



"Safety as a Value"

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GCC Energy, LLC
6473 County Road 120
Hesperus, CO 81326

May 8, 2020

State of Colorado

Division of Reclamation, Mining & Safety
1313 Sherman St., Room 215
Denver, CO 80203

Attn: Janet Binns, Environmental Protection Specialist III

Re: GCC Energy, LLC, King II Mine
CDRMS Permit # C-1981-035
Technical Revision No. 29 (TR-29) Preliminary Adequacy Review Response

Ms. Binns:

In response to your letter of April 8, 2020, Preliminary Adequacy Review for TR-29, please consider the following responses. Division concerns are shown in italics, GCC Energy responses are shown in bold font.

1. *CDRMS 04/08/2020: In King I Mine Section 2.03.8, why did the affected area for TR-22 drill holes decrease? The same question is applicable for this page in King II Section 2.03.8.*

GCC Energy, 05/08/2020: In King I & King II Sections 2.03.8, the affected area for TR-22 drill holes decreased because, prior to TR-29, four of the individual drill sites that were included in the affected area total as separate acreages are now within the new enlarged affected area boundary. Not decreasing the total would result in double counting of the drill site affected areas.

2. *CDRMS 04/08/2020: In King I Mine Section 2.03.8, it appears that the change in disturbed area may be incorrect. It was increased 2.15 acres, but the stated increase on page 3A in Section 2.05.3 is 2.51 acres. On Page 6 in Section 2.05.3 (last paragraph), please check the value of 2.15 acres. In one or the other places the numbers may have been transposed. Please clarify that the proposed disturbed acreage remain consistent.*

GCC Energy, 05/08/2020: Section 2.05.3 page 3A has been revised to show the correct change in disturbed area as 2.15 acres. The 2.15 acres listed on Section 2.03.8 page 1 is correct; the numbers were indeed transposed.

3. *CDRMS 04/08/2020: Regarding King II Mine Section 2.04.6 page 8, is the page*

number correct? Does GCC Energy intend to delete the section Refuse Pile Chemistry in the existing PAP, which is currently on page 8?

GCC Energy, 05/08/2020: GCC Energy does not intend to replace 2.04.6 page 8. Section 2.04.6 page 8, as included in the initial TR-29 submittal, has been re-numbered as Section 2.04.6 page 7A.

4. *CDRMS 04/08/2020: On page 3A in Section 2.05.3, please provide more detail to describe where the new spoil material will be stored. Please show the location on a map.*

GCC Energy, 05/08/2020: With this revised submittal the access road between the three portals has been modified for greater safety and useability. The revised cut/fill balance numbers (see map King II-007M) no longer indicate a surplus of spoil material. Topsoil salvaged during construction will be placed on the existing topsoil pile which lies to the north of coal stacker #2.

5. *CDRMS 04/08/2020: Page 3A in Section 2.05.3, please state if the pond size did or did not change with the increased disturbed area.*

GCC Energy, 05/08/2020: A statement has been added to new Section 2.05.5 page 3B verifying that the pond size did not change with the increased disturbed area.

6. *CDRMS 04/08/2020: On Page 5 in Section 2.05.3, text regarding sampling runoff from SAEs has been removed. Please explain. Also on this page, please explain if the two 24" culverts are C22.*

GCC Energy, 05/08/2020: The two 24" culverts referred to on Section 2.05.3 page 5 are labelled C22 on map King II-007A. As suggested, text has also been added to Section 2.05.3 page 5.

The following questions pertain to Appendix 11(2):

7. *CDRMS 04/08/2020: In the Drainage Basin ID Table, please explain why the facility areas are described as forest. Are curve numbers of 80 appropriate?*

GCC Energy, 05/08/2020: After considerable review, it became apparent that rather than submitting new Appendix 11(2) for the TR-29 affected drainages, we believe the new SECDAD analysis and the various associated tables should have been incorporated into existing Appendix 11(1). Please disregard Appendix 11(2) as provided in the initial TR-29 submittal. Revised Appendix 11(1) is attached with this submittal and separated into

sub-appendicies for added clarity. The Drainage Basin ID Table has been revised to properly describe the facility areas and curve numbers.

8. *CDRMS 04/08/2020: Related to the Ditch Capacities table, please address the following questions and comments.*

a) ID-7 has a bottom width but a triangular shape.

GCC Energy, 05/08/2020: The bottom width of ditch ID-7 has been changed to zero on the revised Ditch Capacities Table.

b) It is unclear if ID-7 flows to ID-8 (per Structure Networking), Basin E1 (per "Station" column in Ditch Capacities table), or Culvert C21 (per Map King II-007A)? Please check and edit as necessary.

GCC Energy, 05/08/2020: The SEDCAD Structure Networking printout has been modified to clarify the various flow elements and to better correlate with the associated tables. ID-7 flows into ID-8, ID-7 collects the runoff from Basin E1 & ID-8 collects the runoff from Basin D.

Map King II-007 A culvert and ditch ID labels have also been revised to better reflect the Structure Networking printout.

c) ID-8 has a bottom width but a triangular shape.

GCC Energy, 05/08/2020: The bottom width of ditch ID-8 has been changed to zero.

d) Where is ID-9 on Map King II-007A? Please revise text and/or map, as necessary.

GCC Energy, 05/08/2020: Ditch ID-9 has been added to Map King II-007A.

e) For ID-9, the depth in the SEDCAD printout (0.28') does not match the required depth in the Ditch Capacities table (0.82'). One of these appears to be a typo..

GCC Energy, 05/08/2020: The depth in the Ditch Capacities table (0.82') is correct. The SEDCAD printout has been modified to match the table.

9. *CDRMS 04/08/2020: Related to the SEDCAD run that includes Pond 1, DRMS identified some apparent errors. When comparing the Structure Networking table and Map King II-007A, it is unclear how some model elements fit together. For example, is Structure #50 culvert C21, or is it ditch ID-5A? It also appears there are*

mistakes with the portion of the model that is not near the proposed portals. For example, Structure #44 may be culvert 17A or it may be ID-0. Please check the elements of the model and how they link together, and edit as necessary.

GCC Energy, 05/08/2020: The SEDCAD Structure Networking table has been revised for clarity.

Structure #44 is correctly described as ditch ID-0 which flows into Culvert C-17A. The associated labels on Map King II-007A have been re-positioned to help clarify.

Also, please note that the "Flow Schedule" Excel spreadsheet table has been omitted from revised Appendix 11(1) (formerly Appendix 11(2)). We feel this table is redundant to the SEDCAD Structure Networking table and only serves to add confusion to an already confusing concept.

10. CDRMS 04/08/2020: *Related to the SEDCAD utility runs, please explain why channels L', M', and N' are not included in the SEDCAD run with the other CWD-2 channels. Also, there appear to be discrepancies (possibly typos) in the utility runs when compared to the Ditch Capacities of the current PAP. Please explain the following, and revise as necessary.*

a) For segment L' of CWD-2, the bottom width and slope have changed significantly.

GCC Energy, 05/08/2020: We believe that the new SECDAD analysis and the various associated tables should have been incorporated into existing Appendix 11(1). Please disregard Appendix 11(2) as provided in the initial TR-29 submittal. Revised Appedicies 11(1) thru 11(1G) are attached with this submittal. The Ditch Capacities Table, as well as other tables and maps, have been revised.

b) For segment M' of CWD-2, the slope has changed significantly

GCC Energy, 05/08/2020: The Ditch Capacities Table, as well as other tables and maps, have been revised and are now located in Appendix 11(1A).

11. CDRMS 04/08/2020: *Maps: There are two labels for C21 on Map King II-007A. One points to a culvert under the Basin Ramp, and the other points to a ditch west of the large topsoil pile. Please explain and revise the submittal, as necessary. Note that the Culvert Capacities table lists the length of C21 as 40 feet. Also, do the font colors (red for one C21 label and black for the other) have significance?.*

GCC Energy, 05/08/2020: The red C21 label west of the large topsoil pile has been omitted from Map King II-007A.

The following comments pertain to Section 4.03.2 – Access Roads

4.03.2(1) – General Requirements

All information required by this section of the Rule has been provided. Please refer to Sections 2.05.3 of King's PAP and proposed page Section 2.04.6, page 8. While all general requirements have been met, it was observed that Section 2.05.3 of King's PAP needs to be updated to include discussions regarding the new access road.

- 12. Please update Section 2.05.3 to include discussion of the new access road to King III portals.*

GCC Energy, 05/08/2020: Similar to Section 2.04.6 page 8 (re-numbered as page 7A with this submittal), Section 2.05.3 page 3B has been added to include discussion of the new access road to the King III portals.

4.03.2(3) – Design and Construction

4.03.2(3)(e)(viii) – Per this Rule, "Embankment slopes shall not be steeper than 1.5h:1v, except that if the embankment material is minimum of 85 percent rock, slopes shall not be steeper than 1.35H:1v if it has been demonstrated to the Division that embankment stability will result." As shown on proposed Map King II-007M, upper portions of the access road embankment exceeds the maximum allowable slope of 1.5h:1v and 1.35h:1v (85% rock) with a slope 1.33H:1V.

- 13. As required by this Rule 4.03.2(3)(e)(viii), please provide a demonstration to the Division that embankment stability will result.*

GCC Energy, 05/08/2020: Map King II-007M (TR-29) has been revised to show upper portions of the access road embankment with a maximum slope of 1.5h:1v with a minimum rock content of 85%. The slope on the berm is 1:1, which is not part of the "road embankment".

4.03.2(7) – Reclamation

When reviewing King's proposed Section 2.04.6, page 8 as well as others, it states that "[r]eclamation for these areas is discussed elsewhere in this document." However, the Division was unable to find any information in regards to the reclamation of not only the proposed access roads, but currently approved roads as well in the approved King PAP and proposed pages.

14. *Please update Section 2.05.4 – Reclamation Plan to include discussion regarding the reclamation of roads at the King Coal Mine*

GCC Energy, 05/08/2020: Statements have been added to Section 2.05.4 page 9 (attached) specifying that backfilling, grading, retopsoiling, re-vegetation, etc. procedures apply to haul roads and access roads, as well as other all other disturbed areas.

King III Portals

King has provided limited information in terms of the proposed King III portals. Additionally, the Rules have no performance standards for the construction of portals. The proposed portals are shown on proposed maps King II-005, King II-007, and King II-007A. A general discussion of the development of the King III portals can be found in proposed Sections 2.04.6, 2.04.9, 2.04.10, 2.04.11, 2.05.3, and 2.05.4. King proposes to excavate a high wall cut and using the cut material to provide a bench for the portal area. This is same method used in the construction of the King II portals per the King PAP.

Per Rule 2.05.3(3)(a) - Mine Facilities, "A description, plans, and drawings, describing the location, (and) construction...of mine support facilities in the permit area including all buildings, structures, utility corridors and other support facilities including but not limited to those listed in 4.04." Additionally, plans shall "...demonstrate compliance with 4.04".

15. *Please provide additional information in regards to the design and construction of the King III Portals that would ensure long term stability and satisfy Rule 2.05.3 and subsequent Rule 4.04.*

GCC Energy, 05/08/2020: A description of King II and King III portal construction, long term stability and reclamation has been added to revised Section 2.05.4 page 18 (attached).

Please find enclosed:

- King II Permit Cover Page
- King II Table of Contents pages ii thru v
- King II Section 2.04.6 page 7A
- King II Section 2.05.3 page 3A
- King II Section 2.05.3 page 3B
- King II Section 2.05.4 page 9
- King II Section 2.05.4 page 18
- King II Appendix 4(6) TR-29 SHPO Concurrence Letters



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- King II Appendix 11(1) thr 11(1G) King II Hydrology Analysis
- King II-005 (TR-29 PAR) Mine Plan
- King II-007 (TR-29 PAR) Operation Plan & Surface Facilities
- King II-007A (TR-29 PAR) Basins, Culverts, Ditches
- King II-007M (TR-29 PAR) King III Portal Access Road
- King II-010E (TR-29 PAR) King III Cut/Fill

Certified copies of the maps will be submitted once Division reviews have been completed (prior to final approval).

Please contact Tom Bird at 970.385.4528 x 6503 or 970.769.1160 (cell) with questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Bird', with a large, stylized loop at the end.

Tom Bird
GCC Energy, LLC
tbird@gcc.com