclosed building	TBD
MENG-1, MENG-2, MENG-3, MENG-4	Diesel-fired, 60 hp, mobile non-road sand unloading engines	None	TBD
Tank-1	500-gallon diesel fuel storage tank	None	TBD

Eligibility Criteria

Based upon our review of the Request for Coverage, we have determined the Project qualifies for the SQCS General Permit because it meets the following criteria:

- The Request for Coverage is for a Project that is a minor source stone quarrying, crushing, and screening facility, see below.
- The Project only processes non-metallic materials (*i.e.*, sand, gravel, rock, or stone).
- The Project is located in an attainment/unclassifiable area for ozone, and diesel fuel use for all affected units will be less than 24,200 gallons per calendar month.
- The Project will process less than 1,100,000 tons of raw material throughput per month based on a 12-month rolling average.
- As discussed further below, the Applicant has met the eligibility criteria related to listed species and historic properties.

Potential to Emit (in tons/year)

Potential to emit (PTE) means the maximum capacity of a stationary source to emit an air pollutant under its physical and operational design. The SQCS General Permit includes enforceable physical or operational limitations on the maximum capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation and/or on the type or amount of material combusted, stored, or processed. PTE is meant to be a worst case emissions calculation and is used in many cases to determine the applicability of federal CAA requirements. Actual emissions are

typically lower than PTE. Our evaluation of whether the Project qualifies for the SQCS General Permit included consideration of the limitations on PTE in the SQCS General Permit.

The Tribal NSR Rule establishes specific PTE thresholds for new or modified stationary sources that trigger the requirement to obtain a preconstruction permit under the MNSR Permit Program. See Table 3.

Table 3. MNSR Permitting Thresholds (tons per year)

Pollutant	Nonattainment Areas	Attainment Areas
CO	5	10
NOx	5	10
SO2	5	10
VOC	2	5
PM	5	10
PM10	1	5
PM2.5	0.6	3
Lead	0.1	0.1
Fluorides	NA	1
Sulfuric acid mist	NA	2
Hydrogen sulfide	NA	2
Total reduced sulfur	NA	2
Reduced sulfur	NA	2

Projects at new or modified sources that must obtain Tribal MNSR Program preconstruction permits based on PTE at or above these MNSR thresholds may qualify for coverage under a MNSR general permit in lieu of obtaining a site-specific permit. In order to qualify for the SQCS General Permit, the new or modified source must have a PTE below the major NSR source thresholds, and meet criteria related to the size of equipment and maximum production rates at the source and other eligibility criteria. If a new or modified source does not meet the specified criteria, the source does not qualify for coverage under the SQCS General Permit and must apply for a site-specific MNSR permit or other applicable NSR permit.

In this case, US Silica determined that the Project triggered the preconstruction permit requirements under the Tribal MNSR Rule and is seeking to obtain coverage under the SQCS General Permit in lieu of obtaining a site-specific permit. As such, we have taken into account the enforceable limitations under the SQCS General Permit in determining the PTE for the Project, whether it is a major source, and whether it is eligible for the SQCS General Permit. The Project’s PTE does not exceed the applicable CAA NSR major source thresholds in attainment areas (250 tons per year for each pollutant), as shown in Table 4. Accordingly, the Project’s potential emissions are at a level that potentially qualifies it for coverage under the SQCS General Permit.

Table 4. Facility-wide Potential to Emit (PTE) Summary (includes controls)

Unit	Pollutant (tons/year)						
	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC
DUSTC-1, DUSTC-2, DUSTC-3, DUSTC-4	0.80	0.80	0.80	-	-	-	
DUSTC-8800	1.88	-	-	-	-	-	-
DUSTC-8303, DUSTC- 8313, DUSTC-8403, DUSTC-8413	11.26	11.26	11.26	-	-	-	-
Building Exhaust	6.89	6.89	6.89	-	-	-	-
MENG-1, MENG-2, MENG-3, MENG-4	2.28	2.28	2.28	2.13	32.45	6.99	2.65
Tank-1	-	-	-	-	-	-	0.00*
Total	23.10	23.10	23.10	2.13	32.45	6.99	2.65

* Calculated using EPA Tanks 4.09d as 0.58 pounds per year VOC = 0.00029 tpy VOC

Listed Species-Related Eligibility Criteria

The EPA developed eligibility criteria related to species that are listed as endangered or threatened under the federal Endangered Species Act that applicants must satisfy to qualify for coverage under the SQCS General Permit. Appendix A to the Request for Coverage form for the SQCS General Permit provides detailed screening procedures for applicants to follow to assess the potential impacts of their sources on federally-listed species and their critical habitat. To be eligible for coverage under the General Permit, sources must demonstrate that they have satisfactorily completed the screening procedures and that they meet one of the species-related eligibility criteria, provide sufficient documentation supporting the criterion selected, and obtain confirmation from EPA that they have done so.

The Request for Coverage states that the Project meets Criterion A of Appendix A with respect to listed species protection. US Silica obtained a list of federally-listed species potentially occurring in the vicinity of the proposed project through the US Fish and Wildlife Service (USFWS) Information Planning and Conservation System (IPaC) online program. The Request for Coverage indicates that potential impacts from the Project to listed species and their habitat were first assessed in an August 2015 field survey for suitable habitat for these species that was conducted in conjunction with a field wetland delineation for a Section 404 permit application with the US Army Corps of Engineers (USACE). A copy of the Wetland Delineation Report, which contains threatened and endangered species habitat survey methodology and findings is included in the Request for Coverage. Results of the threatened and endangered species habitat survey were used to assess the Project's likely effect on each listed species. A copy of the threatened and endangered species review/determination of effect memo prepared for inclusion in the Section 404 permit application package to assist the USACE with USFWS Section 7 consultation is also included in the

Request for Coverage. Based on habitat requirements and an analysis of the available habitat within the boundaries of the proposed Project area, the 2015 biological evaluation concluded that no listed species are expected to occur in the area or to be impacted by the proposed Project. The documentation in our record demonstrates that no federally-listed threatened or endangered or designated critical habitat of such species are likely to occur within or adjacent to the action area of the Project. After review and consideration of this information and documentation, EPA agrees that US Silica has completed the species-related screening procedures and has demonstrated, providing appropriate documentation, that the proposed Project meets Criterion A of the listed species-related eligibility criteria for coverage under the SQCS General Permit.

Historic Properties-Related Eligibility Criteria

EPA developed the screening process in Appendix B of the Request for Coverage form to enable source owners/operators to appropriately consider the potential impacts, if any, resulting from the construction, modification, and/or operation of a new or modified emission source on historic properties and, if applicable, determine whether actions can be taken to mitigate any such impacts. To be eligible for coverage under the SQCS General Permit, sources must demonstrate that they have satisfactorily completed the screening procedures and that they meet one of the historic property-related eligibility criteria, provide sufficient documentation supporting the criterion selected, and obtain confirmation from EPA that they have done so.

With respect to the Project, US Silica indicated in the Request for Coverage that the screening process in Appendix B of the Request for Coverage form had been completed to determine if the construction, modification or operation of the Project has the potential to cause effects to historic properties. The Request for Coverage indicated that a scoping study for the proposed Project was completed in March 2015. As part of that study, the potential for cultural resources to occur in the Project area was assessed using publically available information. The Final Environmental Impact Statement for the Thunder Butte Refinery, located immediately south of the proposed Project site was reviewed to gather an overview of cultural resources in the vicinity. According to this document, the State Historic Preservation Officer (SHPO) had no records of cultural resource investigations or known sites for the refinery. For that immediately adjacent project, the Tribal Historic Preservation Officer (THPO) and SHPO both concurred there was a low potential for significant cultural resources in the area and recommended a determination of No Historic Properties Affected.

A Class I and Class III Cultural Resource Inventory of the Project was completed on October 2, 2015 and a copy is included in the Request for Coverage. The Class I literature review completed in August 2015 for the Project identified one cultural resource, a segment of historic railroad, in the study area. However, the October 2015 Class I and Class III Cultural Resource Inventory noted that a recent addendum to the SHPO policy indicates this railroad segment does not require recordation and a recommendation of No Historic Properties Affected was made.

Based on the Class I findings for the Project and the cultural resources review completed for the Thunder Butte Refinery, the Project archaeologist recommended completing the Class III (pedestrian) survey in accordance with USACE guidelines. As part of their Section 404 permit review, USACE requires field surveys for cultural resources within a 200-foot wide buffer surrounding potentially jurisdictional wetlands. As such, only those portions of the Project were inventoried to Class III standards.

The October 2015 Class I and Class III Cultural Resource Inventory was included in the Section 404 permit application package to assist the USACE with SHPO Section 106 consultation and THPO coordination. This report was also informally submitted to the SHPO as it was one of the first reports prepared following the SHPO policy addendum regarding railroads. However, that informal submittal does not substitute for formal, agency-to-agency consultation between the USACE and the SHPO as part of the Section 106 process that the USACE will initiate once the wetland application is submitted.

The EPA has concluded that the Applicant has demonstrated that it has satisfactorily completed the historic property-related screening procedures, that the Project meets one of the historic property-related eligibility criteria, in this case, “no historic properties affected”, and that the Applicant has provided sufficient documentation supporting the criterion selected. The EPA has concluded that the Project is consistent with the historic property-related eligibility criterion for coverage under the SQCS General Permit, based on the documentation provided in the Request for Coverage.

Public Participation

As described in 40 CFR 49.157, issuance of general permits pursuant to the MNSR Permit Program must meet public participation requirements. Before issuing a permit under the MNSR Permit Program, the EPA must prepare a draft permit and must provide adequate public notice to ensure that the affected community and the general public have access to the draft permit information. The public notice must provide an opportunity for a 30-day public comment period and notice of a public hearing, if any, on the draft permit. Consistent with these requirements, during the development of the proposed SQCS General Permit, the EPA followed the applicable public participation process and received numerous comments. EPA considered and addressed these comments in its issuance of the final SQCS General Permit (See 80 FR 25068).

For coverage of a particular source under the SQCS General Permit, the EPA’s analysis of whether the source is within the category of emissions sources to which this General Permit applies, including whether the source meets the criteria to be eligible for coverage under the general permit, must be made available to the public. While the EPA was in the process of reviewing the Request for Coverage for the Project under the SQCS General Permit, certain supporting documentation, including the Request for Coverage, any additional information requests made by the EPA to the Applicant, and any additional information submitted by the Applicant, were made available to the public on the EPA website at: <http://www.epa.gov/caa-permitting/caa-permit-public-comment-opportunities-region-8>. The EPA has described its analysis in this TSD, which will be made available, along with the EPA’s Approval of the Request for Coverage for the Project under the SQCS General Permit and all supporting documentation (the Administrative Record), on the EPA website at: <http://www.epa.gov/caa-permitting/caa-permits-issued-epa-region-8>.

These documents, and the entire administrative record for this Approval of Request for Coverage, can also be obtained by contacting Claudia Smith at the EPA address or phone number listed below. All documents will be available for review at the EPA Region 8 office indicated below, during regular business hours. Due to building security procedures, please call Claudia Smith at (303) 312-6520 at least 24 hours in advance to arrange a visit.

Claudia Smith (8P-AR)
U.S. Environmental Protection Agency, Region 8
1595 Wynkoop Street
Denver, Colorado 80202
Phone: (303) 312-6520
E-mail: Smith.Claudia@epa.gov

Paper or electronic copies of these documents can be sent to individuals upon request in accordance with Freedom of Information Act requirements as described on the EPA Region 8 website at <http://www.epa.gov/region8/epa-region-8-foia-office-contact>.

The EPA is also making this TSD and our Approval of Request for Coverage for the Project, and certain other supporting documentation, available for review at:

Mandan, Hidatsa, and Arikara Nation
Environmental Division
404 Frontage Road
New Town, North Dakota 58763
c/o Edmund Baker,
Environmental Director
(701) 627-4569

The EPA's Approval of the Request for Coverage for the Project is a final agency action for purposes of judicial review, only for the issue of whether the Project qualifies for coverage under the SQCS General Permit. 40 CFR 49.156(e)(6). Any petition for review of this approval action must be filed in the United States Court of Appeals for the appropriate circuit pursuant to CAA section 307(b).