



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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July 7, 1999

TO: File

THRU: Joe Helfrich, Permit Supervisor 

FROM: Paul Baker, Reclamation Biologist 

RE: Amendment to Abate Violation N98-41-5-1, Nevada Electric Investment Company, Wellington Preparation Plant, ACT/0007/012-AM99B, Folder #2, Carbon County, Utah

**SUMMARY:**

Violation N98-41-5-1 was issued November 27, 1998, for failure to conduct all mining and reclamation operations only as described in the approved application; failure to locate, maintain, and construct sediment control measures according to plans and designs in the operation and reclamation plan; and failure to locate and maintain stockpiled topsoil according to plans the operation and reclamation plan. The required abatement procedures were to gain approval for the drainage control plan for the coal handling area and fully implement the plan, gain approval for moving the topsoil stockpiles, and prepare and seed the expanded topsoil stockpile and the areas where stockpiles 1 and 2 were.

The abatement date for this violation has been changed several times. Most recently, it was extended to July 2, 1999. The Division received an amendment application on July 2 that satisfies the requirements of the violation, but there are other problems both in the amendment and in the operation and reclamation plan that need to be corrected.

**TECHNICAL ANALYSIS:**

**OPERATION AND RECLAMATION PLANS**

**SOILS**

Regulatory Reference: R645-301-230, R645-301-521.160, R645-301-240

**Analysis:**

The abatement for violation N98-41-5-1 required that the permittee prepare the surface and seed topsoil pile 3 and the areas where topsoil piles 1 and 2 had been located. Topsoil pile 3 was seeded with the interim revegetation seed mixture, and the other areas were seeded with the seed mixture for final reclamation.

The permittee was also required to gain approval for moving the topsoil piles. The amendment

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includes a certified drawing with a cross section of topsoil pile 3. This drawing includes volume calculations for the pile. The total volume shown in the current plan for the three piles is 3101.7 cubic yards, but the surveyed volume for expanded pile 3 is 2445.0 cubic yards. The applicant is not sure why these figures do not correspond. In the areas where the topsoil piles were moved, the ground matches surrounding areas closely, but some soil may have been left behind. The engineer who surveyed the enlarged pile 3 double checked his survey. The original surveys could have been in error, but it would be impossible to check.

The application says recent soil sampling and laboratory results suggest the material used to construct the berm may have elevated boron levels that could potentially inhibit growth of some plant species at the time of final revegetation. According to the application, unless the berm can be shown to be non-toxic, it will be removed to the coarse refuse pile at final reclamation. If evidence is provided that the material in the berm is not toxic to plant life, the berm will be graded in place, blended to the natural surroundings, and reclaimed to the approved reclamation plan.

Other parts of the coal handling area are also covered by coal and/or coal waste with boron levels above those shown in the soils guidelines as being acceptable. The current plan says the small piles of coal waste in the main plant area will be removed and deposited in the coarse refuse pile. The coal processing and storage area will receive six inches of substitute topsoil before being revegetated.

The material in the coal handling and storage area is more than a few small piles of coal waste, and since the permittee has been maintaining it is actually coal and a product, it appears there is no plan for what to do with this material. If it can be sold as a product, covering the area with six inches of soil would probably be acceptable. However, in the worst case, the material would be left in place for the Division to reclaim.

Until recently, the Division was unaware the material on the surface of the coal handling and storage area had elevated boron levels, so the plan had been considered satisfactory. However, with this new information, the plan to simply cover the area with six inches of soil with no efforts to move the coaly material to the coarse refuse pile or elsewhere is no longer acceptable.

With only six inches of soil over the coaly material, plant roots would come in direct contact with this material. Roots normally extend much deeper than six inches. Also, under the current plan, six inches of soil would be placed over the area and it would be gouged. Gouges often extend deeper than six inches, and if this is the case, there would be no cover at all over this material.. In addition, it is likely boron salts would migrate toward the surface.

There is limited information about what levels of boron are toxic to plants. Levels of 4.0 ppm in irrigation water have been shown to adversely affect even the most tolerant crops, such as sugar beets and asparagus. Therefore, it appears the cutoff level of 5.0 ppm in the guidelines is fairly high.

The plan needs to show how the permittee will achieve the revegetation success standards for wildlife and grazing postmining land uses in the coal handling and storage area. Whether the material is coal or refuse is irrelevant: the Division considers it toxic to plants..The plan needs to show how the area will be revegetated, and this needs to include either selling the material as coal or covering it at least four feet deep. Potentially, the permittee could provide a test plot demonstration that the current plan would

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result in adequate vegetation cover, but until this demonstration was completed, the reclamation bond would need to reflect covering the material at least four feet deep.

**Findings:**

The amendment adequately addresses the requirements of violation N98-41-5-1 and can be approved for incorporation into the operation and reclamation plan. It is consistent with the current plan. However, the current operation and reclamation plan does not adequately address dealing with the coal and/or coal refuse on the surface of the coal handling and storage area. Simply placing six inches of substitute topsoil over this area is not acceptable.

## **HYDROLOGY OPERATION PLAN**

Regulatory Reference: R645-301-740

**Analysis:**

Violation N98-41-5-1 was issued in part because the site was graded in a way that the watershed boundaries were changed. This changed the areas from which runoff would go to the different ponds. In particular, a berm was built separating the watershed boundaries between the plant sediment pond and the auxiliary pond in a place different than what is shown in the operation and reclamation plan.

The berm has now been breached to effectively restore the drainage patterns, and the applicant has submitted a map showing the location of the berm. This change is acceptable and can be approved.

**Findings:**

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

**RECOMMENDATIONS:**

The amendment is adequate to abate violation N98-41-5-1 and to be incorporated into the plan. However, certain aspects of the plan to reclaim the coal handling area are inadequate and need to be changed.