

United States Department of the Interior



OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT
Interior Region 7
PO Box 25065
Denver, CO 80225-0065



August 27, 2021

CO-0106C

Mrs. Sarah Vance
Environmental Engineer
GCC Energy, LLC
11783 Highway 337 South
Tijeras, NM 87059

Re: Approval of Minor Permit Revision for the LCC Subsurface Tunnel
OSMRE Project Tracking Code: UM.CO.0106.3383
King II Mine Federal Permit CO-0106C

Dear Mrs. Vance:

In correspondence dated March 23, 2021, GCC Energy, LLC (GCC) submitted to the Office of Surface Mining Reclamation and Enforcement (OSMRE) a minor permit revision to the approved King II Mine Permit Application Package (PAP) for Federal Permit CO-0106C. GCC's March 23, 2021 revision was submitted to update the Low Cover Crossing (LCC) Subsurface Tunnel design. GCC's revision proposed to reduce the number of subsurface tunnels to be constructed from four (4) to three (3).

OSMRE sent initial deficiencies on the revision application to GCC in letter dated April 27, 2021. GCC provided responses to deficiencies identified in letter dated August 4, 2021. After review, a few deficiencies required additional resolution, and GCC was responsive to those items on August 25, 2021.

As provided in the attached Findings and Technical Evaluation documents, OSMRE finds that the proposed permit revision application complies with the requirements of the Surface Mining Control and Reclamation Act of 1977 and the implementing Federal regulations. In accordance with 30 CFR 750.12(c)(1)(ii) and 30 CFR 774.13(c), I **Approve** GCC's Minor Permit Revision Application to update the LCC Subsurface Tunnel design for King II Mine Federal Permit CO-0106C. **GCC must submit to OSMRE six (6) electronic copies and one (1) paper copy of the approved LCC Subsurface Tunnel revision for the King II Mine that incorporates the modifications to the low cover crossing. Upon receiving the approved permit revision from GCC, OSMRE will distribute the electronic copies to the agencies cc'd below.**

By this letter, I request that the LCC Subsurface Tunnel design and Reclamation Bond calculation replace the previous revisions at PAP Appendix 10.13 and 10.15.

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

As set forth in the Indian Lands Program regulation at 30 CFR 750.12(c)(iii), the Permittee or a person with an interest which is or may be adversely affected, may appeal OSMRE's decision under the procedures of 30 CFR Part 775 and 43 CFR Part 4.

Should you have questions or need clarification regarding the contents of this letter or attachments, please contact me by e-mail at jspangler@osmre.gov.

Sincerely,

A handwritten signature in blue ink that reads "Jeremy Spangler". The signature is fluid and cursive, with the first name "Jeremy" and last name "Spangler" clearly distinguishable.

Jeremy Spangler, King II Mine Permit Coordinator
Indian Program Branch, Program Support Division
OSMRE-Interior Region 7

Enclosure: Technical Evaluations for the LCC Subsurface Tunnel Revision

cc: Ute Mountain Ute Tribe, Scott Clow
Ute Mountain Ute BIA, Angela Arviso
Ute Mountain Ute BIA, Stephanie Tsosie
BLM Tres Rios Field Office, Connie Clementson
CO-DRMS, Janet Binns



United States Department of the Interior

OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT
Interior Region 7
PO Box 25065
Denver, CO 80225-0065



**Approval of an Application for Minor Permit Revision
LCC Subsurface Tunnel Revision
Federal Permit for Indian Lands CO-0106C
GCC Energy, LLC (GCC)
King II Mine**

In a Permit Revision Application dated March 23, 2021, GCC Energy, LLC (GCC) submitted to the Office of Surface Mining Reclamation and Enforcement (OSMRE) a permit revision application to modify the King II Mine Permit Application Package (PAP); Federal Permit for Indian Lands: CO-0106C.

Based on its review of the permit revision application, OSMRE has determined that:

1. Reclamation as required by the Surface Mining Control and Reclamation Act of 1977, as amended, (SMCRA) and the Indian Lands Program at 30 CFR Chapter VII, Subchapter E can be accomplished under the reclamation plan contained in the permit application, as revised.
2. The revision application is accurate and complete, and the applicant has complied with all requirements of SMCRA and the Indian Lands Program for the permit revision.
3. No other approval requirements at 30 CFR 750.12(c)(3)(ii)(C) and 773.15 are applicable to this permit revision application.
4. The King II Mine Cumulative Hydrologic Impact Assessment (CHIA) required under 30 CFR 780.21(g) does not need to be updated due to this proposed minor permit revision.
5. Environmental Impact Statement and Record of Decision under the National Environmental Policy Act.
 - a. The proposed permit revision would not result in any additional environmental impacts beyond those identified in the Bureau of Land Management and Office of Surface Mining Reclamation and Enforcement Environmental Assessments entitled, *Environmental Assessment, EA Number DOI-BLM-CO-S010-2011-0074-EA Federal Coal Lease (COC-62920) Modification and Federal Mine Permit (CO-0106A) Revision and Renewal*; and *Environmental Assessment, EA Number DOI-BLM-CO-S010-2019-0003-EA Dunn Ranch Area Lease-By-Application and Mine Plan Modification* for the King II Mine.

- b. EA Numbers DOI-BLM-CO-S010-2011-0074-EA and DOI-BLM-CO-S010-2019-0003-EA adequately address the impacts of the mine operation.
- c. Because the approval of this permit revision application would not result in additional impacts, the approval would not cause OSMRE to modify its Record of Decision for the King II Mine Permit CO-106C.
- d. The approval of the permit revision would not significantly impact the quality of the human environment under section 102(2)(C) of the National Environmental Policy Act of 1969, 42 U.S.C. 4332(2)(C). Therefore, an Environmental Impact Statement (EIS) is not required.

On the basis of the above determinations, I, in accordance with 30 CFR 750.12(c)(1)(ii) and 774.13(c), **Approve** GCC's minor permit revision application to modify information in the King II Mine PAP for Federal Indian Lands Permit CO-0106C, tracked as OSMRE Project UM.CO.0106.3383.



Jeremy Spangler
King II Mine Permit Coordinator
Program Support Division
OSMRE – Interior Region 7

August 27, 2021

Date

**OSMRE'S APRIL 2021 TECHNICAL EVALUATION
KING II MINE MINOR REVISION
LOW COVER CROSSING SUBSURFACE TUNNEL REVISION**

1. COMPANY: GCC Energy, LLC (GCC)

2. MINE/OPERATION: King II Mine

3. TRACKING SYSTEM INFORMATION:

A. OSMRE Project Number (CRSS): UM.CO-0106C.3383

B. Administrative Records Management System (ARMS):

C. Letterhead date of submittal: March 23, 2021

4. TYPE OF APPLICATION/DOCUMENT REVIEWED:

☒ Permit revision application

☐ Permit renewal application

☐ Other:

5. EVALUATION:

GCC Energy, LLC (GCC) submitted a minor permit revision for the low cover crossing subsurface tunnel in the Permit Application Package (PAP). GCC's currently approved King II Mine low cover crossing design allows for four (4) subsurface tunnels to be constructed to allow underground mining access to new Federal Coal Lease COC- 78825, located adjacent to and immediately northwest of the King II Mine and existing Federal Coal Lease COC- 62920. The revised PAP Appendix 10-15 Low-Cover Crossing proposes to modify the existing permit to reduce the number of subsurface tunnels to be constructed from four (4) to three (3). Also, revisions to figures and references to the number of tunnels were completed in the proposed revision of PAP reclamation plan - Reclamation Plan, King II Coal Mine – Dunn Ranch Area Low-Cover Crossing, September 2019. GCC stated the currently approved Appendix 10-15 Item Number 3, 'GCC Energy – Low Cover Crossing Drainage Report', August 30, 2019, prepared by Russell Planning & Engineering, will not be affected by the proposed (3) tunnel configuration.

OSMRE has previously conducted technical evaluations in regard to the application overview, hydrology, vegetation and wildlife during the initial King II Mine low cover crossing approval process. OSMRE has determined no further reviews are necessary in respect to these parameters, as nothing has changed, and has conducted the following technical evaluation with respect to all applicable regulations regarding the various phases of construction, detailed construction plans, drawings of the crossing and reclamation cost.

A. Part of application/document reviewed:

Appendix 10.15 Low-Cover Crossing

(1) Citation of applicable regulations:

30 CFR §777.11

Format and contents

30 CFR §784.11

Operation Plan: General Requirements

30 CFR §784.13

Reclamation Plan: General Requirements

30 CFR §784.23

Operation plan: Maps and plans

(2) Evaluation of compliance with the requirements of the applicable regulations:

(a) Evaluation of compliance with the permit application requirements (30 CFR §777 through §784) as well as performance standards (30 CFR §800):

GCC requested no major modifications to disturbance area, reclamation activities or reclamation cost. OSMRE notes the modifications to the existing approved Appendix 10-15 propose to reduce the number of subsurface tunnels to be constructed from four (4) to three (3). This modification also includes alterations to the alignment and elevations of the now three (3) proposed tunnels from the eastern shoring wall to the western shoring wall, disturbed cubic yards, additional riprap protection and the addition of (4) exploration hole/vent bore hole/well sites. **GCC must make the demonstration to OSMRE that the approved reclamation cost is sufficient to assure the completion of the reclamation plan, as now proposed, if the work is to be performed by the regulatory authority in the event of forfeiture in accordance with 30 CFR §800.14(b).**

Within Appendix 10.15, GCC has maps drawn by Short Elliott Hendrickson, Inc. and plans drawn by Farnsworth Group which present the modification of subsurface tunnels to be constructed from four (4) to three (3) across Alkali Gulch. OSMRE cannot determine if the maps and plans presented are certified by a qualified, registered, professional engineer. **GCC must have all cross sections, maps and plans; that contain low cover crossing design information; certified by a qualified, registered, professional engineer in accordance with 30 CFR §784.23(c).**

LOW-COVER CROSSING PLAN SET

In Drawings C-104 and C-601, the Limits of Disturbed Area line needs to be altered to include the pipe outlet paving area as well as the 0.06 acres of impacted wetlands. **OSMRE requests the figures be updated as they are not clear or concise, in accordance with 30 CFR §777.11(a).**

In Drawing C-501, the Heavy Duty Section - Tunnel 3 & Connector Tunnel, the title is not correct. The Heavy Duty Sections are Tunnel 1 and the Connector tunnel. **The title must be updated as it is not clear or concise, in accordance with 30 CFR §777.11(a). OSMRE also requests an explanation as to why the compacted select granular structure backfill above the tunnel was reduced from 3 feet in the previous submittal to 2 feet in this submittal.**

In Drawings C-201, C-202 and C-203; it is unclear why four projected exploration hole/vent bore hole/well sites (TB-1, TB-2, TB-3, and TB-4) are not referenced in Appendix 10-15 Low-Cover Crossing & Reclamation Plan. **OSMRE requests**

clarification as to what these are and their intended purpose as they are currently unclear. There is no description of the measures to be used to seal or manage these openings. **The proposed appendix must be updated as it is not clear or concise in accordance 30 CFR §777.11, 30 CFR §784.11(b), and 30 CFR §784.13(b)(8).**

LOW-COVER CROSSING RECLAMATION PLAN

OSMRE notes Figure 1. Cross-sectional (parallel to LLC tunnels) view of the low-cover crossing with exaggerated vertical scale and Figure 2. Cross-sectional (perpendicular to LLC tunnels) view of proposed low-cover crossing, located on Page 5 of the Reclamation Plan document (Page 43 of Appendix 10-15), have not been updated to reflect the changes in the tunnel profiles and reduction of subsurface tunnels from four (4) to three (3) in the culvert profile. **GCC must update the figures as they are not clear or concise, in accordance with 30 CFR §777.11(a).**

In Section 2.2 Construction Quantities, Page 6 of the Low-Cover Crossing Reclamation Plan (Page 44 of Appendix 10-15), the volumes presented do not match the volumes shown on Drawing C-702 Final Earthwork. The volume difference appears to reflect the reduction in earth work with reducing the number of subsurface tunnels to be constructed from four (4) to three (3). **OSMRE requests that the quantities in Section 2.2 be updated as the information is not clear or concise, in accordance with 30 CFR §777.11(a).**

In Figure A-3, Page A-4 of the Low-Cover Crossing Reclamation Plan (Page 55 of Appendix 10-15), the Limits of Disturbed Area line needs to be altered to include the pipe outlet paving area as well as the 0.06 acres of impacted wetlands. **OSMRE requests that the figure be updated as it is not clear or concise, in accordance with 30 CFR §777.11(a).**

GCC ENERGY – LOW COVER CROSSING DRAINAGE REPORT

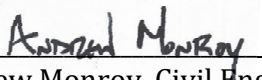
OSMRE notes Sections 3.2 RIPRAP and 4.0 CONCLUSIONS AND SUMMARY OF FINDINGS (Page 60 of Appendix 10-15) need to be updated to reflect the riprap that will be placed in the inlet as the information is not clear or concise, in accordance with 30 CFR §777.11(a).

(3) On the basis of the preceding evaluation, I conclude that:

☒ This application/document does not comply with the requirements of the applicable regulations. **GCC must correct the bold comments listed above.**

6. PRIMARY AND PEER REVIEWERS.

A. Reviewer:



Andrew Monroy, Civil Engineer
Program Support Division

04/27/21

Date

B. Co-reviewer:



Jeremy Spangler, Civil Engineer
Program Support Division

04/27/21

Date

**OSMRE'S AUGUST 2021 TECHNICAL EVALUATION
KING II MINE MINOR REVISION
LOW COVER CROSSING SUBSURFACE TUNNEL REVISION RESPONSE**

1. **COMPANY:** GCC Energy, LLC (GCC)
2. **MINE/OPERATION:** King II Mine
3. **TRACKING SYSTEM INFORMATION:**
- A. **OSMRE Project Number (CRSS):** UM.CO-0106C.3383
- B. **Administrative Records Management System (ARMS):**
- C. **Letterhead date of submittal:** August 04, 2021
4. **TYPE OF APPLICATION/DOCUMENT REVIEWED:**
- ☒ Permit revision application
- ☐ Permit renewal application
- ☐ Other:

5. **EVALUATION:**

GCC Energy, LLC's (GCC) currently approved King II Mine Permit Application Package's (PAP) low cover crossing (LCC) design consists of four (4) subsurface tunnels to be constructed to allow underground mining access to new Federal Coal Lease COC- 78825, located adjacent to and immediately northwest of the King II Mine and existing Federal Coal Lease COC- 62920. GCC originally submitted a minor revision to the LCC subsurface tunnel design on March 23, 2021. GCC's revision proposed to reduce the number of subsurface tunnels to be constructed from four (4) to three (3). OSMRE provided deficiency comments to the proposed minor revision on April 27, 2021. GCC's August 4, 2021 response addresses OSMRE's deficiencies as well as includes a minor design change regarding the alignment of the LCC subsurface tunnel system. In this evaluation, OSMRE will review GCC's proposed minor revision deficiency response.

A. **Part of application/document reviewed:**

Appendix 10.13 Liability Insurance and Bond

Appendix 10.15 Low-Cover Crossing

(1) **Citation of applicable regulations:**

30 CFR §777.11	Format and contents
30 CFR §784.11	Operation Plan: General Requirements
30 CFR §784.13	Reclamation Plan: General Requirements
30 CFR §784.23	Operation plan: Maps and plans
30 CFR §800.14	Determination of bond amount
30 CFR §816.43	Diversions

(2) **Evaluation of compliance with the requirements of the applicable regulations:**

(a) Evaluation of compliance with the permit application requirements (30 CFR §777 through §784) as well as performance standards (30 CFR §800):

APPENDIX 10.13

Appendix 10.13 was included in this revision response at the request of OSMRE's April 27, 2021 technical evaluation. This appendix contains the reclamation cost calculation for the LCC structure at the King II Mine. It is the basis of the surety bond that OSMRE holds. The reclamation cost must be sufficient to assure the completion of the reclamation plan, as now proposed, if the work is to be performed by the regulatory authority in the event of forfeiture in accordance with 30 CFR §800.14(b).

OSMRE April 2021 Comment

1. **GCC must make the demonstration to OSMRE that the approved reclamation cost is sufficient to assure the completion of the reclamation plan, as now proposed, if the work is to be performed by the regulatory authority in the event of forfeiture in accordance with 30 CFR §800.14(b).**

OSMRE August 2021 Comment

As advised in the technical evaluation dated April 27, 2021, GCC included Appendix 10-13 to demonstrate that the reclamation cost is sufficient to assure the completion of the reclamation plan as now proposed, if the work is to be performed by the regulatory authority in the event of forfeiture in accordance with 30 CFR §800.14(b). Other comments OSMRE noted are as follows:

GCC states the new Limits of Disturbance Area (LDA) encompasses 8.6 acres. This entails 3 acres of construction activity and the remaining 5.6 acres to be used for material staging and stockpiling with an additional margin to account for any potential adjustments needed based on field conditions.

On Worksheet 14, GCC has increased the hourly rate from \$16.13 to \$16.83 to reflect the median hourly rate for labor category 37-3011-Landscaping and Groundskeeping Workers in Colorado as of July 2021.

The GCC King II Mine Reclamation Bond Status table has not been updated in Appendix 10.13 (pg. 10/ 44). The stage bond has been reduced from \$1,031,589 to \$933,469. **GCC must update the table as it is not clear or concise, in accordance with 30 CFR §777.11(a).**

APPENDIX 10.15 LOW COVER CROSSING

The appendix provides the design drawings, reclamation plans and drainage calculations for the LCC in accordance with 30 CFR §784.13. OSMRE notes the appendix contains several cross sections, maps and plans that contain LCC design information.

They have been certified by a qualified, registered, professional engineer in accordance with 30 CFR §784.11 and 30 CFR §784.23(c).

APPENDIX 10.15 (LOW-COVER CROSSING PLAN SET)

OSMRE April 2021 Comment

2. **GCC must have all cross sections, maps and plans; that contain low cover crossing design information; certified by a qualified, registered, professional engineer in accordance with 30 CFR §784.23(c).**

OSMRE August 2021 Comment

All cross sections, maps and plans that contain LCC design information have been certified by a qualified, registered, professional engineer in accordance with 30 CFR §784.23(c) and are included in the attached Appendix 10.15.

OSMRE April 2021 Comment

3. In Drawings C-104 and C-601, the Limits of Disturbed Area line needs to be altered to include the pipe outlet paving area as well as the 0.06 acres of impacted wetlands. **OSMRE requests the figures be updated as they are not clear or concise, in accordance with 30 CFR §777.11(a).**

OSMRE August 2021 Comment

GCC has revised Drawings C-104 and C-601 to include the pipe outlet paving area as well as the 0.06 acres of impacted wetlands within the Limits of Disturbed Area line. OSMRE concurs with GCC's response as the figures have been updated in accordance with 30 CFR §777.11(a).

OSMRE April 2021 Comment

4. In Drawing C-501, the Heavy Duty Section - Tunnel 3 & Connector Tunnel, the title is not correct. The Heavy Duty Sections are Tunnel 1 and the Connector tunnel. **The title must be updated as it is not clear or concise, in accordance with 30 CFR §777.11(a). OSMRE also requests an explanation as to why the compacted select granular structure backfill above the tunnel was reduced from 3 feet in the previous submittal to 2 feet in this submittal.**

OSMRE August 2021 Comment

GCC has revised the title of the Heavy Duty Section. Regarding the quantity of compacted select granular structure backfill above the tunnels, GCC stated: The 30% (and early 60%) documents showed 3'-0" of select backfill over the arch as an estimate based on several different tunnel manufacturer's documentation. However, once the Contech multi-plate system was selected, a 2'-0" cover minimum was confirmed by Contech's engineer. The modified quantity was discussed with Trautner Geotech to confirm soil values provided in the Geotechnical Report. OSMRE concurs with GCC's response and therefore is in accordance with 30 CFR §777.11(a).

OSMRE April 2021 Comment

5. In Drawings C-201, C-202 and C-203; it is unclear why four projected exploration hole/vent bore hole/well sites (TB-1, TB-2, TB-3, and TB-4) are not referenced in Appendix 10-15 Low-Cover Crossing & Reclamation Plan. **OSMRE requests clarification as to what these are and their intended purpose as they are currently unclear. There is no description of the measures to be used to seal or manage these openings. The proposed appendix must be updated as it is not clear or concise in accordance 30 CFR §777.11, 30 CFR §784.11(b), and 30 CFR §784.13(b)(8).**

OSMRE August 2021 Comment

GCC has revised the drawings and the holes have been removed. GCC stated that the exploration hole/vent bore hole/well sites (TB-1, TB-2, TB-3, and TB-4) were intended to locate the coal seam and other strata to facilitate construction design. These holes will be consumed by excavation during the project and therefore they will not need to be sealed or managed. OSMRE concurs with GCC's response and therefore in accordance 30 CFR §777.11, 30 CFR §784.11(b), and 30 CFR §784.13(b)(8).

APPENDIX 10.15 (LOW-COVER CROSSING RECLAMATION PLAN)

OSMRE April 2021 Comment

6. OSMRE notes Figure 1. Cross-sectional (parallel to LLC tunnels) view of the low cover crossing with exaggerated vertical scale and Figure 2. Cross-sectional (perpendicular to LLC tunnels) view of proposed low-cover crossing, located on Page 5 of the Reclamation Plan document (Page 43 of Appendix 10-15), have not been updated to reflect the changes in the tunnel profiles and reduction of subsurface tunnels from four (4) to three (3) in the culvert profile. **GCC must update the figures as they are not clear or concise, in accordance with 30 CFR §777.11(a).**

OSMRE August 2021 Comment

OSMRE notes that Figure 1. Cross-sectional (parallel to LLC tunnels) view of the low-cover crossing with exaggerated vertical scale, page 5 of the Reclamation Plan document (pg. 43/110), has still not been updated to reflect the changes in the tunnel profile as shown on Drawing C-201. **GCC must update the figure as it is not clear or concise, in accordance with 30 CFR §777.11(a).**

OSMRE April 2021 Comment

7. In Section 2.2 Construction Quantities, Page 6 of the Low-Cover Crossing Reclamation Plan (Page 44 of Appendix 10-15), the volumes presented do not match the volumes shown on Drawing C-702 Final Earthwork. The volume difference appears to reflect the reduction in earth work with reducing the number of subsurface tunnels to be constructed from four (4) to three (3). **OSMRE requests that the quantities in Section 2.2 be**

updated as the information is not clear or concise, in accordance with 30 CFR §777.11(a).

OSMRE August 2021 Comment

GCC has revised the volumes presented in Section 2.2 Construction Quantities to match the volumes shown on drawings C-701 and C-702. OSMRE concurs with GCC's response and therefore is in accordance with 30 CFR §777.11(a).

OSMRE April 2021 Comment

8. In Figure A-3, Page A-4 of the Low-Cover Crossing Reclamation Plan (Page 55 of Appendix 10-15), the Limits of Disturbed Area line needs to be altered to include the pipe outlet paving area as well as the 0.06 acres of impacted wetlands. **OSMRE requests that the figure be updated as it is not clear or concise, in accordance with 30 CFR §777.11(a).**

OSMRE August 2021 Comment

GCC has updated Figure A-3 with a revised Limits of Disturbed Area (LDA). OSMRE concurs with GCC's response and therefore is in accordance with 30 CFR §777.11(a).

APPENDIX 10.15 (GCC ENERGY – LOW COVER CROSSING DRAINAGE REPORT)

The Low Cover Crossing Drainage Report provides the design information for the proposed 72-inch RCP culvert. The culvert has been designed for temporary diversions of miscellaneous flow in accordance with 30 CFR §816.43.

OSMRE April 2021 Comment

9. **OSMRE notes Sections 3.2 RIPRAP and 4.0 CONCLUSIONS AND SUMMARY OF FINDINGS (Page 60 of Appendix 10-15) need to be updated to reflect the riprap that will be placed in the inlet as the information is not clear or concise, in accordance with 30 CFR §777.11(a).**

OSMRE August 2021 Comment

Section 3.1 Culvert Sizing, (pg. 59/ 100), states that the pipe will be sloped at 3.1%. Section 3.2 Riprap, (pg. 60/ 100), states the culvert outlet and inlet bottom width is 6 foot, the slope is 3.1%, the D₅₀ recommended riprap is 10.64 inches and the D₅₀ provided riprap is 12 inches. The currently approved PAP's Section 3.1 Culvert Sizing, (pg. 39/ 89), states the pipe will be sloped at 2.3%. Section 3.2 Riprap, (pg. 39/ 89), states the culvert outlet and inlet bottom width is 12 foot, the slope is 2.3%, the D₅₀ recommended riprap is 5.81 inches and the D₅₀ provided riprap is 9 inches. OSMRE also notes in the Trapezoidal Riprap-Lined Waterway Design report, (pg. 106/110), the slope is 2.3%, the D₅₀ recommended riprap is 5.81 inches and the D₅₀ provided riprap is 9 inches. In Drawing C-205, (pg. 11/110), the culvert profile states the culvert length is 262 linear feet sloped at 2.5% with 12-inch D₅₀ riprap. Lastly, the Culvert Report, (pgs. 66-67/ 110), state the culvert length is 273 feet sloped at 2.3%. **GCC must update: Drawing C-205 Plan and Profile- Culvert, Section 3.1 Culvert Sizing, Section 3.2 Riprap, the Trapezoidal Riprap-Lined Waterway Design**

report, the Culvert Report and any other pertaining design sheets to reflect the actual culvert length, slope, outlet/ inlet bottom width and riprap size as the information is not clear or concise, in accordance with 30 CFR §777.11(a).

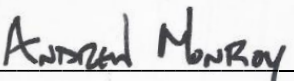
OSMRE notes that Appendix A, Exhibit A: Basin Delineation Map is missing from the report, (pg. 62/ 100), and has been replaced with the Appendix B index sheet. **GCC must revise Appendix A to include Exhibit A: Basin Delineation Map and remove the Appendix B index sheet as the information is not clear or concise, in accordance with 30 CFR §777.11(a).**

(3) On the basis of the preceding evaluation, I conclude that:

☒ This application/document does not comply with the requirements of the applicable regulations. **GCC must correct the bold OSMRE August 2021 Comments listed above.**

6. PRIMARY AND PEER REVIEWERS.

A. Reviewer:



Andrew Monroy, Civil Engineer
Program Support Division

08/24/21

Date

B. Co-reviewer:



Jeremy Spangler, Civil Engineer
Program Support Division

08/24/21

Date

**OSMRE'S AUGUST 27, 2021 TECHNICAL EVALUATION
KING II MINE MINOR REVISION
LOW COVER CROSSING SUBSURFACE TUNNEL REVISION RESPONSE**

1. **COMPANY:** GCC Energy, LLC (GCC)

2. **MINE/OPERATION:** King II Mine

3. **TRACKING SYSTEM INFORMATION:**

A. **OSMRE Project Number (CRSS):** UM.CO-0106C.3383

B. **Administrative Records Management System (ARMS):**

C. **Letterhead date of submittal:** August 25, 2021

4. **TYPE OF APPLICATION/DOCUMENT REVIEWED:**

☒ Permit revision application

☐ Permit renewal application

☐ Other:

5. **EVALUATION:**

GCC Energy, LLC's (GCC) currently approved King II Mine Permit Application Package's (PAP) low cover crossing (LCC) design consists of four (4) subsurface tunnels to be constructed to allow underground mining access to new Federal Coal Lease COC- 78825, located adjacent to and immediately northwest of the King II Mine and existing Federal Coal Lease COC- 62920. GCC originally submitted a minor revision to the LCC subsurface tunnel design on March 23, 2021. GCC's revision proposed to reduce the number of subsurface tunnels to be constructed from four (4) to three (3). OSMRE provided deficiency comments to the proposed minor revision on April 27, 2021. On August 4, 2021 GCC responded to OSMRE's deficiency comments as well as included a minor design change regarding the alignment of the LCC subsurface tunnel system. OSMRE provided deficiency comments to the proposed minor revision response on August 24, 2021. In this evaluation, OSMRE will review GCC's August 25, 2021 proposed minor revision deficiency response which addresses OSMRE's deficiency comments.

A. **Part of application/document reviewed:**

Appendix 10.13 Liability Insurance and Bond

Appendix 10.15 Low-Cover Crossing

(1) **Citation of applicable regulations:**

30 CFR §777.11	Format and contents
30 CFR §784.11	Operation Plan: General Requirements
30 CFR §784.13	Reclamation Plan: General Requirements
30 CFR §784.23	Operation plan: Maps and plans
30 CFR §800.14	Determination of bond amount
30 CFR §816.43	Diversions

(2) **Evaluation of compliance with the requirements of the applicable regulations:**

- (a) Evaluation of compliance with the permit application requirements (30 CFR §777 through §784) as well as performance standards (30 CFR §800):

APPENDIX 10.13

Appendix 10.13 was included in this revision response at the request of OSMRE's April 27, 2021 technical evaluation. This appendix contains the reclamation cost calculation for the LCC structure at the King II Mine. It is the basis of the surety bond that OSMRE holds. The reclamation cost must be sufficient to assure the completion of the reclamation plan, as now proposed, if the work is to be performed by the regulatory authority in the event of forfeiture in accordance with 30 CFR §800.14(b).

OSMRE August 24, 2021 Comment

1. As advised in the technical evaluation dated April 27, 2021, GCC included Appendix 10-13 to demonstrate that the reclamation cost is sufficient to assure the completion of the reclamation plan as now proposed, if the work is to be performed by the regulatory authority in the event of forfeiture in accordance with 30 CFR §800.14(b). OSMRE noted the following:

The GCC King II Mine Reclamation Bond Status table has not been updated in Appendix 10.13 (pg. 10/ 44). The stage bond has been reduced from \$1,031,589 to \$933,469. **GCC must update the table as it is not clear or concise, in accordance with 30 CFR §777.11(a).**

OSMRE August 27, 2021 Comment

The GCC King II Mine Reclamation Bond Status table has been updated in Appendix 10.13 (pg. 10/ 44). OSMRE concurs with the revision, as the table is clear and concise and contains current information. The appendix revision is therefore in accordance with 30 CFR §777.11(a).

APPENDIX 10.15 LOW COVER CROSSING

The appendix provides the design drawings, reclamation plans and drainage calculations for the LCC in accordance with 30 CFR §784.13. OSMRE notes the appendix contains several cross sections, maps and plans that contain LCC design information. They have been certified by a qualified, registered, professional engineer in accordance with 30 CFR §784.11 and 30 CFR §784.23(c).

APPENDIX 10.15 (LOW-COVER CROSSING RECLAMATION PLAN)

OSMRE August 24, 2021 Comment

2. OSMRE notes that Figure 1. Cross-sectional (parallel to LLC tunnels) view of the low-cover crossing with exaggerated vertical scale, page 5 of the Reclamation Plan document (pg. 43/110), has still not been updated to reflect the changes in the tunnel profile as shown on Drawing C-201. **GCC**

must update the figure as it is not clear or concise, in accordance with 30 CFR §777.11(a).

OSMRE August 27, 2021 Comment

OSMRE notes that Figure 1. Cross-sectional (parallel to LLC tunnels) view of the low-cover crossing with exaggerated vertical scale, page 5 of the Reclamation Plan document (pg. 43/110), has now been updated to reflect the changes in the tunnel profile shown on Drawing C-201. OSMRE concurs with GCC's revision as the figure is clear and concise and is therefore in accordance with 30 CFR §777.11(a).

APPENDIX 10.15 (GCC ENERGY – LOW COVER CROSSING DRAINAGE REPORT)

The Low Cover Crossing Drainage Report provides the design information for the proposed 72-inch RCP culvert. The culvert has been designed for temporary diversions of miscellaneous flow in accordance with 30 CFR §816.43.

OSMRE August 24, 2021 Comment

3. Section 3.1 Culvert Sizing, (pg. 59/ 100), states that the pipe will be sloped at 3.1%. Section 3.2 Riprap, (pg. 60/ 100), states the culvert outlet and inlet bottom width is 6 foot, the slope is 3.1%, the D₅₀ recommended riprap is 10.64 inches and the D₅₀ provided riprap is 12 inches. The currently approved PAP's Section 3.1 Culvert Sizing, (pg. 39/ 89), states the pipe will be sloped at 2.3%. Section 3.2 Riprap, (pg. 39/ 89), states the culvert outlet and inlet bottom width is 12 foot, the slope is 2.3%, the D₅₀ recommended riprap is 5.81 inches and the D₅₀ provided riprap is 9 inches. OSMRE also notes in the Trapezoidal Riprap-Lined Waterway Design report, (pg. 106/110), the slope is 2.3%, the D₅₀ recommended riprap is 5.81 inches and the D₅₀ provided riprap is 9 inches. In Drawing C-205, (pg. 11/110), the culvert profile states the culvert length is 262 linear feet sloped at 2.5% with 12-inch D₅₀ riprap. Lastly, the Culvert Report, (pgs. 66-67/ 110), state the culvert length is 273 feet sloped at 2.3%. **GCC must update: Drawing C-205 Plan and Profile- Culvert, Section 3.1 Culvert Sizing, Section 3.2 Riprap, the Trapezoidal Riprap-Lined Waterway Design report, the Culvert Report and any other pertaining design sheets to reflect the actual culvert length, slope, outlet/ inlet bottom width and riprap size as the information is not clear or concise, in accordance with 30 CFR §777.11(a).**

OSMRE notes that Appendix A, Exhibit A: Basin Delineation Map is missing from the report, (pg. 62/ 100), and has been replaced with the Appendix B index sheet. **GCC must revise Appendix A to include Exhibit A: Basin Delineation Map and remove the Appendix B index sheet as the information is not clear or concise, in accordance with 30 CFR §777.11(a).**

OSMRE August 27, 2021 Comment

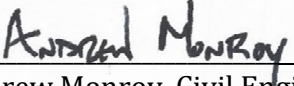
OSMRE notes Drawing C-205 Plan and Profile- Culvert, Section 3.1 Culvert Sizing, Section 3.2 Riprap, the Trapezoidal Riprap-Lined Waterway Design report, and the Culvert Reports have all been revised to have uniform values for culvert length, slope, outlet/ inlet bottom width and riprap size throughout them. Exhibit A: Basin Delineation Map has also been reinserted into Appendix A. OSMRE concurs with GCC's revision as the appendix is clear and concise and is therefore in accordance with 30 CFR §777.11(a).

(3) On the basis of the preceding evaluation, I conclude that:

☒ This application/document complies with the requirements of the applicable regulations.

6. PRIMARY AND PEER REVIEWERS.

A. Reviewer:



Andrew Monroy, Civil Engineer
Program Support Division

08/27/21

Date

B. Co-reviewer:



Jeremy Spangler, Civil Engineer
Program Support Division

08/27/21

Date