United States Department of the Interior

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Steve DeYoung
BrightSource Energy
1999 Harrison Street, Suite 500
Oakland, CA 94612

Dear Mr. DeYoung:

The Bureau of Land Management (BLM) and California Energy Commission (CEC) have completed a comprehensive review of your draft Restoration and Closure Plan for the Ivanpah Solar Electric Generating System project. We left the BLM and CEC staff comments under separate headings but feel our comments are very consistant. The BLM comments include those made by our EarthTech assistance contractor. Due to the extensive nature of the comments, I suggest you take time to review our comments and suggestions, and then we can arrange a mutually agreeable time for a meeting or conference call to discuss these issues.

If you have any questions regarding our comments, please contact Tom Hurshman by phone at (970)240-5345.

Raymond C. Lee

Field Manager,
Needles Field Office

Cc: Tom Hurshman, Project Manager

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CEC Comments on
Ivanpah SEGS Restoration and Closure Plan
Authors: Kessler, Sanders, Milliron, Dennis
March 18, 2009

1. **Overview:** The draft *Closure, Revegetation and Rehabilitation Plan for the Ivanpah Solar Electric Generating System Eastern Mojave Desert San Bernardino County, California* (Plan) provides useful background information on and summaries of various materials and methods for revegetating native plant communities in the Eastern Mojave Desert but falls short of providing the specific details needed for post-construction revegetation efforts in temporarily disturbed areas (e.g., along the gas and water pipelines, construction logistics areas), and offers only vague guidance on final decommissioning, revegetation, and closure. It is difficult for the reader to discern the specific, proposed activities on the ISEGS site from general revegetation principles. The Plan cites lessons learned in the Technical Basis Document and other references, including highly relevant research findings from the recent Castle Mountain Mine revegetation work, but does not take the next step of applying this information to detailed, site-specific recommendations. Suggestions for revisions to address this deficiency are provided as follows:

2. **Success Criteria Need to be Specified**: The Plan states (p 1-13) that criteria for revegetation success need to be established on the basis of successional plant associations rather than mature climax vegetation. The Plan needs to further develop this concept into concrete goals and provide specific, quantitative success criteria for parameters such as native plant density and diversity, percent cover for weeds (at least for those weeds that would interfere with successful establishment), and survival rates of transplants. For example, Bamberg (2005) established permit requirements and bond release specifications for Castle Mountain Mine at reestablishing 15% of native plant diversity and 21% of native plant density ten years following mine closure. While these targets may be inappropriate for the ISEGS site, the applicant must provide specific goals and success criteria like these for revegetation at ISEGS. It is insufficient to plan for only comparisons with study plots rather than concrete success criteria particularly when the location and other details, such as land owner permission, are not specified.

3. **Thresholds for Management or Remedial Actions**: The Plan should identify a quantitative threshold that will trigger management or remedial actions if the criteria described above are not met at the specified milestone. For example, a native plant density at some percentage (e.g., 20%?) below target at year 3 might be an appropriate threshold that would prompt re-seeding, re-transplanting, weed control, or herbivore control.

4. **Weed Management:** The *Weed Management Plan for the Ivanpah Solar Electric Generating System* (Attachment DR13-1A, Data Response Set 1F) prescribes management actions that may be taken to monitor for and eradicate specified species but is not tailored to a specific revegetation plan. The Plan cannot simply reference the weed management plan but needs to be specific about which species and densities of weed cover might require management because they could interfere with the revegetation goals. For example, on page 1-15, it would be useful to include the weed management/herbicide usage guidelines directly in this plan (e.g., include the herbicides proposed for use and the weed avoidance measures) so the reader does not have to cross reference various documents, which may not be on hand.

5. **Seed Collection/Propagation Program**: The Plan discusses in a general fashion the requirements of seed collection and propagation but does not offer specific details on how this major undertaking will be accomplished or discuss the infrastructure needed to support it. Quantities of seed that are likely needed are not specified. The foundation of a successful revegetation program is quality, locally harvested, native seed, which requires careful collection, processing, and storage, but how and where will this occur on the ISEGS project site? Page 7-8 of the Plan notes that "*advanced planning of seed collection would be required to ensure early and continuous seed collection, as needed, up to the time of planting. A seed collection program will be initiated within 2 years of potential site disturbance, and continue through until revegetation seed broadcast is complete. This would allow for some variation in annual seed production while still ensuring a robust collection.*" If construction will begin by 2011, seed collection should be occurring as early as this fall 2009. Are there contractors and facilities sufficiently close to the site to provide these services? If not, the applicant would need to develop plans for a storage area/greenhouse that can provide controlled conditions and protect the seeds from pests and disease. The Plan needs to provide some information on the logistics (e.g., issues with land access/permission to collect seeds) and feasibility of having a contractor provide all the services needed to make the reseeding/transplantation effort a success or have specific information about how these services can be provided on site. We suggest making on-site seed collection a priority if seed quality is acceptable and providing details on the process and timeline. Specify when a seed vendor would be used in addition to or instead of on-site seed collection. The Plan states "Bulk seed can be collected by direct harvest from plants, underneath shrubs, and from windblown debris caught in depressions and washes..." Which method(s) would be used? The Plan acknowledges the variability of seed viability/production from year to year. Therefore, seed quality should be evaluated in advance through non-destructive X-ray analysis, dissection, or germination tests before launching a large scale collection effort, which may not be worthwhile. The Plan mentions these methods later, but does not commit to doing them as part of the advance seed collection planning. In addition, there are typos in several places where "sowing" of seeds (or "sown" seed etc.) is mentioned.

6. **Site-Specific Plans for Revegetation/Rehabilitation Areas:** The Plan provides only general conceptual guidance for revegetating gas and water pipelines, gentie lines, and construction logistics area (for example, page 2-2 states" *revegetation with native species will be implemented as described in Section 7,*" but Section 7 provides general guidelines rather than site-specific details). Section 7 contains mostly summaries of revegetation principles, which are informative, but the Plan's specific intentions are difficult to discern from the more general information. We suggest clearly specifying and separating the elements to be used in the ISEGS Plan. The applicant has all the information they need about existing soil conditions and adjacent plant communities to prepare detailed revegetation plans for each of these sites, including the species and approximate number of transplanted succulents that will planted, the species, volume, application rates and techniques to be used for re-seeding, the anticipated success and proposed management to deal with anticipated setbacks to revegetation. Each of these areas needs their own specific revegetation plan rather than a general statement of principles and lists of existing species that could be used. The revegetation plans for the linear alignments and staging/laydown areas should be sufficiently detailed so that bid specifications could be prepared from the information in the plan.

7. **Stockpiles of Topsoil, Vegetation, Mulch:** The Plan needs to incorporate information about the location of topsoil and vegetation stockpiles that is described in Date Response 2C from Data Request 145 (Data Response 145), which indicated that 4 inches of soils would be removed and stockpiled per acre, and that 30 percent of the total soil removed would be stored in the stockpile area. For the purposes of sizing the vegetative stockpile area, it was assumed that 60 percent of the vegetation onsite will be removed with 25 percent of the total volume used onsite for soil stabilization and erosion control and 75 percent transported offsite for other uses or disposal. Approximately 2.5 acres of vegetation is assumed to be removed per day, producing approximately 370 cubic yards of mulch. All of these estimates may need to be re-evaluated once the revised grading/stormwater plans have been finalized.

8. **Salvage Techniques, Storage, Transplanting:** Section 4.4 discusses salvage of succulents, and provides information on handling, storage, and transplanting techniques, but omits some crucial information. How many succulents of each species will need to be salvaged and stored to supply the revegetation efforts? What is the schedule for the salvage relative to construction and revegetation efforts, and the public sale of salvaged material? How many succulents will be made available for sale vs. transplanted along with the seeded species? Why does the Plan state that succulents will not be used in long-term revegetation? The Plan does not specify when succulent stockpiling will occur and states that plants will be allowed to air dry between 3 weeks to 6 months. What measures will be taken to ensure that rain events do not increase fungal growth in stockpiled succulents? There is no impediment to creating sufficiently detailed planting plans so that this information can be disclosed now. The Plan states on page 1-13 that "*an open-air nursery facility would be employed for succulent salvage, but no more elaborate facility is otherwise needed to support the revegetation effort.*" The Plan should provide details on the location and size of this open-air nursery, and the period of time for which this nursery would need to be maintained.

9. **Erosion Control**: Section 5, Surface Management Plan and Erosion Control, will need to be revised based on the results of ongoing stormwater analyses.

10. **Wildlife and Habitat Management**: Section 5.4 states "...the functioning elements of an ecosystem would be part and parcel of the operational phase..." and refers to the site as "seminatural." Delete these references because the site will be highly impacted and lack an intact ecosystem.

11. **Rehabilitation Methods**: There are inconsistencies in the discussion of site preparation for revegetation efforts. Page 1-13 states: "*deep ripping (to 48 inches) and scarification (to a shallower depth) are often employed to provide decompaction after construction activities, and to provide a rough surface for seed catchment*". In Section 7.1.2.6 the Plan states: "*If needed, deep ripping should be performed to a depth of approximately 18 inches.*" Please clarify.

12. **Revegetation Monitoring**: Section 7 includes a general description of how monitoring will occur, and lists many useful parameters for monitoring such as plant density, diversity, richness, cover, and seedling establishment. However there are no quantitative success thresholds to be monitoring, and therefore no way of measuring if revegetation efforts have achieved the stated objectives, and no thresholds or triggers for remedial action if the revegetation effort is failing. The field monitoring techniques and reporting described in this section all sound good at the conceptual level, but specifics are needed

(for example, number and dimensions of line transects and quadrats, identification of parties who will receive monitoring reports) for each of the proposed revegetation sites on linear facilities and in the construction logistics area.

13. **Closure Plan Unresponsive**: Section 8, the closure plan, is unresponsive to the Energy Commission's Data Requests from December 2007:

    30. Please describe the likely components of a closure plan (e.g., decommissioning methods, timing of any proposed habitat restoration, restoration performance criteria), and discuss each relative to biological resources and specifically to desert tortoise and its habitat.

    31. Describe the potential funding (e.g., a performance bond) and/or legal mechanisms for decommissioning and restoration of the project site that could be used:

    a. at the end of operations; and

    b. in the event of bankruptcy or the untimely project closure for financial reasons.

    The planning process can acknowledge the uncertainty in planning for 50 years in the future, and can include an assessment and affirmation of goals in the final closure planning. However, response to these specific questions above cannot be deferred until that time. Although the future development patterns are unknown, the default goal based on the current, predominantly undeveloped nature of the area should be to return the landscape to desert scrub. The Plan could specify that if the immediate, surrounding area is heavily urbanized, the original goal would be modified slightly, but due to the large size of the project area, a restored desert scrub could have value to wildlife even if urbanization increases in Ivanpah Valley. It would be unreasonable to assume the whole valley would be urbanized due to the proximity to the Mojave National Preserve.

14. **General:** The Lahontan RWQCB closure requirements, if any, should be incorporated into the Closure and Restoration plan.

15. **Section 1.2.1** Project Phasing, the use of the word "phasing" does not match up with PSA General Comment # 3 where the applicant requests modification of the PSA to change the use of the word "phasing' to a word that creates less of a nexus between Ivanpah 1, 2, and 3. The applicant request each "phase" to be called "Ivanpah 1", Ivanpah 2", and Ivanpah 3" respectively.

16. **Page 1-5:** The document states that the entire site would be "mowed" leaving the vegetation less than one foot tall. The next sentence states that in between every other heliostat array the ground would remain desert scrub. The implication is that the vehicle roads between every other heliostat array would be graded and devoid of vegetation. Is this correct?

17. **Page 1-8**: states that additional water would be used for mirror washing during construction of Ivanpah 2 and 3. How much additional water would be required during this time (up to 5 months for Ivanpah 3)?

18. **Page 1-9**: discusses "deep ripping," up to 48 inches. Would this be employed and where would this occur specifically?

19. **Page 7-3:** states that the roads in between the heliostats would be graveled to reduce dust generation. Is this correct and that soil binders would not be used on these roads?

20. **Page 7-4:** states that for soil decompaction a "garden fork or auger" might be used as an alternative if compaction is not severe. This does not seem realistic given the size of the project.
21. **Page 7-14:** states that plant germination, growth, and survival must come from precipitation which may be supplemented by irrigation. Where would this irrigation water supply come from, how much water would be needed, and how long would this water supply be used?

BLM Comments on
Ivanpah SEGS Technical Basis Document

1. Section 2, General

   A substantial portion of Section 2 is dedicated to a discussion of natural succession. The source of information about succession in this text appears to be from Rickleffs (1982). BLM has access to more recent and up-to-date information on succession that should be considered in this technical approach. Succession in its pure form, most studies of which took place during the first half of the twentieth century, is no longer considered clearly predictable. Arrested succession occurs when a species "invades a community and resists its own replacement by competitive ...means" (Walker and Del Moral (2009). Cheat grass, which has been found on part of the site, often causes arrested succession by increasing fire frequency (Pellant 1996). Other invaders may behave in a similar manner. These possibilities suggest that natural succession, rather than taking a long time, may never happen at all.

   Succession is extremely slow because the conditions at the site are no longer the conditions tolerated by the natives. Soil compaction, modified fire regime, lack of native seeds, lack of mycorrhizal fungi, and overload of soluble forms of nitrogen are all conditions that can halt succession entirely; and all can be corrected to allow a successful restoration job.

   This analysis would benefit greatly from an examination of current thinking and, in particular, from a look at the literature concerning the most likely exotics. The list of literature cited for this review, at the end of these comments, is a preliminary list which could lead to many more sources of information .

2. Page 2-2, Section 2.2, Footnote 2

   The definition of "pedon" in this text is imprecise. Soil scientists use the term for a column of soil that contains all the recognized soil layers. This text has labeled it as "changes with depth," suggesting that a pedon is a process rather than a material.

3. Section 2.4, General

   This text implies that a mature plant community cannot be created more quickly than is done through succession. BLM's experience is different – we believe that restoration may be accomplished by changing site conditions and bypassing succession. While desert is the most difficult habitat in which to accomplish this, it is nevertheless quite possible to modify artificially the site characteristics that may require centuries when natural succession is the only agent of change.

4. Page 3-2, Section 3.1.2, 1st Paragraph

   The text states that "Truck irrigation was applied to portions of the Ivanpah SEGS site." Since this text is a discussion of results from the Castle Mountain Mine (CMM), the reference to Ivanpah SEGS is incorrect.

5. Page 3-2, Section 3.1.2, 2nd Paragraph

   The text states that the transplanting program at CMM had poor results, but does not provide

reference information for the statement. The text specifically states that data on survivorship of transplants was not provided in the Bamberg Ecological (2005) report, and does not provide any other source for this conclusion of poor transplant results. This statement should be referenced.

Draft BLM Comments on
Ivanpah SEGS Restoration and Closure Plan

General Comments

1. Section 1.2 and Section 3 should be incorporated into a single updated, comprehensive Project Description within the updated Plan of Development (POD). The Project Description in the POD should then be referenced into Closure and Restoration Plan and other site-specific plans that will eventually all become part of the finalized POD. Currently, each individual plan has a separate Project Description, and these tend to become outdated and contradictory as the project develops. By developing, maintaining, and referencing a single Project Description within a living POD, the potential for the individual Project Descriptions becoming outdated or being contradicted becomes reduced.

2. In general, the purpose of this document should be to describe the actions that are proposed at the cessation of operations. Instead, the largest volume of the document appears to be primarily a discussion of potential closure and restoration options and methodologies, with very few actual commitments to perform specific actions. The ability of the reader to understand what actions are actually proposed is complicated by two factors:

   - The frequent use of terms such as "if", "should", "could", and "where appropriate", rather than words that convey a clear commitment to an action (such as "will); and
   - The intermixing of descriptive text and text that describes proposed actions.

   Where actual proposals for action are made, they are scattered throughout the document, so that no clear Plan exists. The proposed actions with respect to infrastructure removal are presented in Section 1.2.4, which is within the Introduction. The proposed action with respect to succulents (which is apparently to do nothing with them) is presented within Section 4, although more details on the methodology for transplanting succulents is presented in Sections 7.1.3.5 and 7.1.5. The plans for topsoil salvage and seed collection in Section 7 are similarly vague – descriptions of methods are provided, but no clear commitment is made to a proposed action.

   More specific comments on these problems are provided in the Specific Comments below. However, re-organization of the document, and re-wording of the text, may be warranted to more clearly communicate the commitments being made with respect to site closure.

3. The Plan specifically states it does not address interim restoration or temporary closures (see Section 1.2.4, and 1st Paragraph on Page 8-1). This is a material weakness in the plan. BLM is very concerned about the possibility of the project being halted during the construction phase with extensive disturbed areas that need to be stabilized and restored. BLM is also concerned about extended periods of non-use that may occur over the life of the facility. The current Plan does not address either situation.

4. This plan is quite generalized and most specific methods, acreages, and locations are left for later resolution. Although this may be taken as a conceptual plan, the ultimate Plan must provide detailed information, including a set of specifications with explicit instructions for implementation of the plan, written in specification or bid package language. Those specifications will provide direction should it become necessary for BLM to hire an outside contractor to restore the site. The specifications will provide the basis for the contractor's bid and will become part of the contract of the successful bidder. This Plan will be part of a legally-binding contract and must be complete before it will be possible to issue the desired permits.

5. The Plan should include a discussion providing a cost estimate for site closure, decommissioning, and restoration, and a discussion of how these actions will be funded or financed. This discussion should address not only availability of funding for the site operator to perform site closure at the termination of the ROW, but the availability of funding for BLM to perform site closure, if necessary, due to abandonment by the site operator during the duration of the ROW. If the Plan does not address funding, BLM would be required to calculate a suitable amount for a performance bond to be held for the life of the project. The performance bond would be added as a stipulation to any ROW that is granted for the project. BLM prefers to have applicant prepare and include a cost estimate for said site closure, decommissioning and restoration including an estimate for interim closure/abandonment.

6. The entire Plan with respect to the management of succulents must be revised. The issue of succulents is an example of the problem raised in General Comment #2 above – there is substantial discussion of the procedures to be used for successful succulent harvesting, stockpiling, and transplanting, but it is not clear what is actually proposed. The last sentence of Section 4 states that succulent salvage will actually not be done, while Section 7.1.5 says that "limited transplanting is proposed", but does not define what is meant by "limited". The text appears to discuss succulent salvage as a potentially successful activity, so it is not clear why Section 4 concludes by eliminating it.

   As acknowledged in the introduction to Section 4, and within Section 7, succulent salvage can have a high success rate. The only rationale provided in Section 4 to support elimination of succulent maintenance is a statement that "there would be large areas occupied by Ivanpah SEGS that would not be available for revegetation until after decommissioning". It is not clear how this statement supports a conclusion that no long-term stockpiling of succulents is proposed.

   The Plan must be modified to commit to the salvage, long-term storage, and eventual transplanting of succulents following decommissioning. Some of the succulents, perhaps all, must be used in the restoration program. While some of the succulents are no doubt long-lived, it may not be realistic to expect all salvaged plants to survive in a nursery for the entire lifetime of the project. A large fraction of the plants in early or pre-maturity should be preserved, while large and old plants may be offered for public salvage.

   The sizes of the succulents to be preserved will have to be defined for each species. Please indicate in a table the sizes of each species that will be stockpiled for future use, and above which the plants will be offered for public salvage. Include in the same table the locations and counts of the plants included in each category.

   The storage area should be specified, but may include trenches along the edges of work areas, near the outer boundary, or the 300+ acre construction staging area. The text should define that succulents transplanted into the nursery area will be placed in their same compass orientation as they were in their original location. The salvaged plants could also be kept in the long-term soil stockpiles, along with natives grown on the stockpiles, to keep the soil biota fresh.

7. All discussions of initial site preparation, grading, and vegetation removal within this Plan, especially those in Section 5, will need to be revised once the final Site Grading Plan has been developed. The final Site Grading Plan is still under development, and the amount of site disturbance that will occur is currently a topic of debate in our work on the stormwater management analysis. In general, both the text in this document and information provided

verbally during our stormwater management discussions seems to imply a minimal amount of site disruption being required during site construction. The current information suggests that little or no vegetation removal is planned, only minimal site grading will be done where absolutely necessary, and vehicle traffic required for construction and operations will be so limited as to have almost no impact on soils and vegetation.

While BLM looks forward to reviewing and considering additional information that supports these assumptions of limited impact, our current information from work on similar development projects suggests that the extent and impact of grading, vegetation removal, and construction and operations traffic will be much more extensive than implied in this Plan. We are concerned that using an assumption of minimal impact at this stage of the process will lead to very serious complications during construction, when the "minimal impact" plans are found to be unrealistic or unworkable.

8. The text is vague in discussing the scope of pre-construction and during-operations data collection that will be done. Section 7-1 says that baseline soil conditions should be established, but does not make a proposal to do so. Section 7.5.1 discusses the need for reference sites, but implies that they will be developed only during the post-operations monitoring program.

At a minimum there must be a firm commitment to the collection of baseline data, and establishment and maintenance of a representative series of reference sites, established prior to construction, and including their preservation over the lifetime of the project. Once reference plots have been identified, they will have to be protected, making these plots an integral part of the land use and its later restoration. Those areas will become unavailable for future development. They should be considered part of the land area to be incorporated into the permits for this project.

Information on methods for establishing reference plots and collecting baseline data are available. The transect methods set forth by California Native Plant Society (CNPS) are often considered the standard; they may be reviewed in an appendix to Sawyer and Keeler-Wolfe (1995). The CNPS web site offers protocols and forms for much more rapid methods based on ocular estimates and overall evaluation of polygons of uniform vegetation:

http://www.cnps.org/cnps/vegetation/protocol.php#instructions

Numerous additional methods for determining plant cover by species were offered by Bonham (1989). Point intercept methods beginning on page 109 are particularly efficient in terms of labor requirements and may provide more reliable information than the much more laborious transect and quadrat methods used by CNPS. A step-point method described on page 121 of Bonham (1989) allows the recording of hundreds of points in a short time when used by a single observer who is thoroughly familiar with the vegetation. Note that the points must be spread throughout the area to be sampled, and the underlying assumptions of the method must be rigorously respected.

Specific Comments

9. Page 1-1, Section 1.1, 2nd Paragraph

This text provides some reasons why this Plan should be considered to be preliminary, and will need to be flexible based upon actual conditions at the time of decommissioning. The reasons include "unanticipated operational exigencies" and "external factors". Section 8.1 provides much more detail regarding these reasons.

BLM agrees that conditions may change, the existing Plan must be re-evaluated at the time of implementation, and that it is appropriate to discuss this concept within the Plan. The current organization of the discussion of this issue is confusing, and should be revised. There is some brief introduction in Section 1.1, which seems to be a logical place to discuss the concept – it should be contained within the Plan introduction. However, the bulk of the discussion is within Section 8.1. It is not clear why this issue is discussed in detail in Section 8, but not Section 7 (where it is just as applicable) or in Section 1.

We recommend the entirety of Section 8.1 should be placed into Section 1, to present the entire discussion of the need for flexibility in one location. That text should make clear that the flexibility needs to apply to both the revegetation plan (Section 7) and the closure plan (Section 8).

In addition to moving the discussion to the introduction, BLM has specific comments on the content of this text. These comments are provided below, on the text that is currently located in Section 8.1.

10. Page 1-5, Section 1.2.2.3, 1st Paragraph

The text states that "ground surface between every other row of heliostat array would remain desert scrub." While this ground surface may appear to be non-impacted in the short-term because no vegetation is actively cut down or run over, these areas will be impacted in the long-term for a variety of reasons. This strip will remain inaccessible to desert tortoise and other herbivores, and will be impacted by shading, plant maintenance, and modified hydrology. These areas must be considered to be part of the area requiring restoration.

The text also refers to cut vegetation being mulched and stored in windrows for later revegetation. The text should specify whether this is intended for revegetation of the temporary construction areas, or ultimate site closure. It is unlikely that these materials could be stored for the 50-year ROW period.

11. Page 1-5, Section 1.2.2.3, 2nd Paragraph

The text describing the characteristics of the heliostats does not provide a description of the power and communications mechanisms that will be used to make them track the sun. It is assumed that each individual heliostat has a motor that must be powered, and that some central communications mechanism must be used to direct its movement. Unless these are somehow powered and directed remotely, they must be connected to some central source by wires. If so, then this is a very substantial length of wires that will be present throughout the facility that require installation, maintenance, and eventual decommissioning. Revise this section to describe any associated wiring, including its length, installation methods, maintenance requirements, and decommissioning methods. Other sections of the Plan should be revised

accordingly, to address the impact of this wiring on initial site preparation and eventual decommissioning.

12. Page 1-6, Section 1.2.3.2

In the discussion of the BMPs for the use of wash water, the amount of water required for this purpose is dismissed as insignificant with respect to erosion or runoff. However, there is a clear potential for weed growth which might spread to nearby native areas. Although daytime evaporation is high in the summer, washing will be done year-round and only at night. The drip will be on a small area of soil directly below the heliostats and will penetrate the soil as a wetting front that moves downward with each addition of water. Evaporation of soil moisture takes place only at the surface; water that penetrates more than a few centimeters remains in the soil until removed by growing plants. It is likely that the wash water will promote weed growth. This concept should be discussed in the Plan, along with its impact on eventual site restoration.

13. Page 1-9, Section 1.2.2.3

This section discusses fire protection, but the text does not discuss the potential fire hazards associated with this type of installation. Cheat grass, one of the exotic grasses reported for the site, is particularly noted for encouraging large and fast-spreading fires (Pellant 1996). The interactions that might exist between weed growth promoted by water use and the potential fire hazards at the installation should be discussed. Also, the text should specify whether the fire protection systems are subject to leakage.

14. Section 1.2.4, General

This entire discussion is repeated in Section 8, the Closure Plan. Because it discusses the Plan for removal of facilities following decommissioning, it belongs in Section 8, and not in the document introduction. This text should be deleted.

15. Section 1.3.2, General

Many of the potential activities discussed in the Technical Basis Document (TBD) are not actually proposed for implementation in the Plan itself. As discussed in General Comment #2, the reader frequently becomes confused regarding what items are discussed as potential options, versus what items are being committed to as part of the Plan. For instance, Page 1-19, 2nd Paragraph, states that "an open-air nursery *would* be employed for succulent salvage". However, the final sentence in Section 4.6 clearly demonstrates that no such nursery is proposed as part of the Plan. The introductory text, and the phrasing used ("would" and "will" versus "could" and "may") should be revised to show that this section is presenting results from the TBD, that these results are presented as possible options that are considered in the development of the Plan, but that this discussion is not the Plan itself.

16. Page 1-14, Section 1.3.2.2

The text dismisses some exotic species as beyond eradication. This is true only if soil function is never restored. While complete exclusion may not be possible, healthy soils often have considerable resistance to weeds and can be rebuilt with proper restoration methods. The site must not be abandoned to exotics with such reasoning. Belnap et al. (2001) gave an excellent overview of soil crusts, which are believed to have some protective effect against exotic annual grasses.

17. Page 2-1, Section 2.1.1, 1st Paragraph

There is typically no need for a 75-foot wide ROW to construct a small diameter pipeline – 50 feet is normally adequate. There is also no need for an access road associated with gas pipelines. If BrightSource needs a perimeter access road around the plant sites, that would be acceptable, but do not tie it into the gas pipeline needs.

18. Page 2-2, Section 2.1.1

The text should specify standards to be used to define the needed amount of decompaction. Unless there are specifications and a means of measuring the performance, effective decompaction is unlikely to happen. The best means might have to do with specifying properties of the finished soil.

19. Page 2-2, Section 2.1.2

Provide the diameter of the water pipelines. The 50-foot ROW association with a water line can overlap the ROW for the gas pipeline. Provide the relationship between the locations of the water and gas pipelines, and analyze the opportunity to place the gas pipeline and water pipeline in the same trench or in adjoining trenches. Shared trenches are common in many O&G development fields.

20. Section 2.1.3, General

Re-assess and discuss the need for an access road under the gen-tie lines. Many times roads end up under transmission lines by default, but usually not because the holder needs to clean insulators.

21. Page 2-4, Section 2.2

The text states that rehabilitation areas identified during the operations phase are most likely to consist of those areas that have been affected by sheet flow or scour during flood events.

First, it is not clear what is meant by rehabilitation areas "identified" during the operations phase. It is assumed that this is meant to read "areas affected by operations, and that will require rehabilitation following cessation of project operations". Review and revise the text to clarify the areas under discussion.

Second, if the purpose of this text is to define the areas that will be affected by operations, and which will then require rehabilitation after the cessation of facility operations, then the focus on flooded areas is not appropriate, and needs to be revised. The areas that will require rehabilitation will include all areas where heliostats, heliostat wiring, roads, stormwater management structures, power blocks, pipelines, and administrative facilities were present. It will also include all areas that are disturbed as part of the decommissioning process – this may include areas which were disturbed during construction, revegetated after construction, but then re-disturbed during decommissioning.

22. Page 2-4, Section 2.3

The purpose of Section 2 in general appears to be to define the areas that will be disturbed during the various project phases, and that will eventually require rehabilitation. This subsection actually describes proposed decommissioning procedures, but does not accomplish the purpose of defining the areas that will be disturbed during the decommissioning process. Instead of describing the process (which is repetitive of Sections 7 and 8), the text should be revised to discuss that the decommissioning process will result in the use of trucks and heavy equipment to remove site infrastructure, where these areas will be, and should specify that closure and revegetation procedures described in Sections 7 and 8 will be required for these newly disturbed areas.

23. Page 3-3, Section 3.3.1, 1st Paragraph

The text states that "management and restoration decisions should be made only after a field investigation is performed to describe onsite soils and their physical and chemical properties".

BLM agrees with this statement. However, it is not clear if this is an actual commitment by the applicant, as part of the Plan. No further discussion of such a field investigation is provided. Since the objective of the restoration will be to restore pre-construction conditions, this investigation must be conducted prior to site disturbance, so its performance cannot be delayed until the expiration of the ROW.

24. Page 3-3, Section 3.4.3.1

A reference should be provided for the source of information for this list of disturbance-adapted plants. BLM believes that some of these species are not disturbance-adapted, but would like to understand the source of the information before accepting or rejecting these species.

25. Page 3-4, Section 3.4.3.2

BLM disagrees with the characterization of these annual weeds as functioning essentially as native plants. Those species, wherever they have been found, have all of the fundamental characteristics of ruderals. The weed species currently designated as part of the acceptable pioneer flora included red brome, Mediterranean grass, and Russian thistle. Red brome and cheat grass help promote fires and certainly should not be considered acceptable. These species are not only not components of a functional ecosystem; they are symptoms of failure to rebuild a functional ecosystem.

26. Section 4, General

It is difficult to provide technical comment on the procedures discussed within this section, when the final sentence of the section implies that none of these procedures are actually proposed. A general discussion of this issue is presented in General Comment #6. Some specific comments are provided on this section, but they should be considered in light of the fact that the entire proposal needs to be reconsidered.

27. Page 4-1, Section 4

BLM agrees that there's probably not too much point in salvaging shrubs. However, the large blocks of soil that come with transplanted shrubs are in themselves valuable, even when the

shrubs do not survive. The text should consider using these materials within the revegetation program.

28. Page 4-6, Section 4.5.3

The text proposes a single pass with a watering truck every three months to permit most plants to survive. A better idea would be to give a thorough watering when the plants first begin to show signs of stress. A single pass of a water truck is unlikely to wet the soil to more than an inch or two, especially if that water is spread over a wide area. Artificial watering should take place only when the succulents show signs of dehydrating and shrinking. The amount of water should be enough to wet the root system to its full depth at each of the infrequent watering events.

29. Page 5-1, Section 5.1, Bullet #1, and Page 5-2, Section 5.1, 1st Paragraph

This proposal to mow vegetation may need to be revised once the actual grading plan has been finalized. In general, leaving root systems will not be a feasible option to minimize wind and water erosion, or to filter water and wind-carried sediment. This is feasible in the short-term. However, a substantial portion of the vegetation on the site will die in the longer term due to shading, soil disturbance during construction, modification of the hydrologic system, weed management, dust suppression, and maintenance activities. While site preparation activities intended to minimize disturbance to vegetation are generally favored, they must be considered in their long-term context. If construction activities and long-term site operations are likely to kill off most or all vegetation anyway, then short-term efforts (such as mowing) to protect vegetation may not be warranted. Also, development of long-term wind and water erosion plans cannot count on root systems which may continue to be present for a few years, but will eventually decay and wash away.

30. Page 5-1, Section 5.1, Bullet #3

The references to detention ponds and diversion channels are examples of items that may change in the final grading plan, and that would need to be changed accordingly in this Plan.

31. Page 5-1, Section 5.1, Bullet #6

The text here refers to stormwater management requirements during construction. Similarly, Section 5.2 refers to the need for a General Permit for Stormwater Discharges Associated with Construction Activities.

The text should be revised to also consider the stormwater management requirements during decommissioning. It is likely that the removal of hundreds of thousands of heliostats, associated wiring, foundations, roads, and stormwater management structures will require substantial traffic and earthmoving activities. It will also last for a substantial duration of time. Therefore, the requirements for stormwater management during decommissioning will be much the same as that required for initial construction. This comment also applies to Section 8.2.7.

32. Page 5-2, Section 5.1, 1st Paragraph

The text states that the increase in sediment yield is not expected to be substantially different from the pre-project condition.

Bullet #5 on the previous page (5-1) states that calculations *will be* performed to calculate required cleanout frequencies. From our ongoing work on the stormwater management systems, BLM is aware that calculations of sediment yield have not yet been performed, and cannot be performed until upstream basin stormwater modeling has been completed. Therefore, this statement that sediment yield is not expected to be significant has not yet been substantiated by quantitative estimates. Although BLM has not done independent calculations at this time, based on our knowledge of the hydrologic system involved, we do expect that the ISEGS detention/retention ponds will generate substantial sediment yield. Therefore, this statement should either be changed, or the question of sediment yield be left open pending final calculations.

33. Page 5-2, Section 5.3

The text states that the pH of wash water is not substantially different from the existing soil. However, the process of application and evaporation of wash water could potentially build up elements that will change the soil. The text should discuss the potential for mineral buildup in soil, and the effect it may have.

34. Page 5-4, Section 5.4, 2nd Paragraph.

The text refers to the landscape inside the heliostat field as a "semi-natural ecosystem". See General Comment #7 and Specific Comment #16. Even if efforts are taken during construction to minimize impacts to soil and vegetation, later activities such as vegetation shading, modification of the hydrologic system, weed management, dust suppression, and maintenance traffic will have significant impacts. While the area may still attract fauna as described in this section, the reference to the area being a semi-natural ecosystem should be deleted.

35. Section 7, General

The organization used in Section 7 is very confusing, especially from Section 7.1.3 through Section 7.4. Currently, the section flows as follows:

- Sections 7.1.3.1 through 7.1.3.4 discuss seeding issues.
- Section 7.1.3.5 discusses succulent transplant methods.
- Sections 7.1.3.6 through 7.1.3.10, and Section 7.1.4 discuss seeds again.
- Section 7.1.5 again discusses succulent transplant methods.
- Section 7.2 discusses seeds again, specifically planting techniques.
- Section 7.3 discusses water availability.
- Section 7.4 discusses seeding techniques again.

It is recommended that these sections be re-organized to make a coherent discussion. All sections which discuss seeding, including plant types, seed sources, storage techniques, and plating techniques, would be easier to comprehend in a single section, without being interrupted by un-related items. A Plan to salvage, provide for long-term storage, and transplant of succulents following decommissioning should be provided in a separate subsection. The text on water availability can be a stand-alone section, and also should not be inserted in between two sections that both discuss seeding techniques.

36. Page 7-1, Section 7.1.1

The definition of where topsoil salvage would be needed is too vague, and should be revised. This section states that areas with extensive earth movement "should" have topsoil salvaged – revise the terminology to "will". Also, the text generically discusses broad areas where topsoil salvage will be done, and areas where it will not be done. The differentiation is made based solely on whether a site has undergone intrusive excavation and grading. Areas which are subject to vehicle and foot traffic are not proposed for topsoil salvage.

At this stage of our knowledge, it seems unlikely that hundreds of thousands of heliostats, associated wiring, and stormwater management structures can be delivered to the site and installed without widespread site disturbance, even in areas where active excavation is not proposed. BLM is aware that a Technical Memorandum describing construction vehicles, heavy equipment, travel routes, expected numbers of trips and personnel, and grading needs is pending, and that the details in this document will contribute to our knowledge of the level of disturbance expected from these activities. However, based on current information, it is BLM's expectation that there is likely to be enough disturbance from these activities that topsoil salvage will be needed.

37. Section 7.1.2, General

BLM believes that topsoil is one of the most valuable assets in restoration. However, topsoil collected in 2010 will not be viable in 2061. The text should provide a specific plan for preservation and continuing enhancement of topsoil for the duration of the project. The Plan should specify the year, season, locations, and methodology of collection of topsoil from the donor sites. Specify the vertical and horizontal dimensions of the stockpiles and their locations within the facility. Describe how the topsoil will be kept viable during storage, which native species will be rotated through any intended plantings, how often plantings will be changed, and how they will be maintained. Describe how the stockpiles will be kept free of weeds. Indicate the season, locations, and method of distribution of the topsoil at the time of replacement. The top soil storage area could provide additional benefits by doubling as a seed propagation and succulent storage area. The correct choice of plants to grow would produce a seed crop above ground and a crop of mycorrhizal fungi, pathogen antagonists, plant growth-promoting rhizobacteria, and other vital soil creatures below ground. On the surface the stockpile might be producing soil algae and other cryptogamic crust organisms.

38. Page 7-1, Section 7.1.2.1

This section states that initial characterization of the baseline soil conditions "should" be done. However, there is no clear statement in the Plan whether such a characterization activity will actually occur. BLM agrees that such characterization must be done, and must be done before site disturbance occurs.

With respect to the specific items listed, BLM agrees that the profile description, soil texture, bulk density, and other soil properties are important items to capture. Organic matter content and C/N ratio are probably not informative in this case. Documentation of soil biota is important, but mycorrhizal fungi and soil micro-arthropods are far more central to functioning of the soil than ants and termites. The text mentions cryptogamic crust, which is difficult to measure if soil algae are considered. The text should describe what properties would actually be measured.

39. Page 7-2, Section 7.1.2.3

The text should describe that different soil types exist on the project area, each of which typically has different soil texture and different soil microbial features. The text should describe how the designations of what is or is not topsoil will be made, and how field monitoring will be done to verify whether the plan is followed. The 2-inch depth for topsoil discussed in the text is not necessarily the best plan - it would be better to define topsoil by the presence of fine roots during the moist season. Each type of soil should be stockpiled separately, and measures to maintain soil microbial activity should be implemented separately.

40. Page 7-2, Section 7.1.2.4

The text calculates that a 75-foot wide corridor 4.6 miles in length will comprise 36.3 acres. The actual value is 41.8 acres. The text should be corrected.

41. Page 7-3, Section 7.1.2.5, 1st Paragraph

The text states that the heliostat areas will be bladed to a depth of 1 to 3 inches. The text should define the extent of the area to be bladed - is it a small area of a few square feet at the base of every support? Is it a swath along the row, and if so, how wide and long? Is it a broader area?

Also, the text states that topsoil would be stockpiled for later respreading, but does not provide any details. The timing and manner of collection have a large effect on the survival of the soil biota. The text should describe how much land can be salvaged under this plan. Under topsoil placement, the text should define the time of year that topsoil will be spread on the temporary disturbances, and how deep the top soil layer will be made.

42. Page 7-3, Section 7.1.2.5, 1st Paragraph

The text states that the roads between every other heliostat row will be graveled. See General Comment #7 – the plan for roads appears to be evolving, it is not clear if this is the current plan, based on other verbal discussions. If this is the Plan, then the width of the roads should be defined. In general, BLM believes that the proposal to grade and gravel these roads is far more realistic than recent verbal discussions of lightly traveled 1-foot wide tracks. Whatever the actual proposal is, it should match the information being used in the infiltration analysis.

43. Page 7-3, Section 7.1.2.6

See General Comment #7. The plan for soil decompaction cannot be evaluated without an understanding of the extent of the compaction. The proposal to use hand tools for decompaction implies that the areas are expected to be very limited in extent – only a few square feet at each location. As discussed in General Comment #7, BLM expects that the extent of disturbance will be more widespread, making the use of hand tools for decompaction impractical. Once the actual extent of disturbance, this proposal for the use of handtools should be re-evaluated to verify that it can be implemented.

44. Section 7.1.3, General

The organization and terminology used in Section 7.1.3 is very confusing.

First, the title is not really descriptive of the section's content and purpose. Section 7.1, overall, is "Rehabilitation Methods". Section 7.1.2 is titled "Soil Rehabilitation", and describes the proposed rehabilitation methods for soil, which makes sense. Section 7.1.3 appears to mostly describe the proposed rehabilitation methods for vegetation. However, the title of Section 7.1.3 ("Appropriate Plant Species") does not make this obvious. To continue with the theme of the section and logically follow Section 7.1.2, it is recommended that the section be titled "Vegetation Rehabilitation".

Then, the section contains several subsections of descriptive text regarding seeding methods. But the text does not actually state that seed collection will be done until the bottom of Page 7-6, where the text reads "Seed collection will be performed . . . ". It is recommended that this sentence be moved to the very beginning of Section 7.1.3 – it should be an introduction to this entire section, so the reader knows right off that the described activities are actually going to be performed. The organization of Section 7 in general, and Section 7.1.3 specifically, make it unclear to the reader whether the discussed methods are actually proposed, or are just being discussed for informational purposes. A clear introductory paragraph is needed.

The confusing insertion of text on succulents (subsection 7.1.3.5) has already been discussed above.

Then, there is a different Section 7.1.3 heading, which appears to be a typographical error, since the subsection numbering of the previous section is continued. This error should be corrected.

45. Page 7-4, Section 7.1.3

Notes on page 1-12 state that sufficient information on the ecological dynamics of revegetation exists; therefore, a research program is unnecessary. A similar assertion is made on page 1-13, referring to the research at CMM. Research might be unnecessary if the current plan made full use of the existing information on desert restoration. However, the text in this section, and in other locations in the Plan, states that early successional species are most appropriate for revegetation and should be used here. This statement essentially abandons previous restoration research and suggests leaving site recovery to invasion by weedy plants. Information on soil compaction and soil microbiology done at CMM and elsewhere, reported in part by Bainbridge (2007), indicates that the applicant should propose to make use of plants from later successional stages.

46. Page 7-5, Section 7.1.3.3

The text states that seed collection should occur within the local 25-mile radius area. It is not clear whether this is actually proposed – revise the text to state that seed collection will occur. The text should provide the methodology of seed collection (including that there would be no cross-country vehicle travel and vehicles would travel "open" routes), collection intensity per acre, frequency of collection in each area, storage and the feasibility of obtaining sufficient quantities of seed to facilitate meeting the success criteria on 4,000 acres.

If all solar plants currently proposed within this area are built, and all perform seed collection in this area, then there may be cumulative impacts on seed availability to be considered in the EIS.

47. Page 7-8, Section 7.1.3.7, 2nd Paragraph

The text states that seed collection will be initiated within 2 years of potential site disturbance. We assume this means 2 years before site disturbance – please clarify the text.

48. Page 7-8, Section 7.1.3.8, 1st Paragraph

The text states that seed will be collected directly from the project area "where feasible". The text should define the conditions in which this is or is not feasible.

Seeds of local origin are generally available only by arrangement with professional seed collectors, as discussed in Section 7.1.3.9. Although this text states that professional seed collectors "may" be used, it does not clearly define the source of the seeds – the text should define the source. An additional option is that topsoil stockpiles may be to some extent preserved for the lifetime of the project by planting with appropriate native plant species, which would also assure a seed supply. Those species should be mycorrhizal host plants; if only non-hosts such as *Atriplex* species are grown, the most vital components of soil biology will be lost with time. Appropriate plants for maintaining the soil stockpile will be found among perennial grasses and composites, as well as a range of other plant families. It is important to avoid a single-species stand of non-hosts or exotic species. Non-host families include some of the most prominent species among the early-successional plants. Chenopods, amaranths, and mustards are almost entirely non-hosts and should be avoided except when there is a specific need for their seeds.

49. Page 7-8, Section 7.1.3.8, 3rd Paragraph

The text describes seed collection from under shrubs and from depressions in the ground. That is a good method if done correctly, but it does not always supply soil microorganisms. Further, it is difficult or impossible to count seeds by species with this collection method, so the later references to seed numbers do not apply. The text should clarify these issues.

50. Page 7-9, Section 7.1.3.10

The text needs to specify whether storage of seeds for more than 50 years is viable, including defining the physical locations where seed storage is planned. The 4th bullet states "If seed storage is required for more than 1 year . . . ". Given the 50 year term of the ROW, it is hard to imagine how seed storage of less than 1 year is contemplated, unless the text is referring only to seeding of temporary construction areas. The text should clarify whether seed collection is proposed to support closure at the expiration of the ROW, or is only proposed from temporary construction areas.

51. Page 7-11, Section 7.1.5

As stated above, the purpose of this section is not clear. The text refers to "limited transplanting", although Section 4.6 states that these onsite long-term stockpiling will not be done. Define what is meant by "limited".

52. Section 7.2, General

This section discusses a lot of different planting techniques, but never directly states what is actually proposed. It is not clear if the purpose of the text is to discuss potential methods or to

make a solid proposal, but this Plan should make a clear proposed action. In general, the text appears to imply that broadcast seeding is the preferred method of seed application. There are several other potential ways to apply seeds, all of which are more likely to succeed than broadcasting. Drill seeding and broadcasting followed by incorporation are acceptable and both are discussed. Pitting gets little or no consideration, and imprinting is dismissed as not being suitable for sand. Imprinting has been used successfully on sandier soil than that found at the ISEGS site, and this method is generally superior to broadcasting and drill seeding.

53. Page 7-13, Section 7.2.1.4, Item #3

The distribution rate of seeds is stated as 150 Per Sq. meter. Is this total or per species? If total, this is a low number. The collection method proposed does not allow counts of seeds per species.

54. Page 7-13, Section 7.2.1.4, Item #6

Mulch rates of 2.0 tons/acre are likely to be too high. Mulch in this environment does not decompose rapidly.

55. Page 7-14, Section 7.2.3

This section is a good example of the difficulty presented in this Plan. If container grown plants are not going to be used, why have a section discussing them? By discussing them, the Plan becomes more of a list of potential actions, rather than a solid proposal describing the actions that are committed to.

56. Section 7.4, General

The text should specify whether continued fencing of the site will be required to keep herbivores such as tortoises and mammals off the site during the recovery period.

57. Section 7.5, General

Page 7-1, Section 7.1.2.1 states that collection of baseline information on soil conditions "should be" done. This section defines a variety of field monitoring, survey, and photography techniques that will be done after the cessation of operations. The text should specify that collection of similar baseline vegetation data will also be collected before site disturbance beings. It is understood that climate and other factors may result in the preferred vegetation conditions at the end of the project life being different from that currently present. The text may state that the purpose of the pre-disturbance data and photos is not to require 100% restoration of a similar community, especially if climate or other conditions have changed substantially. But the data may provide useful information that will help to evaluate the success of revegetation efforts, and will be lost forever if not collected in pre-disturbance surveys.

58. Page 7-17, Section 7.5.2

The number of quadrats proposed (3 per plot) is a very small number of quadrats. A large number of less intensive transects or other measures would give better data. Whatever method is proposed, the text should state that it will be used consistently on both the restoration and reference sites.

59. Page 7-17, Section 7.5.2.1

The text states that monitoring will be performed for 9 years following the date of revegetation. The text should specify that this monitoring term applies to both revegetation following cessation of operations, and interim revegetation of the temporary construction areas. It is likely that performance of the monitoring program on the temporary construction areas will provide useful information that will facilitate the long-term revegetation following cessation of operations.

60. Page 7-18, Section 7.5.2.2

This text discusses the calculation of diversity using a measure of richness weighted by evenness. However, the text does not specify how the weighting is to be done, and there are several potential methods. In addition, the Plan does not describe methods to be used for increasing diversity. The proposal to use early successional species, especially the exotics suggested in Section 1.3.2.2, will lead to low diversity.

61. Page 7-18, Section 7.5.2.3

The text describes the monitoring data to be collected, but does not describe what will be done with the data. For example, how will these measurements be compared to the reference sites and baseline data? What are the performance standards? What threshold will trigger remedial actions, and what will those actions be? For example, the text states that percent cover will be measured. Is the measurement of cover absolute or relative cover? And what will be done with the information?

62. Section 7.5.2.4, General

The text should define which agencies the annual reports will be submitted to.

63. Page 8.1, 5th Paragraph

In several locations (Section 1.2.4, Section 2.3, Page 8-1, and Section 8.2.4) the Plan discusses which materials will be removed during final decommissioning, and which will remain in place or be buried. The text states that all pipelines and concrete foundation materials greater than 3 feet deep will be left in place, and that concrete materials will be crushed and buried onsite.

Page 3-2, Section 3.2, 1st Paragraph describes the entire project area as an unstable, erosional surface. BLM agrees with this description. Site observations indicate that many erosional channels onsite exceed three feet in depth. This will result in any buried pipelines, wastes, or foundations becoming exposed through erosion. Therefore, each of these sections of the Plan must be modified to commit to the removal of all materials, with no onsite burial resulting in final decommissioning.

64. Page 8.1, 5th Paragraph

The text refers to recontouring of the land surface to restore the topographic gradient. The text should specify the means to accomplish this with respect to stormwater management or retention basins. These features, if implemented, will involve removal of large amount of sediment for construction. Restoring these features will likely not be as simple as re-grading, but will likely require importation of sediment from other areas of the site. The text should describe how this will be accomplished.

65. Section 8.1, General

While BLM agrees that the current Plan should be flexible to allow modification based on future conditions, the Goals for rehabilitation of public lands are not all that uncertain and need to be spelled out in the Plan. For example, it must be assumed that the site will need to be returned to a natural state, free of noxious weeds, and with stabilized soils. BLM believes it is very realistic to assume that closure in 2061 or before involves wholesale decommissioning and dismantling of the facility. Returning the area to a desert scrub landscape will be required. BLM can accept a plan that states it may need to be adaptive to conditions in place at the time of plant closure, but the Plan still must be developed and considered as the operable Plan for two main reasons:

- Although the exact nature of the closure requirements may change, many support activities for site closure need to be accomplished before the site is disturbed, including collection of seeds, salvage of succulents, and performance of baseline soil and vegetation monitoring. It is possible that future site changes may make these activities moot, but they are based upon the current best information regarding future closure requirements.

- The Plan must be in place, funds available, and preliminary support activities performed to allow BLM to implement the Plan in case early closure forces restoration during operational life of the plant.

While BLM agrees that there may be changes in local land use in 50 years, the Plan still must be made on the land uses that are expected and approved under BLM's management plans. Under these plans, urbanization of the Ivanpah valley in the next 50 years is not appropriate or likely on public lands, does not meet current LORS, and should not be mentioned in this Plan.

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