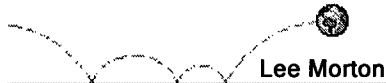


QA: NA

MOL.20070913.0507

 Lee Morton

03/28/2007 12:00 PM

To: Jane Summerson/YD/RWDOE@CRWMS
cc: Joseph Rivers/YD/RWDOE@CRWMS, Joanne Stover/YD/RWDOE@CRWMS
Subject: SEIS Data Response - Land Disturbances 

Not privileged / Relevant
9/8/07
User Filed as: Not Categorized in ERMS

Amount of land to be disturbed during construction of both infrastructure and repository construction and during repository operations/monitoring and closure. On previously disturbed land and on newly disturbed land.

In regard to previously disturbed versus newly disturbed - The Yucca Mountain Project to date (January 2007), has been responsible for disturbing approximately 360 acres of previously undisturbed land. In addition to this figure, approximately 610 acres of previously disturbed land (not associated with the project) was disturbed within the vicinity of the north and south portals. Also, the existing access roads (also predating the project) cover a disturbance of approximately 100 acres (this figure includes only those areas that will be upgraded specifically for the project). These existing disturbances total approximately 1,070 acres. However, not all of the repository land use needs would overlay these disturbances. BSC estimates for purposes of a conservative analysis for the SEIS, that 600 acres should be considered "previously disturbed". Additional details associated with this summary are contained in the attached file.

Other land use/disturbed land activities not considered in the above data needs identification list.

Nevada Rail - The provided figures do not include any disturbances associated with the construction and/or operation of the Nevada rail system. Impacts from such disturbances are being evaluated in the Rail Alignment EIS.

Miscellaneous - In addition to specific disturbances included in the table, BSC recommends that the EIS consider that an additional 100 acres will be newly disturbed as a bounding estimate for intermittent needs. This recommendation is based on the historic need to intermittently create disturbances to support ongoing environmental monitoring and sample collection.

Miscellaneous Facilities - Sample Management Facility, proposed in the draft infrastructure EA, BSC recommends that the EIS include 3 acres of newly disturbed land for the development of a new sample management facility.



LandUse.doc

QA: NA

DISTURBED AREA RPM INPUT

The amount of land to be disturbed as a result of the Yucca Mountain Project has been developed by evaluating design, construction, and operational phases of the project.

North Portal Site: The area bounded by the North Portal Loop Road East and the southern edge of the GROA rail yard extending along the ridge of the mountain as the fencing approaches the North Portal is considered completely disturbed either through permanent facilities, temporary construction facilities and/or operation. Any area not specifically disturbed would have incidental traffic and would not be maintained in a pristine condition. However, some element of reclamation of the temporary construction areas is possible. The area of this primary location is approximately 683 acres. 183 acres are associated with temporary construction facilities, laydown yards, parking, offices, and access control provisions. The remaining acreage will be required for operating facilities, rail, roads, stormwater management (ponds or open areas for water retention), parking, and security. It is assumed that approximately 6 inches of top soil will be retained from the temporary facility locations and stockpiled for reclamation purposes. This would result in a topsoil storage location (outside of the North Portal Site) of 15 acres.

North Portal Site Ancillary Support Facilities: Facilities outside the North Portal Site whose function is to support the operation of the North Portal operations must be considered in addition to the North Portal Site. These areas comprise an additional 35 acres of disturbed land. There will be a common substation that will support all power needs for the site (North Portal, subsurface construction, intake/exhaust shafts, end of line rail, etc.) which will require an 8 acre substation concrete pad and an allowance of 7 acres for power distribution (on the secondary side) in areas not already covered is provided. A water source and associated distribution system will be required and a land disturbance allowance of 10 acres is provided for this function. An allowance of 10 acres is also included for the safeguards and security fencing required to encompass all areas where waste material will be managed and are not included in the other numbers. A vehicle maintenance and motor pool allowance was listed in the EIS but has been integrated into the total North Portal Site acreage described above. Not included in the above numbers is a protective forces administrative facility, armory, and associated facilities. If included, this would add another 20 acres to the amount of disturbed land. The protective forces function is currently being re-evaluated. Prior assumptions was the administrative requirements would be integrated with existing facilities. If a standalone facility is required, the additional 20 acres would be required for this facility. Not included in this acreage are any additional requirements such as stand alone obstacle courses, shooting ranges, etc. These functions are assumed to be covered by a Memorandum of Understanding allowing facilities at the Nevada Test Site or other local agencies to be used for these activities.

Aging Pads: A total of 140 acres of disturbed land will be required for the aging pads. The four aging pads will require 65 acres for the concrete pads. An additional 15 acres will be required for roads and utilities to access the aging pads from the North Portal Site. 20 acres of land disturbance is allocated to the security fencing that will be required to

surround the aging pads. A 40 acre allowance is provided for sloping, stormwater management, and other contouring of the area around the aging pads to provide a suitable configuration for continuing operations. The 40 acre allowance for contouring could be partially reclaimed if reclamation activities were to be performed prior to the start of waste storage activities. Once waste storage starts, this area will be a controlled area for both radiological and safeguards and security requirements.

Subsurface Intake/Exhaust Shafts: Preliminary evaluations of the location of the intake and exhaust shafts have resulted in the estimate for disturbed land associated with this function to be 60 acres. The shafts have been nominally relocated from the previous configuration to allow for a more cost effective construction of roads and pads. 20 acres have been allocated for the construction of pads and roads leading to the pads in currently undisturbed areas. The remaining 40 acres are for existing disturbed dirt roads that will be required to be utilized for access to these locations. A new road to the Crest has not been factored into these numbers. The current road contains an area that is considered too steep for construction equipment access. If a new road is required it will need to be constructed coming from the north. This road concept has not been developed at this time but could involve land disturbance on the order of 50 acres.

South Portal Area: As previously utilized in the EIS, 20 acres of disturbed land will be required for the South Portal. No changes due to design, construction, or operational conditions have occurred since the original EIS to warrant a re-evaluation of this value.

North Construction Access Portal: As previously utilized in the EIS, 20 acres of disturbed land will be required for the North Construction Access Portal. No changes due to design, construction, or operational conditions have occurred since the original EIS to warrant a re-evaluation of this value.

Muck Storage: Muck Pile footprints on the order of 200 acres as previously discussed in the EIS are still considered to be valid. No changes in design, construction, or operations have occurred resulting a re-evaluation of this value.

Main Access Road: No additional work has been performed by BSC on the access road and utility corridor leading to the site. The prior value of 503 acres is thus considered adequate. Some independent calculations indicate that a value of 560 acres may be more appropriate but the basis for either number is beyond the scope of RPM.

Interchange at Highway 95: No additional work has been performed by BSC on the interchange at US 95. The prior value of 135 acres is thus considered adequate.

Gate 510 Security Complex: No additional work has been performed by BSC on the Gate 510 complex. The prior value of 27 acres is thus considered adequate.

Fleet Maintenance Facility: The fleet maintenance facility and all associated rail alignments and facilities leading up to the North Portal Site has not been considered in this evaluation since these facilities are considered part of the rail EIS.

QA: NA

Primary Roads: Not included in previous estimates is the need for some perimeter security dirt roads to allow patrolling of the site perimeter. These roads would only be graded sufficiently to allow for reasonable access but would not be considered an engineered or improved road. Due to the large size of the land withdrawal area the area in which the security forces will focus on for daily patrols may be less than the entire land withdrawal area. Pending further delineation of these operational requirements, an allowance of 100 acres should be utilized for various perimeter and lateral roads throughout the land withdrawal area to allow for security patrols and proper response times in the event of an incident.

Aggregate Quarry/Engineered Fill Quarry: The location for the aggregate/fill material required for building the repository has not been determined. The location may be within the land withdrawal area or may need to be outside of the land withdrawal area, depending on future studies that will look at suitability of currently proposed locations for this material. The 100 acre estimate for disturbed land utilized in the original EIS is considered sufficient for the SEIS since there have been no new information developed in this area.

Disturbed Land Outside the Land Withdrawal Area: An allowance of 65 acres should be considered for land disturbance areas outside the land withdrawal area that could be directly related to the repository construction and operation. 10 acres, as previously utilized in the EIS is allocated for sanitary landfills. No additional work has been done on land fill requirements and thus a re-evaluation of this requirement is not possible. A 50 acre marshalling yard to allow for off-site receipt, transfer, and staging of materials required to perform construction activities at the repository will be required. The marshalling yard will require some fencing, offices, warehousing, open laydown, and shops. It is possible that some pre-fabrication assembly and other light industrial activities would be performed at this location. A training facility is currently planned for off-site construction. This facility would require a 5 acre parcel for the facility and associated parking, landscaping, and access.