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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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TO: File

FROM: R. Harden, Reclamation Engineer 

RE: Mid-Permit Term Review Deficiencies, Castle Gate Mine,
Castle Gate Coal Company, ACT/007/004, Folder #2, Carbon
County, Utah

The following comments and/or deficiencies were found in the initial review of the MRP for Castle Gate:

UMC 782.18 Personal Injury and Property Damage Insurance Information
- JRH

Castle Gate has provided insurance under a "claims made" basis. To date the Division has not determined or provided a sufficient policy to accept "claims made" insurance. Further the certification of liability insurance provided by the operator expired on 4/1/87. The operator is not considered to be in compliance with the requirements of this section. Insurance has not been provided as mandated in the regulations and has not been presented in the form as required by the Division. By submitting the information requested in a letter to all operators regarding liability insurance, the operator should be able to come into compliance with the requirements of this section.

Items needed:

1. Liability Insurance on the form and as required by the regulations.

UMC 783.24-25 Maps: General Requirements, Cross Sections, Maps, and
Plans - JRH

In general, the maps and drawing provided by the operator are not sufficiently detailed or reference to show the detail required for permit review and approval. With regard to this section, the following list applies.

Items needed:

1. The permit area boundary map showing a clear delineation of the permit area, and acreage
2. The boundaries of all areas proposed to be affected (disturbed) over the estimated total life of the mining activities
3. The size, sequence and timing of the mining subareas for which additional permits will be sought
4. The location of all buildings in and within 1,000 feet of the proposed permit area with identification of the current use of the buildings
5. The location of surface and subsurface man made features within, passing through, or passing over the proposed permit area, including but not limited to, major power transmission lines, pipelines, gas lines, etc.
6. The locations and boundaries of any proposed reference areas for determining the success of revegetation
7. The location of water supply intakes for current users of surface waters flowing into, out of, and within a hydrologic area defined by the Division, and those surface waters which will receive discharges from affected areas in the proposed permit area
8. Each public road located in or within 100 feet of the proposed permit area; the boundaries of any public park and locations of any cultural or historical resources listed or eligible for listing in the National Register of Historic Places and known archeological sites within the permit area or adjacent areas; each public or private cemetery or Indian burial ground located in or within 100 feet of the proposed permit area
9. Reclamation drawings should be enlarged to sufficiently show detail of different reclamation treatments, including but not limited to slope and contour, disturbed area acreage, delineation of soils and vegetation treatments, identification of structures, mine openings, and other surface facilities, and appropriate cross sections in order to determine cut and fill requirements for reclamation.

UMC 784.12 Operation Plan: Existing Structures - JRH

As outlined in UMC 700.11 part (e), each structure used in conjunction with, or to facilitate underground coal mining activities shall comply with the requirements of Subchapter K of the underground coal mining regulations. Additionally those existing structures which do not meet the design requirements of Subchapter K must at least meet the performance standards of Subchapter K. Those facilities such as sediment ponds, embankments, cut slopes, pads, highwalls, roads and other facilities used in conjunction with mining operations must all be proven to conform to these performance standards and be included in the disturbed area for the operations. In the event that the structure or facility fails to meet the performance standard, it must be reconstructed to meet the design and performance standards of subchapter K.

Items needed:

1. Those areas affected by previous mining operations and used in conjunction with current underground coal mining facilities are to be included in the disturbed areas. The maps and plans should clearly delineate the disturbed areas and include their respective acreages on the drawings.
2. In the case of sediment pond embankments and slopes exceeding the limits provided in the regulations in Subchapter K, the operator shall be required to justify the existing structures or provide designs and a timetable for the modifications of these structures. Demonstration of stability may be accomplished in some cases by the performance of the structure in the past with a commitment to maintain and monitor those embankments and slopes throughout the permit term. In some cases however, it may be necessary to provide geotechnical information in order to satisfy the requirements of this section.

UMC 784.13 Reclamation Plan: General Requirements - JRH

Maps and plans regarding the backfilling and grading of the site do not clearly depict the reclamation contours, final slopes and the extent to which cuts and highwalls are to be backfilled. Pads and roads shown on the reclamation plan appear to be essentially identical to their existing contours.

Items needed:

1. Under part (3) of this section, a plan for backfilling, soil stabilization, compacting and grading with contour maps or cross section that show the anticipated final surface configuration must be provided as part of the reclamation plan.

2. Some cross sections of the facilities are provided by the operator for the final surface plot plan of the areas to be reclaimed. However, no calculations could be found referencing the cross sections for earthwork calculations. These calculations are required for backfilling and grading design for reclamation and determination of the bond amount.
3. Maps used to show the final reclamation of the facilities are not clear. The disturbed areas on the drawings need to be outlined in a manner which will clearly show the disturbed area boundaries. Each map should also delineate and indicate the number of acres relevant to that specific area. To further complicate the site conditions, numerous abandoned mine sites and facilities are within and adjacent to the permit area. The operator must clearly delineate and identify these facilities so that they may be determined to be outside of the operator's disturbed area. The operator shall also indicate the dates of disturbances and the date of their last use as part of mining operations.
4. In some cases, facilities which were used by the previous permittee and must still be included in the disturbed areas even though the current operator has had no activity in those areas. This determination will be made in accordance with the conditions of the permit transfer to Castle Gate Coal.
5. Maps or the cross sections should also indicate final reclamation slopes particularly noting the maximum slopes to be left upon final reclamation. In those areas where final slopes exceed 2h:lv, the operator needs to justify the final configuration for the earthwork and provide sufficient design calculations to ensure long term stability of the slopes. Contour maps or cross sections should also include slope detail 100 feet beyond the disturbed area for reference as to the adjacent area.

UMC 784.19 Underground Development Waste - JRH
(Includes comments on all types of wastes)

The operator has not taken into consideration in the operation and reclamation plan, for the temporary and permanent location and disposition of excess spoils and mine development waste throughout the permit areas.

Since the original design of the waste facilities, analysis for stability and design were accomplished in 1982. Conflicts arise in the consultant's reports and in the text of the reclamation plan. Even in the reference provided by the operator to the initial

review, a conflict in the amount of cover material is indicated. These conflicts must be removed and the plan brought current in chapter 3 to show the existing and proposed modification to all waste facilities within the permit area.

The plan does not include or cover the requirements for monitoring the embankment for stability and piezometric surface. Although these plans have been implemented and are ongoing, the operator still needs to provide details of the methodology, location and frequency of monitoring the refuse pile for stability.

Quarterly reports are required by the Division for the inspection and condition of the refuse embankment. This reporting information is also required by MSHA for the facility. UMC regulations require that the reports be sent to the Division and a copy of the reports be maintained on file at the mine office. The Division does not have these reports in the Salt Lake office. However, the operator may propose that the copies maintained onsite are sufficient to meet the requirements of the Division if a commitment is made to notify the Division of any adverse or hazardous conditions found during inspection or operation of the facility. This proposal would have to be made by the operator and approved by the Division in order to attempt to waive the reporting requirements of the regulations.

Items Needed:

1. Additional information in the text of the reclamation and operation plans regarding the location of both temporary and permanent storage and disposal locations for all types of waste material, including but not limited to:
 - a. Excess spoil and mine development waste
 - b. Coal processing waste
 - c. Coal waste
 - d. Non coal waste
 - e. Hazardous and toxic waste materials
 - f. Liquid waste materials
2. The regulations require that all types of waste materials be located as to their location, amount, disposition and treatment. The plan should address these requirements.
3. The plan needs a comprehensive maintenance and monitoring plan for waste storage facilities, especially those meeting the criteria under MSHA regulations.

4. Maps and plans should be provided which clearly indicate the location and extent of the storage facilities for waste materials, including designation, extent, and other ancillary facilities required to achieve compliance with the regulations. Such ancillary facilities would include, roads, culverts, undisturbed diversions, topsoil stock piles, borrow material locations, pre- and post-reclamation configuration of the facilities, and suitable cross sections indicating the location and the disposition of the waste and cover material sufficient to determine the amount of material or mass balance for the reclamation of the proposed facility.
5. Specific treatment for all types of waste materials encountered, and, a commitment to operate, maintain and dispose of all waste materials in accordance with local, state and federal regulations.

UMC 784.23 Operation Plan: Maps and Plans - JRH

In some instances, the operator has not provided maps, plans and cross sections which are required in the MRP or has not provided the drawings in sufficient detail to show the underground coal mining activities to be conducted, the lands to be affected throughout the operation, and any change in a facility or feature to be caused by the proposed operations, and any change in a facility or feature to be caused by the proposed operations.

The following shall be shown for the proposed permit area:

1. buildings, utility corridors, and facilities to be used;
2. the areas of land to be affected within the proposed permit area, according to the sequence of mining and reclamation;
3. each area of land for which a performance bond or other equivalent guarantee will be posted under Subchapter J of this chapter;
4. each coal storage, cleaning, and loading area;
5. each topsoil, spoil, coal preparation waste, underground development waste, and noncoal waste storage area;
6. each water diversion, collection, conveyance, treatment, storage, and discharge facility to be used;
7. each source of waste and each waste disposal facility relating to coal processing or pollution control;

8. each facility to be used to protect and enhance fish and wildlife related environmental values;
9. each explosive storage and handling facility;
10. location of each sedimentation pond, permanent water impoundment, coal processing waste bank, and coal processing waste dam and embankment, in accordance with UMC 784 and disposal areas for underground development waste and excess spoil, in accordance with UMC 784;
11. each profile, at cross sections specified by the Division, of anticipated final surface configuration to be achieved for the affected areas;
12. location of each water and subsidence monitoring point;
13. location of each facility that will remain on the proposed permit area as a permanent feature, after the completion of underground mining activities.
14. Maps and plans presented in the MRP showing the operations and the facilities must include the disturbed area boundaries for reference. The boundaries should also include those areas in which proposed facilities are scheduled for construction as well as borrow areas which may be required for reclamation. Primarily, this information needs to be provided on the operational plans to ensure that the operator is conducting mining activities within the approved permit areas of the plan. These boundaries should coincide with their perimeter markers and other boundary requirements as provided in the approved mining and reclamation plans.
15. In accordance with UMC 784.13(b), the operator's drawings should include sufficient details for:
 - a. backfilling, compacting and grading, with contour maps that show the final anticipated surface of the proposed permit area;
 - b. a plan for the removal, storage and redistribution of topsoil, subsoil, and other materials to meet the requirements of UMC 817.21-25;
 - c. a description including appropriate cross sections and maps, of the measures to be used to seal or manage mine openings, and to plug, case or manage exploration holes or other boreholes, wells and other openings within the permit area in accordance with UMC 817.13-15.

16. Cross sections should be of sufficient number and scale so as to determine the amount of earthwork required on the site, maximum slopes to remain upon reclamation, any retainage of highwalls from portals or other cut slopes, and suitability of the reclaimed slopes in achieving approximate original contour requirements.

UMC 800 Bond and Insurance Requirements - JRH

The operator has provided breakdowns of the reclamation activities for the plan. However, until such time as the plan can be determined complete and technically adequate, a detailed review of the reclamation cost estimate will not be accomplished by the Division. Due to changes in the reclamation plan of the site from transfer and splitting of the approved operation with American Electric Power (AEP), the operator is considered to have sufficient bond at this time. Depending on the resolution of reclamation plans and procedures contained in the MRP, the operator's bond will most likely be reduced.

The Division has received from the operator, a request to reduce the bond in accordance with those cost estimates, provided in a submittal to the Division on September 29, 1987. This determination will be made in conjunction with the Mid-Permit Term Review. However, deficiencies were found in the bonding calculations as presented.

Bonding calculations do not include the following information:

1. A map as specified under UMC 784.23(b)(3) specifying each area of land for which bond will be posted under Subchapter J of the regulations.
2. Mass balance calculations showing backfilling and grading requirements for distribution and disposal of excess spoil and mine development waste, backfilling to meet AOC requirements, subsoil, topsoil and substitute topsoil distribution and quantities for each sub area of the permit.
3. Calculations for determination of quantities, equipment selection and productivity used in determining the bond amount.
4. Determination of Phase I and Phase II reclamation activities including a map showing those facilities to be constructed and/or removed during each phase of reclamation.

5. Costs associated with reclamation were not included in the cost estimate, these costs include but are not limited to the construction of permanent channel reclamation, sediment pond removal, soil sampling and analysis, and water monitoring costs.

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