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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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May 26, 1994

Mr. David Pearce
Sunnyside Cogeneration Associates
P.O. Box 58087
Salt Lake City, Utah 84158-0087

Re: Coarse Refuse Road Reclamation Plan, Sunnyside Refuse and Slurry, Sunnyside Cogeneration Associates, ACT/007/035-94D, Folder #2, Carbon County, Utah

Dear Mr. Pearce:

The Division has reviewed the April 25, 1994 Coarse Refuse Road Reclamation plans and determined that the plans must be denied and the reclamation proposal cannot be approved until deficiencies have been addressed, see attached. Division findings.

This Coarse Refuse Road Reclamation plan is a response to Violation #N93-32-5-2, #1 of 2, issued September 21, 1993. The schedule for reclamation of the Old Coarse Refuse Road as enumerated and agreed upon in the December 9, 1993 letter to Mr. Randy Harden from Alane E. Boyd (see attached), has already fallen behind. Reclamation completion is still required by November 15, 1994 to avoid future enforcement actions.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

Enclosure
cc: Lowell P. Braxton
Daron Haddock
Joe Helfrich
Henry Sauer
Bill Malencik

TECHNICAL ANALYSIS AND FINDINGS

Sunnyside Cogeneration Associates
Coarse Refuse Road Reclamation Plan
May 25, 1994

SOILS ANALYSIS (R645-301-200)

Text has been revised which refers to subject matter with no direct bearing on the reclamation of the haul road. In particular, the original commitment of four feet of borrow material cover over "the Noncombustible Waste Pile" has been changed to ..."at least eighteen inches" of borrow material cover over the "Excess Spoil Pile". Commitments made in the general reclamation plan, which have been deemed adequate in previous permit reviews and agreed upon by Division staff and the permittee's environmental consultant as being prudent reclamation measures, have been reversed. The most obvious of these reversals is the removal of the commitment to place erosion control matting on all reclaimed slope equal to or greater than 2H:1V.

FINDINGS of Deficiency:

1. The permittee must identify which borrow area will be the source of the substitute topsoil material. The permittee must also quantify the volume of borrow material to be utilized and describe what interim reclamation measures will be employed on the borrow area. (See R645-301-233. Topsoil Substitutes and Supplements)

2. The proposed reclamation design for the Old Coarse Refuse Haul Road calls for an unspecified depth of topsoil on disturbed areas which have had the road refuse material removed. The permit must reinstate the commitment to covering all disturbed areas not influenced by refuse or precipitate with 1.5 feet of suitable topsoil material. The permittee must commit to scarifying **all disturbed areas** to the most prudent depth possible. (See R645-301-242. Soil Redistribution)

3. The fertilizer recommendation is excessive and must be revised. The permittee must seriously consider incorporation of organic material (i.e. green manure, alfalfa mulch, biosolids) into the soil surface. (See R645-301-243. Soil Nutrients and Amendments)

4. The permittee's reclamation design for refuse material within the Old Coarse Refuse Haul Road must include the excavation, disposal and adequate covering of the precipitate layer which exists at the refuse/mancos interface. (See R645-301-553.300 & 731.300)

BIOLOGICAL ANALYSIS (R645-310-300)

The operator proposes to remove the coal waste material from the road outslopes, place the coal waste material on the road cuts, cover the coal waste material and revegetate the disturbance. The revegetation plan is essentially the same as the unapproved plan on record with the Division except the proposed changes to page 900-18 and a new page 1000-4. These pages suggest that erosion control matting will not be used or used at the discretion of the operator on slopes 2:1 or steeper. The vegetation data presented in the plan demonstrates that the success standards have not been met with regard to vegetative cover and species diversity on areas which have had interim stabilization methods applied. The test plots have not demonstrated that four feet of cover over coal waste material is adequate for successful revegetation.

The operator must be aware that a finding of reclaimability cannot at this time be made for this site.

FINDINGS of Deficiency:

1. The phrase "as determined necessary" must be deleted from page 900-18 in regards to netting.

2. The plan must commit to netting all slopes 2:1 or steeper or demonstrate that it is not necessary.

3. Rabbitbrush must be eliminated from the Atriplex/Grass seed mixture and Gardner saltbush and Slender wheatgrass added.

4. The commitment to leave the soil surface in a roughened condition must be further defined. The dimensions of the roughness and techniques to obtain the roughness must be defined.

5. A commitment must be made that the last pass by equipment on slopes less than 2:1 will be made on the contour.

6. A contingency plan for stabilizing areas which are not seeded within the seeding window must be described.

ENGINEERING ANALYSIS (R645-301-500)

R645-301-553.100 states that all disturbed areas must be backfilled and graded 1) to achieve the approximate original contour (553.110), and 2) to achieve a slope which

demonstrates a long-term static safety factor of at least 1.3 (553.130). In practical terms, this means that a road cut such as the Old Coarse Refuse Road must be backfilled as much as possible and still demonstrate a long-term static safety factor of at least 1.3. The fill must also be protected from saturation by runoff or snowmelt, as much as possible, by proper compaction and by routing runoff away from it. This amendment does not provide for any of this.

FINDINGS of Deficiency:

1. The permittee must provide an adequate analysis of the stability and adequacy of the proposed fill.

HYDROLOGY ANALYSIS:

Included in the submittal were revised plates 7-1, 7-1C, 7-1D, 7-6, 10-2A, 10-2B, 10-2C. Additional text was included to insert into chapter 10 of the SCA plan.

The permittee was given approval to install a silt fence at the base of the road to control runoff from the road. This structure will also provide treatment for the reclamation area during construction and until vegetation is established. The silt fence will be maintained until complete reclamation has been accomplished.

The permittee has changed the hydrologic design of the area. The Old Coarse Refuse Road (OCRR) was previously used as a diversion to channel runoff around the refuse pile and slurry ponds to the Rail Cut Pond. The permittee has proposed a diversion which drains the outslopes of the East Slurry Cell and then switches back and carries runoff to the OCRR Pond. The other three diversions associated with this sediment pond were recently reviewed in the permittee's technical analysis for the project.

This review examines the new diversion layout and design and the adequacy of the OCRR pond for the additional areas now draining into this pond. Four diversions are associated with the OCRR sediment pond. The diversion design information provided was checked using the Flowmaster program. The velocities were calculated using the maximum slope of the channel and the minimum Manning's n value. The depth of flow was calculated using the minimum slope and the maximum manning's n value. All of the diversions as described in the proposed hydrologic calculations are adequate. The table on page 4 of the OCRR Pond calculations showed a minimum Manning's n of 0.3. These were assumed to be 0.03 and should be corrected in the Diversion Design Criteria Table on page 4.

The permittee used the Sedimot II program for the watershed analysis. An additional 7.2 acres of watershed was added to the watershed for the OCRR pond. The total runoff volume from the Old Coarse Refuse Road Pond watershed from the 10 year 24 hour event was calculated to be 0.76 acre feet. The OCRR pond has a containment volume of 0.87 acre feet at the level of the emergency spillway. The

The 25 year 6 hour sedimot model produced a peak flow of 6.5 CFS. The 18 inch CMP spillway is capable of discharging up to 13.6 CFS and is adequate to handle this flow.

The statement is made that these diversions will be monitored and if excessive erosion occurs then appropriate remediation is required. This statement needs to be clarified as to what constitutes excessive erosion and what is appropriate remediation.

FINDINGS of Deficiency:

1. The statement regarding excessive erosion and appropriate remediation must be clarified.

RefuseRoad.SCA