



Memo

To: Concerned Citizens
From: Shawn M. Clarke, P.E., Director *SMC*
Water Facilities Permitting Division
DHEC's Water Program
Subject: RDA, LLC/RDA Quarry
NPDES Permit Coverage SCG731435
Williamsburg County
Date: March 26, 2019

DHEC staff have made a decision to grant the above referenced facility coverage under the NPDES General Permit for Discharges Associated with Nonmetal Mineral Mining Facilities (SCG730000) with conditions. This permit allows the discharge of mine dewatering, process wastewater and stormwater into Murray Swamp.

Enclosed please find responses to NPDES-related public comments and information on how to request a final review conference with the DHEC Board, i.e., to initiate an appeal of this staff decision. As noted in the enclosure, a request for a final review conference must be made within 15 days of DHEC mailing this notice.

RDA Quarry NPDES # SCG731435
Response to Comments
March 26, 2019

Comment: There are a number of comments referring to the contamination of area surface water sources, particularly Murray Swamp, Johnsons Swamp and the Black River. There are concerns that because of water pollution that the fish and other aquatic life will die, as well as a general disruption of the delicate habitat of this area.

Response: RDA proposes to discharge stormwater and wastewater to Murray Swamp, and these discharges require a National Pollutant Discharge Elimination System (NPDES) permit issued by DHEC. RDA has applied to DHEC for coverage under the NPDES General Permit for Discharges Associated with Nonmetal Mineral Facilities.

This permit will protect Murray Swamp by limiting the total suspended solids (TSS), oil and grease and pH levels in the discharged wastewater. These are the wastewater pollutants typically associated with limestone quarry operations. Additionally, based on the Department's evaluation of groundwater data provided by the facility, the coverage letter will include limitations for cadmium, thallium, lead, aluminum, and mercury.

The primary pollutant of concern in the stormwater is TSS. This permit would require the facility to use control measures to ensure that the discharged stormwater does not contain harmful levels of TSS and other pollutants.

The permit does not require monitoring of Murray Swamp, but does require monitoring of the discharges to Murray Swamp. Compliance with the NPDES permit coverage should protect water quality in the receiving waters and therefore in-stream monitoring should not be needed. The discharge limits and monitoring frequencies are as follows:

Pollutant/Parameter	DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS			
	Concentration		Sampling Frequency	Sample Type
	Monthly Average	Daily Maximum		
Flow	MR	MR	Monthly	Estimate*
Total Suspended Solids (TSS)	25 mg/l	45 mg/l	Monthly	Grab
pH	Not lower than 6.0 or above 8.5 s.u.		Monthly	Grab
Oil & Grease (O&G)	10 mg/l	15 mg/l	Quarterly	Grab
Cadmium, total	0.3507 µg/l	1.926 µg/l	Monthly	Composite
Lead	3.394 µg/l	88 µg/l	Monthly	Composite
Thallium	0.47 µg/l	0.6862 µg/l	Monthly	Composite
Aluminum, total	87 µg/l	750 µg/l	Monthly	Composite
Mercury	0.051 µg/l	0.07446 µg/l	Annual	Grab

MR = Monitor & Report mg/l = milligrams per liter s.u. = standard units µg/l = micrograms per liter

* - Discussion of flow estimates can be found in Part IV.B of General Permit SCG730000

Note that the basis for the metals limits is discussed in the response on Page 4. Finally, the permit also requires quarterly monitoring of the stormwater discharges until the monitoring confirms that the stormwater control measures are functioning effectively.

Comment: There were concerns expressed of oil, diesel or chemical spills finding its way into the surface water and eventually into the groundwater.

Response: The permit requires that the potential for spills be minimized. If a spill does occur, the permit requires that it be expeditiously stopped and cleaned up. In the unlikely event that a spill were to contaminate the groundwater, the Department may require additional remediation measures. No volatile organic compounds, including any chemicals that would serve as a coagulant to treat the suspended solids in water, are going to be used at this site. In the event such a coagulant would be proposed in the future, the Department would carefully examine the Safety Data Sheets (SDS) provided for any hazardous substances, and only approve those substances that would be protective of public health and the environment.

Comment: There were concerns raised of heavy metals entering the swamp, acid mine drainage, mercury and other threats to the biodiversity of this ecosystem.

Response: Heavy metals and acid mine drainage are issues that would typically be associated with metallic mineral mines, which are not covered by this General Permit. Limestone is a nonmetallic mineral and is the only material to be mined at this site. There are no known sources of mercury at this site; however, a limit has been included based on groundwater data supplied by the facility. (Note, mercury was not detected in the groundwater; however, a sufficiently low reporting limit was not used so the value was treated as a detection in our water quality analysis.) Nor do we expect any habitat modification as a result of this quarry, as the permit itself sets strict limits as to what can be discharged into the environment.

Comment: This quarry will have a devastating effect on endangered species in the area, notably the Shortnose Sturgeon and the Atlantic Sturgeon. Furthermore, DHEC has failed to consult with the National Marine Fisheries Service (NMFS) branch of the National Oceanic and Atmospheric Administration (NOAA) on how the proposed operation will impact the endangered species as is required by law.

Response: As part of its review process for coverages under this general permit, DHEC conducts a review of the potential impacts to endangered species and coordinates with the Department of Natural Resources (SCDNR), the National Marine Fisheries Service (NMFS), and US Fish and Wildlife (USF&W), as applicable. Our review indicated that the sturgeon has been known to use the Black River as habitat. DHEC is aware that the sturgeon's habitat can be degraded, disrupted or lost because of various human activities, such as dredging, dams, surface water withdrawals, saltwater intrusion, chemical contamination of sediments in rearing areas, and other development. Any activity that destroys those locations directly (e.g., dredging) or indirectly (e.g., sedimentation or saltwater intrusion) would negatively impact the sturgeon habitat. To support all life stages, sturgeon also require sufficient water quantities and water qualities sufficient to support all life stages, which are often impacted by the activities above.

Dredging, dams, saltwater intrusion, surface water withdrawals, and chemical contamination are not expected to take place as a result of this proposed quarry discharge. The processing of limestone at this proposed quarry effectively limits the amount of sediment that is discharged from the site. The facility proposes to route most of the stormwater into the pit for containment and settling. From there, a portable pump will transfer water to an on-site sediment/retention pond located near Murray Swamp. When the retention pond is full, the water will discharge through the outfall into Murray Swamp.

Some of the water from the retention pond will be used to wash the stone removed from the mine. The wash water will be routed through a closed circuit series of clarification ponds to remove limestone fine particles prior to discharge back to the retention pond. As the retention ponds and clarification ponds become full of this material, the sediment and fine particles will be removed and back-filled into the pit. Based on the process description, sedimentation will be greatly minimized when the proposed quarry does discharge, and should remain below permit limits.

Based on the above information, we performed an analysis that estimates the concentration of TSS downstream of the discharge, and sought the assistance of Andy Herndon of NOAA (Tampa, FL) regarding the pollutant's potential impact to the sturgeon in the Black River. Specifically, DHEC asked: Do we as a permitting authority need to be concerned about this proposed quarry discharge negatively impacting the sturgeon?

Mr. Herndon (NOAA/NMFS) concurred with DHEC's analysis and stated that based on the information provided, he did not see what route of effect a potential increase in turbidity (TSS) would cause to sturgeon or Atlantic sturgeon critical habitat. It's possible another route of effect that may adversely affect the sturgeon or Atlantic sturgeon critical habitat exists, but was unclear what would trigger that would be.

Mr. Herndon also stated that upon a closer review of the proposed project's location and the habitats surrounding that location, along with what we know about sturgeon behavior, that he would not anticipate a sturgeon occurring at the site proposed for the RDA mine.

Ms. Cynthia Cooksey, also of NOAA/NMFS, after reviewing the RDA application for essential fish habitat (EFH) concerns, stated that given how far inland the mine is located that NMFS had no comments or conservation recommendations at this time.

Based on concurrence from NOAA, DHEC has concluded that the sturgeon will not be negatively impacted the discharge from RDA Quarry.

Comment: Concerns were expressed regarding the potential for significant water quality impacts to Murray Swamp and the Black River, a State Scenic River, located approximately 6 miles downstream from the site. Volatile organic compounds, dust and other pollutants from these areas could adversely impact downstream water quality and aquatic life if these areas are not adequately buffered and managed. Water quality data from the SCDNR State Stream Assessment indicates the pH of the water in Murray Swamp is already close to the upper (more alkaline) tolerance thresholds for water tupelo and bald-cypress. Substantial limestone dust or mine runoff inputs to Murray Swamp would likely result in increased mortality of these dominant tree species and should, therefore, be minimized.

Response: As previously discussed, the General Permit is protective of the water quality of these waterbodies of concern. The allowable pH range for the discharge is between 6.0 and 8.5 standard units. Furthermore, our data indicates that the maximum discharge from the RDA Quarry as stated in the application would result in less than one-half of 1% of the total flow in the Black River. Therefore, DHEC does not anticipate any adverse affects to the aquatic life or trees of concern mentioned in this comment.

Comment: In the comments, there were studies presented from a limestone mining operation in India, as well as Florida, along with an opinion of the RDA Quarry from a P.E. in Montana, all of which indicate that the

RDA Quarry will have many issues and end up contaminating the environment much worse than what DHEC believes will occur.

Response: In response to these studies, DHEC contacted regional states to obtain data related to limestone quarries within their state. Florida sent us links to their information and we compared their data to our water quality standards in South Carolina. Based on this evaluation, on October 18, 2018, DHEC asked the facility to perform on-site "baseline" groundwater sampling from six (6) different locations, one "above rock" and one "below rock," from three (3) monitoring wells that were representative of the initial area to be mined at the quarry. Each of these six (6) samples was analyzed for the following NPDES Part 2C application inorganic compounds:

Antimony, total	Thallium, total	Phosphorus (as P), total
Arsenic, total	Zinc, total	Sulfate (as SO ₄)
Beryllium, total	Cyanide, total	Sulfide (as S)
Cadmium, total	Total Dissolved Solids (TDS)	Sulfite (as SO ₃)
Chromium, total	Total Suspended Solids (TSS)	Aluminum, total
Copper, total	pH	Barium, total
Lead, total	Bromide	Boron, total
Mercury, total	Chloride	Cobalt, total
Nickel, total	Fluoride	Magnesium, total
Selenium, total	Nitrate-Nitrite (as N)	Molybdenum, total
Silver, total	Nitrogen, Total Organic (as N)	Tin, total

As a result of this analysis, Cadmium, Thallium, Lead and Aluminum will be limited in the permit and monitored monthly. Additionally, Mercury, although not a true detection (i.e., a sufficiently low reporting limit was not used), will be limited and monitored once per year.

South Carolina Board of Health and Environmental Control

Guide to Board Review

Pursuant to S.C. Code Ann. § 44-1-60

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of \$100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation or settlement discussions during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference. In matters pertaining to decisions under the South Carolina Mining Act, appeals should be made to the South Carolina Mining Council.

I. Filing of Request for Final Review

1. A written Request for Final Review (RFR) and the required filing fee of one hundred dollars (\$100) must be received by Clerk of the Board within fifteen (15) calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15th day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.
2. RFRs shall be in writing and should include, at a minimum, the following information:
 - The grounds for amending, modifying, or rescinding the staff decision;
 - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
 - the relief requested;
 - a copy of the decision for which review is requested; and
 - mailing address, email address, if applicable, and phone number(s) at which the requestor can be contacted.
3. RFRs should be filed in person or by mail at the following address:
South Carolina Board of Health and Environmental Control
Attention: Clerk of the Board
2600 Bull Street
Columbia, South Carolina 29201
Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhec.sc.gov).
4. The filing fee may be paid by cash, check or credit card and must be received by the 15th day.
5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.
6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor. All personal and financial identifying information will be redacted from the RFR and accompanying documentation before the RFR is released to the Board, Department staff or the public.
7. If an RFR pertains to an emergency order, the Clerk will, upon receipt, immediately provide a copy of the RFR to all Board members. The Chairman, or in his or her absence, the Vice-Chairman shall based on the circumstances, decide whether to refer the RFR to the RFR Committee for expedited review or to decline in writing to schedule a Final Review Conference. If the Chairman or Vice-Chairman determines review by the RFR Committee is appropriate, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response and RFR Committee review will be provided on an expedited schedule defined by the Chairman or Vice-Chairman.
8. The Clerk will email the RFR to staff and Office of General Counsel and request a Department Response within eight (8) working days. Upon receipt of the Department Response, the Clerk will forward the RFR and Department Response to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within a twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by

certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. Contested case guidance will be included within the letter.

NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.

9. If the RFR is to be considered by the RFR Committee, the Clerk will notify the Presiding Member of the RFR Committee and the Chairman that further review is requested by the Board. RFR Committee meetings are open to the public and will be public noticed at least 24 hours in advance.
10. Following RFR Committee or Board consideration of the RFR, if it is determined no Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Conference. Contested case guidance will be included within the letter.

II. Final Review Conference Scheduling

1. If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, informing the Requestor of the determination.
2. The Clerk will request Department staff provide the Administrative Record.
3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publically noticed and should:
 - include the place, date and time of the Conference;
 - state the presentation times allowed in the Conference;
 - state evidence may be presented at the Conference;
 - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
 - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

III. Final Review Conference and Decision

1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
 - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
 - Type of decision (permit, enforcement, etc.) and description of the program.
 - Parties
 - Description of facility/site
 - Applicable statutes and regulations
 - Decision and materials relied upon in the administrative record to support the staff decision.
 - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] NOTE: The burden of proof is on the Requestor(s)
 - Rebuttal by Department staff [15 minutes]
 - Rebuttal by Requestor(s) [10 minutes]Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.
2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
3. At any time during the conference, the officers conducting the Conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the Conference.
4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
5. All Conferences are open to the public.
6. The officers may deliberate in closed session.
7. The officers may announce the decision at the conclusion of the Conference or it may be reserved for consideration.
8. The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court or in matters pertaining to decisions under the South Carolina Mining Act, to request a hearing before the South Carolina Mining Council.. The FAD will be sent by certified mail, return receipt requested.
9. Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.