

COMMENT RESOLUTION SHEET

Document Originator F&S
 Date 8/8/88
 Document Title ESF 100% Technical Review
Title I
Shaft
 Coordinator _____

TECHNICAL ASSESSMENT REVIEW

Acceptance Signatures

Chairperson [Signature] Date 9/15/88
 QA [Signature] Date 9/15/88
 AE [Signature] for R.L. Bullock Date 9-16-88
 WMPO [Signature] Date 9/16/88

COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
		See Page 2 for start of comments.	

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
1	FS-GA-0050	<p>In Shaft Data Acquisition System (DAS) alcoves are not shown. To allow safe access, they must be located in the ladderway to minimize accident potential when in the operational phase. (50%R.F.WG.001)</p> <p align="right">R.SH.WHG.031</p>	<p>Agree. Will incorporate at Title II.</p>
2	FS-GA-0050	<p>The shape of the manway and shaft furnishings does not facilitate incorporation of IDS alcoves and equipment installation, access or maintenance. Provide a simple arrangement for these items.</p> <p align="right">J.SH.LJO.030</p>	<p>Location of IDS alcoves and equipment installation will be shown in details in Title II.</p>
3	FS-GA-0050	<p>ES-1 General Arrangements Cross-Sections</p> <p>Section B-B shows landings at 40 foot intervals being typical. CRF 30-57.11025 requires that fixed ladders shall be offset and have substantial railed landings at least every 30 feet, unless backguards or equivalent protection such as safety belts and</p>	<p>Disagree. The landing shown on Section B-8 indicates that the next similar landing is at 40 ft., but the next staggered landing is at 20 ft., therefore distance between landings is 20 ft., which complies with CFR 30-57.11025.</p>

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		<p>safety lines are provided. If 40 feet is to be typical, provisions will have to be made to comply. R.SH.FAS.010</p>	
4		<p>FS-GA-0050 6D, 6B Landings shown at 40 foot intervals while note one FS-GA-0095 calls out a 20 foot interval, make consistent or explain difference. MSHA requires landings at 30 foot intervals (30 CFR 57.11041) and California Orders require a 20 foot interval. T.SH.SCS.052</p>	<p>See response to Shaft Comment #3.</p>
5		<p>FS-GA-0050 .B GRID B-6 Required interval for ladder landings is maximum of 30 feet (See 30 CFR 57.11041). Change specified interval from 40 feet to 30 feet or less. T.SH.SWP.021</p>	<p>Disagree. See Shaft Comment #3. The landing shown on Sect. B-B indicates that the next similar landing is at 40 ft. But the next staggered landing is at 20 ft., therefore the actual distance between staggered landings is 20 ft. It complies with 30 CFR 57.11041.</p>
6		<p>FS-GA-0050 Indicate on the drawing what is the vertical spacing of the buntions and the pipe, cable and guide supports. Include a short vertical section that includes the vertical dimensioning of the supports and landings, etc.</p>	<p>Drawing will be added in Title II showing vertical dimensioning of supports and landings, etc.</p>

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		R.SH.RRR.009	
7	FS-GA-0050	The pipes shown for air, mine water supply, and dewatering are poorly located since they must be rerouted through the station areas to provide access to conveyance. Relocate behind buntons to simplify access. J.SH.LJO.028	Disagree. No re-routing necessary, pipes are installed through the UDBR Station and are ending at Main Test Level Station, thus clearing the access to the conveyance (see Dwg. FS-GA-0085 and 009).
8	FS-GA-0050	The off centered arrangement of the cage makes the delayed sinking of the shaft to the Calico Hills much more difficult after the shaft is furnished. Return arrangement to be on center of shaft. J.SH.LJO.025	Disagree. The cage located at the center or off center of the shaft will have the same implication. There is no difference between the two arrangements as far as future sinking is concerned. This issue was agreed upon at 50% (See Shaft Comment # 35 - 50% Review).
9	FS-GA-0050	The off center access to the conveyance requires that the equipment such as forklifts, must work closer to the edge of the drift and nearer any supports or gear installed. Move to center of shaft/drift to provide maximum operational area and separation. J.SH.LJO.029	Disagree. The centerline of cage to the edge of drift is 8' - 10'-1/4" (see Section B-B Dwg. FS-GA-0091). With 5'-0" wide forklift, the clearance between face of forklift and drift of 6'- 4-1/4" is sufficient.

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10		<p>FS-GA-0050 The arrangement places the edges of the conveyance unnecessarily close to the shaft wall and furnishings. The 6 inch clearance will not be adequate for instrument blockouts and other obstruction. Move cage away from shaft wall.</p> <p align="right">J.SH.LJO.027</p>	<p>Disagree. No obstruction at blockouts is foreseen (see detail - 1 FS-GA-0058). Also blockouts can be relocated to clear the corner edges of the conveyance.</p>
11		<p>FS-GA-0050 The arrangement does not allow ready access from the shaft conveyance into the manway. This will reduce safety performance in the event the conveyance is hung up in the shafts. The 50 percent status did not have this difficulty.</p> <p align="right">J.SH.LJO.026</p>	<p>Disagree. The ready access from shaft conveyance into the manway is provided with this arrangement. No requirement is mentioned in MSHA or California Code regarding this access.</p>
12		<p>FS-GA-0050 B 5, C AND D 5 The manway landings as shown make it dangerous to step sideways from the landing onto the ladder, and visa versa. Modify the landing to allow access to ladder by stepping straight forward.</p> <p align="right">K.SH.DW.010</p>	<p>Disagree. Sideways step ladders are safe and are accepted by both MSHA and OSHA regulations [see OSHA 1910.27 (d) 2].</p>

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13	FS-GA-0050	The size and shape of the manway does not comply with OSHA and MSHA for man access. The clearances are not adequate. J. SH. LJO.032	Disagree. Clearance of 24" x 24" around the ladder is provided per MSHA 57.11037 and California code 7044 (d) requirements.
14	FS-GA-0050	The installation of the life safety cable raceway, instrumentation cable, IDS cable raceways does not allow reasonable access for installation. Doorway width of 20 inches is inadequate and the area cannot be serviced from the conveyance compartment. J. SH. LJO.031	Disagree. Installation of life safety, cable raceway, instrumentation cable and IDS cable is done during shaft outfitting stage. Only inspection of these cables is most likely required during the period of testing. This is done from the ladderway platforms.
15	FS-GA-0050	D4 Relocate communication cable raceway on the pipe bracket such that it does not interfere with the test hole locations on the east wall of the shaft. K. SH. DW.011	Agree.
16	FS-GA-0050	The drawings should show the applicable dimensions to document conformance to requirements contained in MSHA, etc.	Agree. Will incorporate at 100% Title I.

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		J.SH.LJO.033	
17	FS-GA-0050	D7 Add words showing the division of work between REECO and the shaft subcontractor, as similarly shown on FS-GA-100.	Agree.
		T.SH.EMC.020	
18	FS-GA-0050	A-5 Guide bracket does not have adjustment provisions for alignment as was in previous 50 percent design. Replace bracket with bunton. Guide bracket does not have equal strength to buntons due to the limited attachment, reduced bolts and reduced concrete surface, for strength considerations. Replace bracket with bunton.	Disagree. Guide bracket is designed to have slotted holes to provide for adjustment in both directions similar to bunton connection. The concrete wall mounted guide bracket will be designed to provide same support as bunton.
		J.SH.LJO.003	
19	FS-GA-0050	FS-GA-0100 It is unclear from the small scale of the vertical cross section whether the shaft design includes any bearing sets.	All sets are bearing sets.
		R.SH.DLK.032	

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20	FS-GA-0050	GENERAL There are no guide backers shown. There would be less warping with dry guides if steel backers are provided. J.SH.LJO.004	Disagree. Issue was resolved at 50% - See Shaft Comment #35, 50% Ventilation System, Duct routing and duct constructibility is simpler than 50% design, see Dwg. FS-FA-0091, 0095 and 0225 for reference and refer to Ventilation Comment #2.
21	FS-GA-0050	GENERAL One vent duct instead of two, as in 50 percent design, will complicate ventilating the Calico Hills, UDBR, and MTL areas together. Two ducts should be provided as in 50 percent design. A better method of resolving other comments should be found. J.SH.LJO.002	Disagree. Issue was resolved at 50% - See Shaft Comment #35, 50% Ventilation System, Duct routing and duct constructibility is simpler than 50% design, see Dwg. FS-FA-0091, 0095 and 0225 for reference.
22	FS-GA-0050	C/D 4-5 Identify Test Holes as typical for Shaft Convergence Test. G.SH.RWC.009	Agree.
23	FS-GA-0050	REV B It is not clear that the testers (shaft conveyance, radial borehole, and the DAS) can get back to their respective tests for instrument changeout, etc. after the shaft steel and utilities have been installed.	This will be defined and incorporated in Title II design.

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		A.SH.SDF.005	
24	FS-GA-0050	SECTION AA Show total flexibility of location for instrumented test holes. R.SH.WHG.008	This will be defined and incorporated in Title II design.
25	FS-GA-0054	The sequence shown on this drawing and the subsequent drawing indicates that the shaft furnishings will not be installed as sinking progresses. If this is the case, the requirements of the California Mine Safety Orders Article 21, Section 7044 (j) (ladder installations) cannot be met. If it is proposed to seek a variance to this requirement, this should be identified in the Title I 100% design report along with any other governing regulations it is proposed to seek variances from. K.SH.DW.017	Agree. We need to apply for a variance from the CA code. Present design assumes a chain ladder from the bottom of the stage to bottom of Shaft. Alternative access from surface to the stage is by the emergency hoist.
26	FS-GA-0054	8A Drill jumbo shown scales approximately 20' x 5'. Identify as a minimum; 1) drill jumbo storage location when not in use, and 2) expected handling sequence (i.e., tripping, removal, storage,	Dimensions are preliminary. This is a Title II work item.

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		reinstallation, setup, etc.). If base of drill jumbo is 5 feet in diameter it will not pass through work stage. T.SH.SCS.053	
27	FS-GA-0054 A5	Under GEOLOGIC MAPPING legend, add reference to DWG. 0059 for Shaft Mapping and Photography Test. Add 0059 to Ref. Dwg. list. G.SH.TLL.009	Agree.
28	FS-GA-0054 A5	Change mapping increment from "20'-30'" to "6'-30'". G.SH.TLL.020	Agree.
29	FS-GA-0054 D1	(50 Percent G.F.TL.006), Change Note 2 reference from FS-GA-0063 to FS-GA-0163, to reference shaft Intact Fracture Test. G.SH.TLL.002	Agree.
30	FS-GA-0055 A5	Change "strip liner" to "strip liner form". T.SH.EMC.014	Agree.

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31	FS-GA-0056	<p>Due to safety problems, the galloway cannot be used to access ES-1 shaft test locations except where they are very close to the shaft bottom. These tests must be accessed on the main rope by a sinking cage designed especially for the task. (50% R.F.WG.004)</p> <p align="right">R.SH.WHG.032</p>	<p>Agree, special service conveyance deck in conjunction with sinking bucket will be developed in Title II for access and servicing of shaft test installations.</p>
32	FS-GA-0056	<p>Comment R.F.DK.056 from the 50 Percent Title I Design Review has not been fully addressed (shaft station breakout excavation sequence).</p> <p>The comment is repeated below:</p> <p>The general shaft station breakout excavation sequence is not shown. Demonstrate how the shaft station breakout is excavated full face as shown, within the guidelines of FS-SP-0205 and similar to the sketches shown in FS-GA-0054 and FS-GA-0055.</p> <p align="right">R.SH.DLK.022</p>	<p>The shaft station breakout sequence will be shown at 30% of Title II.</p>

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33	FS-GA-0056	Show station breakout using benching. R.SH.WHG.009	The shaft station breakout sequence will be shown at 30% of Title II.
34	FS-GA-0056	A4 - A5 Cryderman Mucker is unable to reach into the station to muck out. Add additional sections to show the station mucking unit being lowered to station level and mucking into the sinking bucket. K.SH.DW.012	Agree.
35	FS-GA-0056	TEST MONITORING SECTION Length of boreholes shown in Plan and Section for Shaft Convergence Test are incorrect. They should be made consistent with FS-GA-0059. T.SH.DMR.012	Agree. Boreholes lengths will be made consistent with FS-GA-0059.
36	FS-GA-0057	Reference 30 CFR 57.11001 A safe means of access is not provided to test locations. The present design of the shaft sinking conveyance is not adequate to access shaft test areas. Recommend a special conveyance be designed for this function. M.SH.PT.007	Agree. Refer to Shaft Comment #31.

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37		FS-GA-0057 The drawing does not include sufficient detail of the ES-1 shaft stratigraphic column for shaft construction information. <p align="right">R. SH. DLK. 014</p>	Disagree. This is not intended to be a shaft construction drawing, but a conceptual Title I Dwg. A detailed stratigraphic section is Title II effort.
38		FS-GA-0057 Provide a companion drawing with sufficient detail of the ES-2 shaft stratigraphic column for shaft construction information. <p align="right">R. SH. DLK. 030</p>	Disagree. This is not intended to be a shaft construction drawing, but a conceptual Title I Dwg. A detailed stratigraphic section is a Title II effort.
39	2B	FS-GA-0057 Add the word "approximate" before each of the three occurrences of the word location... (G.F.BG.009). <p align="right">G. SH. RWC. 003</p>	Agree.
40	GRID C-5,6	FS-GA-0057 Change words "paint brush" to one word, "Paintbrush". <p align="right">G. SH. MSW. 008</p>	Agree.
41		FS-GA-0058 The layout of the shaft buntions as shown on the plan view in zone D-4 does not agree with the buntion layout shown on	Agree.

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		the plan view in zone C-7. R.SH.RRR.010	
42	FS-GA-0058 C6	Move instrument hole that is shown as being on Centerline to location similar to that shown in the elevation view C4, so as to not be in interference with shaft steel. Should also move other hole from right side to left side to reflect the layout shown in C7 cross section. G.SH.TLL.013	Agree. However, please note that the hole locations for this test are intended to be field determined, and possibly interference with shaft steel must be coordinated to prevent problems.
43	FS-GA-0058 C7	Add dashed lines to extend the two instrument holes through the shaft liner concrete. G.SH.TLL.012	Agree.
44	FS-GA-0058 D4	(50 Percent G.F.TL.008) Dashed hole outlines should not extend into concrete liner in plan view (the elevation view shows the liner is not down to the level of the holes). G.SH.TLL.003	Agree.

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45	FS-GA-0058	C4 Change "Data taken manually from the holes..." to read "Data taken with portable DAS from the holes..." G.SH.RWC.010	Agree.
46	FS-GA-0058	D4 Add to WORK DECK callout, "(Ref.) SEE DWG.-0072". G.SH.TLL.008	Disagree. See "Notes" on drawing.
47	FS-GA-0058	DETAIL 1 Grouting could close the PVC well screen. T.SH.IRC.007	Disagree. Specifications for grouting will prohibit the blockage of the wall screen.
48	FS-GA-0058	REV B A.SH.SDF.006	No response required.
49	FS-GA-0059	B-5, STEP 3 It must be recognized that the height of a shaft form is not easily adjusted. T.SH.IRC.008	Agree. However, the location of the test holes must remain flexible to account for field conditions.
50	FS-GA-0059	C2 Add reference to DWG. 0072 for Work Deck information. G.SH.TLL.010	Agree.

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51	FS-GA-0059	<p>C3-4 If the mapping is performed after the round is mucked, the minimum distance shown on the left should be 28' (min. of 20' from concrete to top of round per FS-GA-0054, plus the 8' round), not 20'.</p> <p align="right">T.SH.EMC.017</p>	<p>Disagree. The distance from hard bottom to the bottom of concrete will be a minimum of 20 ft.; this can be mapped at any part of the cycle, therefore, after a pour the distance may only be 20 ft.</p>
52	FS-GA-0059	<p>REV B</p> <p align="right">A.SH.SDF.009</p>	<p>No response.</p>
53	FS-GA-0059	<p>ZONE A8 To avoid possible shaft convergence measurement problems after sinking is complete, suggest adding a note to the effect that "exact location of Shaft Convergence Test and orientation of instrument holes will take into account shaft furnishings (e.g., position of buntons, guides, utilities) and ease of measurement in fully-equipped shaft."</p> <p align="right">T.SH.DMR.005</p>	<p>Disagree. The shaft convergence test hole locations will be field determined therefore interference with shaft furnishings may not occur. Refer to Shaft Comment #42. A note will be added to Section A-A as follows: Hole locations will be coordinated with Los Alamos to take into account shaft furnishings and ease of measurements in fully equipped shafts.</p>
54	FS-GA-0059	<p>SHAFT CONVERGENCE Show permanent utilities and shaft furnishings in relation to the 3 sets of convergence pins for long term monitoring. It appears that shaft</p>	<p>Agree.</p>

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		furnishings may interfere with some measurements. R.SH.WHG.010	
55		FS-GA-0059 ZONE D6 In the ES-1 Shaft Cross-Section representing the Shaft Convergence Test Layout, the scale of block-outs and MPBX boreholes is different from that shown in Section A-A. They should be the same for consistency. T.SH.DMR.004	Agree. Consistency will be achieved.
56		FS-GA-0059 ZONES C3 AND B3 In the Shaft Mapping & Photography Test (Partial Elevation, and Section B-B) Camera Mounting Bar should be relabelled Strike Rail Assembly. T.SH.DMR.002	Agree.
57		FS-GA-0062 Detail 1 does not show the water ring required at brow. Also the shape and size of the concrete brow does not appear adequate to conform to the requirements. J.SH.LJO.017	Agree. Water ring can be incorporated at the cold joint shown at 20 ft. above the station brow. This will be shown in Title II drawings. Second part of comment not understood.

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58	FS-GA-0062	Detail 2 - The plastic sump liner does not appear to be a suitable method for the following reasons: (1) Usually plastic provides slippery footing and may create safety conditions which are unacceptable, (2) The cleanup of the sump may require machinery which may damage the plastic, and (3) If the concrete is properly designed and placed, it could be essentially water tight without any liner requirement. J.SH.LJO.044	Disagree. The material under consideration is provided with a non-slip surface, and has a high impact resistance. The lining is anchored in place with headed studs thermal welded to the lining and imbedded in the concrete. All seams are thermal welded after placement to ensure complete water tightness. Damage which may compromise the integrity of the lining can be readily repaired. Since the criteria states that there shall be no leakage, concrete alone no matter how designed and placed, will not be adequate to contain the waste water.
59	FS-GA-0062	5A Replace plastic sump liner with metal liner. T.SH.SCS.055	Disagree. See Response to Comment #58. Metal liner is subject to corrosion.
60	FS-GA-0062	4C Pin station brow to rock to avoid rock and/or concrete fall in this area. T.SH.SCS.054	Agree. Revised configuration will be shown for Title II.
61	FS-GA-0062	DETAIL 1 Show rock support for brow. R.SH.WHG.012	Agree. Will incorporate in Title II design.

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62	FS-GA-0062	DETAIL 1 The typical liner foundation key and station brow arrangement for the ES-1 shaft liner as shown in this drawing is different from the one shown for ES-2 in drawing FS-GA-102. These differences need to be justified. J.SH.RDE.001	The arrangement shown in FS-GA-0102 (ES-2) is correct for both shafts. Will adjust.
63	FS-GA-0062	FS-GA-0102 Reference 30 CFR Section 57.3029 Shaft liner details do not show lateral reinforcement for concrete to prevent potential slabbing. M.SH.RMB.003	Reinforcement details will be incorporated in Title II design for the liner sections immediately above the station brows at the UDBR and MTL.
64	FS-GA-0062	FS-GA-0102 Reference 30 CFR Section 57.3029 Shaft profile and liner detail does not address bearing sets in either ES-1 or ES-2. M.SH.RMB.004	Disagree. In the configuration as shown, each set will be supported on brackets bolted to the shaft lining. Thus every set throughout the depth of the shaft will in fact be a bearing set. Details for support will be provided in Title II.
65	FS-GA-0062	DETAILS 1 & 3 Per the curb ring detail on FS-GA-0062, the hanging rods pass through the middle of the 45 degree cold joint, not the middle of the concrete liner as shown. Same comment applies to GS-GA-	Agree. Will adjust.

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T.SH.EMC.019

66 FS-GA-0062 NOTE 4
Detail the type of bolt i.e. expansion
shell, resin, grout, etc.

R.SH.WHG.011

67 FS-GA-0062 R/B
Identify FS-SP-208 as an applicable
specification.

F.SH.JAJ.001

68 FS-GA-0062 R/B
Identify the areas in the shaft liner
concrete that require reinforcing
steel to assist in tension loading.

F.SH.JAJ.002

69 FS-GA-0062 SECTION A-A & DETAIL 3
DYWIDAG is a brand name. Use a more
generic term such as "hanging rod" as
on FS-GA-0063, or "continuously threaded
hanging rod". Same comment applies to
FS-GA-0102.

T.SH.EMC.018

The bolts will be 5/8" diameter - 4 ft. long
headed bolts with expansion shell anchors.

Agree.

Will identify in Title II.

Agree. Will use generic term as suggested.

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70	FS-GA-0062	<p>TITLE: ES-1 SHAFT LINER SECTIONS & DETAILS</p> <p>The design of the shaft liner is based on a seismic design analysis (Seismic Design Input: TI-ST-0053).</p> <p>The analysis was assigned a Quality Assurance Level II, however, Quality Assurance Level III data from the NNWSI Project Reference Information Base has been used in the analysis. This means that the analysis cannot be used to support the Level II Title I Design phase and furthermore means the analysis will have to be repeated with Level I data to support Title II Design.</p> <p align="right">T.SH.JMD.004</p>	<p>Disagree. The Reference Information Base has no assigned QA Level. It is the best available information. As better data becomes available it will be incorporated into the design.</p>
71	FS-GA-0063	<p>Show how a shortened pour can be accomplished to accommodate in shaft testing needs.</p> <p align="right">R.SH.WHG.013</p>	<p>Typical pours will be 10' or 20' using combination of 3'-6" and 6'-6" panels to maintain shaft set spacing. The hand handled poured lip will be bolted directly to either a 10' or 20' form. Test locations shall be coordinated to accommodate these pours.</p>
72	FS-GA-0063	<p>Form will be required to have doors installed for placement of liner load instruments required in the Shaft</p>	<p>Blockouts for multiple-point borehole extensometer collars will be installed before the concrete form is positioned. High pressure cell will be installed using the</p>

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		<p>Convergence Test as noted in Appendix B of the SDRD. (50% R.F.WG.005) R.SH.WHG.033</p>	<p>six pour doors provided at two levels. No additional doors are required.</p>
73	FS-GA-0063	<p>Concrete Form -- a) Long soldiers (vertical steel posts attached to the top ring) to overlap the previous pour, would assist in the vertical alignment. b) A brick pattern (offset joint) of bolted panels would provide greater stiffness. This is a repeat of F.S. shaft comment #139 from the 50% design review. K.SH.DW.019</p>	<p>(a) Agree, lifting lug bars at top ring are provided to overlap the previous pour (D7) (b) Disagree, the brick pattern of joints would increase stiffness, however, the inherent stiffness of this configuration would inhibit stripping and would in fact overstress and bend the panels.</p>
74	FS-GA-0063	<p>The curb ring structural cross section is not rigid enough to avoid bending during lowering. Additionally, the scribe pin support will receive heavy blast damage. Suggest "boxing in" the lower surface to add the needed strength and durability. T.SH.IRC.005</p>	<p>Disagree. Curb ring 6" deep is more than adequate to prevent deflection under its own weight. Scribe pin supports are heavy angles, not subject to damage but a blast shield of the lower surface will be considered in final design.</p>
75	FS-GA-0063	<p>The curb ring detail should be modified to locate the hanging rod in an area</p>	<p>Disagree. Hanging rods need to be located at points which will minimize torsion of the curb ring. Filling of the rod penetration</p>

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		<p>not so subject to cement filling and hangups.</p> <p>Lifting lugs should be located on the inside edge of the forms rather than on top.</p> <p style="text-align: right;">J.SH.LJO.012</p>	<p>space with grease will prevent cement filling.</p> <p>Disagree. Lifting lugs at inside edge would decrease the clearance for stage and could cause hangups.</p>
76	FS-GA-0072	<p>Stabilizer assemblies should pivot such that they would swing upward, which would wedge the stage preventing downward motion. This would tend to prevent inadvertent movement of the stage.</p> <p style="text-align: right;">R.SH.WHG.014</p>	<p>Stabilizer assembly will be locked in a horizontal position and will in effect wedge the stage.</p>
77	FS-GA-0072	<p>A/E should evaluate the risk of falls from the shaft sinking stage when it is configured to serve as a platform for shaft mapping. Compliance with MSHA regulation 30 CFR 57.11001 requires safe means of access to all working places. The drawing now shows guide wheels and removable hand rails and toe boards. It is suggested that the A/E further evaluate the trade off between removable and permanently fixed toe</p>	<p>Agree. Toe board will be permanently attached where possible.</p>

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		boards (i.e. fixed toe board, removable handrail) in terms of the ability to provide protection from falls and/or objects falling to lower levels. Consideration should be given to the degree of interference with mapping activities caused by toe boards (toe board, not handrail). (The relevant comment was identified as T.F.SP.017 and listed as F-144 in the 50 Percent Design Review Report). <p align="right">T.SH.SWP.017</p>	
78	FS-GA-0072	.B GRID D-8 Drawing notation indicates "toe plate to be removable with handrail (typical all levels)". If mapping is only activity that handrail interferes with and all mapping will be done on lowest level, it would be safer to permanently fix handrail to sinking stage on upper levels. Modify design as appropriate. <p align="right">T.SH.SWP.022</p>	Agree. Removable handrail and toe plate will be limited on upper platforms to foldable panels only.
79	FS-GA-0072	SHAFT SINKING STAGE Elevations and Sections The distances between the climbing side	Agree. Ladderway passage will be maintained at 24" x 24" opening.

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		<p>of the ladder to the inner framework of the sinking stage does not meet the criteria for the ladder standards under 30 CFR, 57.11037 Ladderway Openings. This section requires a minimum of 24 inches of unobstructed cross sectional openings. The distance from the climbing side of the ladder to the inner framework measures approximately 20 inches.</p> <p style="text-align: right;">R.SH.FAS.005</p>	
80		<p>FS-GA-0072 The access ladder should be relocated away from outside edge of galloway to prevent hanging up on objects in shaft during movement.</p> <p style="text-align: right;">J.SH.LJO.010</p>	<p>Disagree. The ladder is located entirely within the 5'-0" radius of the stage, hence, any objects in the shaft which might catch on ladder would catch on handrail or stage deck before touching ladder.</p>
81		<p>FS-GA-0072 The ladder should be a sturdy and fixed ladder not capable of removal since serious injury could result if someone falls.</p> <p style="text-align: right;">J.SH.LJO.037</p>	<p>Disagree. SDRD Appendix B, Test Plan WBS 2.6.9.2.1.1, Page B, Paragraph 20 - Design Constraints requires completely unobstructed view for photography. Therefore, the ladder must be removable.</p>
82		<p>FS-GA-0072 Reference 30 CFR Section 57.11037 Ladder access on Sections B-B and C-C do not</p>	<p>Agree. Ladderway passage will be maintained at 24"x 24" opening.</p>

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		<p>indicate if an unobstructed cross-sectional opening of 24" by 24" is being provided.</p> <p align="right">M.SH.RMB.006</p>	
83	FS-GA-0072	<p>SHAFT SINKING STAGE Elevation and Sections</p> <p>Proposed procedure is to use staging as a conveyance for personnel from work point to test stations, etc. If in fact staging will be used as a personnel conveyance, it must comply with the 30 CFR, Section 57,19000. Subpart R should apply only to the staging being used as a conveyance and will not affect any other components of the system.</p> <p align="right">R.SH.FAS.007</p>	Agree. Same as response to Shaft Comment #31.
84	FS-GA-0072	<p>Reference 30 CFR 57.19000</p> <p>Galloway does not meet personnel hoisting standards.</p> <p align="right">M.SH.PT.005</p>	Agree. Same as response to Shaft Comment #31.

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85	FS-GA-0072	<p>The enclosed galloway opening for the bucket will make access to the bucket or galloway unnecessarily difficult. Also lowering gear under the bucket or on the bail will be complicated by the structure. People working on the galloway should be required to wear life safety lines to prevent falling. There is no requirement for guides through the galloway. Since the size of the galloway is so small, only necessary items should be attached. J.SH.LJO.049</p>	<p>Disagree. The bucket openings at the center of the stage is a hoisting compartment and as such must be enclosed with Guarding (California Mining Code Article 35, Mine Shafts, Section 7110 Shaft Guarding). Continuous guide bars through the stage are required to prevent hang ups.</p>
86	FS-GA-0072 6B, 6C	<p>Increase number of guide wheels to 5 or 6. This would allow the backing off of a guide wheel to clear some obstruction (e.g., cable, test site, junction box, etc.) while still maintaining the alignment of the working stage. T.SH.SCS.056</p>	<p>Disagree. Test locations shall be coordinated with utility lines and also with stage guide wheels for access and clearances. In addition, the stage geometry would have to be modified to accommodate more guide wheels which on the other hand would increase the possibility of interferences.</p>
87	FS-GA-0072	<p>Provide 1 ft. fold-down deck extensions on bottom level of shaft sinking stage to increase deck diameter to 12 ft. for</p>	<p>Disagree. It is impossible to develop fold down platform extensions around a circular platform without reducing the usable space of the platform. In case of overexcavation,</p>

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		<p>safety during geologic mapping and photography. G.SH.TLL.014</p>	<p>the 12" platform extensions do not provide adequate safety against accidental fall. The removable handrail, as designed, provide the necessary protection. The platform radius of 5' provides more unobstructed area for photography.</p>
88	FS-GA-0072 B7	<p>Position bottom of fixed brattice closer (1 ft. max. hangdown) to bottom of intermediate level of work deck to provide clearance for vertically shifted geologic camera. G.SH.TLL.011</p>	<p>Agree. The distance between mapping and intermediate platforms can be increased and necessary clearance below fixed brattice will be coordinated with USBR during Title II design.</p>
89	FS-GA-0072 B8	<p>The spacing between the intermediate and bottom level work decks needs to be 10 feet clear (from the top of the bottom level deck up to the lowest obstruction of the intermediate level, such as the deck support beams). G.SH.TLL.019</p>	<p>Agree. See Comment G.SH.TLL.011.</p>
90	FS-GA-0072 SECTION D-D	<p>Lower deck doors in closed position meet in center of shaft (i.e., the exact location for setting up the camera and surveying mount, and the strike rail</p>	<p>Disagree. In accordance with design guidelines the two door sections are designed for accidental load of 10,000 lb., which greatly exceeds the camera and men load during mapping operation. In addition,</p>

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		<p>assembly). Any damage, distortion, or misalignment of the doors or hinges could lead to loss of a flat, level area at center of shaft. Also, the movement of a person from one door to another will be sufficient to throw the surveying instrument or camera out of level. Suggest a large single door (if vertical headroom allows this) or doors of unequal length (e.g., ratio of 3/4 and 1/4) to help stabilize the central area.</p> <p align="right">T.SH.DMR.001</p>	<p>a single base plate 1" thick is a part of the camera stand assembly and is bolted to both doors providing a flat area for instrument installation and leveling.</p>
91	FS-GA-0072	<p align="center">B3</p> <p>For Section D-D, suggest labeling upper half as "Sinking Configuration," and lower half as "Geologic Mapping Configuration."</p> <p align="right">G.SH.TLL.015</p>	<p>Agree.</p>
92	FS-GA-0085	<p>ES-1 Shaft, UDBR Shaft Station Sections</p> <p>The vertical section on this drawing shows that landings are at 20 foot intervals. This is not consistent with information given on FS-GA-0050, Section B-B.</p>	<p>Disagree. The landing shown on FS-GA-0050 indicates that the next similar landing is at 40 ft. but the staggered landings are spaced at 20 ft.</p>

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		R.SH.FAS.011	
93	FS-GA-0085	FS-GA-0091 Suggest access ladder be inclined as much as can be accommodated. Even a 3-foot step-out of the ladder will greatly reduce fatigue in persons using the ladder.	Disagree. Space limitation does not permit inclined ladders.
		T.SH.DMR.013	
94	FS-GA-0085	The pipes and the manway block access to the cage.	Disagree. The manway is provided with a hatch and handholds and will not interfere with the access to the cage if the hatch is in closed position. No access is provided for the cage at the east side of the station. One access at the west side is sufficient for the UDBR station.
		J.SH.LJO.011	
95	FS-GA-0085	The brow set which is attached to the underside of the concrete appears to be a weak installation since downward force would tend to pull the fasteners out of the concrete.	Disagree. The steel beam attached to the underside of brow concrete is intended for shaft station steel column lateral support only. There is no downward force acting on this beam.
		Concrete in brow and hitch should be reinforced with rebar.	Agree. Details of reinforcement for the brow and hitch will be part of Title II design.
		J.SH.LJO.038	

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96	FS-GA-0085	REV B GRID C-1 C-7 There is not any concrete support in the station brow. A.SH.SDF.010	Station brow suspended from shaft liner, foundation key (see Detail - 1, Dwg. FS-GA-0102).
97	FS-GA-0085	B6 The space for future loading chute will interfere with the Excavation Effects Test extensometer instrumentation. Delete. G.SH.TLL.016	Agree. Space for future loading chute will be deleted.
98	FS-GA-0085	REV B GRID C-4 There are no posts strategically placed around the shaft circumference in order to support shaft steel and utilities. A.SH.SDF.011	Disagree. Section A-A shows four columns which is supported by beams at the station level and extended up to the underside of shaft brow will support shaft steel and utilities. Details will be added in Title II.
99	FS-GA-0085	6C Four inch water line is identified as 6 inch line in table on FS-GA-0230. T.SH.SCS.057	Agree, will revise pipe size to 6" diameter.
100	FS-GA-0091	3C Four inch water line is noted as 6 inch line in FS-GA-0230. T.SH.SCS.058	Agree. Will update pipe size to 6" diameter.

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101	FS-GA-0091	SECTION A-A Change water supply line size to 6 inches to agree with pipe table on Dwg. FS-GA-0230. T.SH.RLT.010	Agree. Will revise pipe size to 6" diameter.
102	FS-GA-0091	B6 The space for future loading chute will interfere with the Excavation Effects Test extensometer instrumentation. Delete. G.SH.TLL.017	See Response to Shaft Comment #97.
103	FS-GA-0095	C5 Locating the bottom of the shaft 50 ft. below the MTL will interfere with the Excavation Effects test. Increase to a minimum of 100 ft. G.SH.TLL.021	Disagree. After elimination of CHDR (Ref. ECR-022, 023, 024 and 025), the shaft bottom of 50 ft. Below the MTL has been established to accommodate the conveyance overtravel. Additional ECR must be issued for revision of present shaft configuration.
104	FS-GA-0095	C6, FS-GA-0150 A4, A5 Indicate conceptually the outline of the proposed future loading chute. R.SH.DLK.031	Disagree. Will delete loading chute cutout. No upper breakout level expansion requiring this installation is currently in the baselined criteria documents.
105	FS-GA-0100	Increasing the size of the plenum from the 50 percent status reduces the cross sectional area for the available	Disagree, the ES-2 plenum has gained 3 square ft. area while ES-1 has lost 3 square ft. Overall, the airflow of the system has slightly increased because of the increased

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		<p>intake air flow in the remaining shaft area. At a 2000 fpm velocity limit, this reduces the maximum flow capability of the system. Return to a smaller plenum as in the 50 percent status. J.SH.LJO.001</p>	<p>cross sectional area of the plenum. Refer to Ventilation Comment #2.</p>
106	FS-GA-0100	<p>The method of attaching the short cross buntions to the long steel buntion, provides less alignment potential than the 50 percent status. Also since access to the backside of the buntion is not available, it appears the attachment and inspections will be more complicated than the 50 percent status. Return to the 2 buntions from wall to wall and determine a more suitable solution to other comments which resulted in this change. This is especially important for high speed hoisting. J.SH.LJO.022</p>	<p>Preliminary design of connection details was performed to establish necessary adjustments for alignments and clearances of the revised shaft cross section as presented for 100% Title I. The diameter clearance is available at the backside of the long buntion for tightening bolts and inspection.</p>
107	FS-GA-0100	<p>The long cross buntion reduces the flexibility of the system by limiting the maximum size of gear the shaft can pass. The 50 percent status allowed,</p>	<p>Disagree. The size of the gear that can pass through the shaft is the same in both configurations. To remove the plenum wall from collar to MTL, to allow larger gear passage is not practical or a feasible</p>

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		with the removal of the plenum for more space and, therefore much larger gear passage. Change to an arrangement which provides the flexibility of the 50 percent status. <p align="right">J.SH.LJO.023</p>	assumption.
108	FS-GA-0100	The compressed air and dewatering lines now located in the conveyance travel path should be relocated out of the way since they increase the potential that the emergency escape bullet may hang up or gear suspended under the skip may contact shaft furnishings. <p align="right">J.SH.LJO.024</p>	Agree. Will relocate air and water pipes.
109	FS-GA-0100	SECTION A-A The position of the bell cord does not allow a person in the cage to pull it. <p align="right">N.SH.DGM.001</p>	Agree. Will relocate bell cord.
110	FS-GA-0100	6C Four inch water line is noted as 6 inch line in FS-GA-0230. <p align="right">T.SH.SCS.059</p>	Agree. Will update pipe size to 6" diameter.

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111	FS-GA-0100	SECTION A-A Change water supply line size to 6 inches to agree with pipe table on Dwg. FS-GA-0230. T.SH.RLT.011	Agree. Will update pipe size to 6" diameter.
112	FS-GA-0102	DETAIL 1 Give detail of the ground support at the brow. R.SH.WHG.016	Agree. Will detail in Title II.
113	FS-GA-0102	NOTE 4 Give details of the type of rock bolts required. R.SH.WHG.015	Title II item.
114	FS-GA-0102	R/B Identify the areas in the shaft liner concrete that require reinforcing steel to assist in tension loading. F.SH.JAJ.003	Will detail in Title II.
115	FS-GA-0110	The off center shaft station does not allow adequate access between the rib and the muck handling facilities. Move shaft to center of station. J.SH.LJO.015	Disagree. No access is necessary on both sides of the shaft and along the drift.

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116	FS-GA-0110	5C Identify method of removal of cover for spillage dump. Show handles or lifting ears/lugs. T.SH.SCS.060	Agree.
117	FS-GA-0112	No bell cord is shown on the drawing extending to the bottom of the shaft into the sump area. N.SH.DGM.003	Agree. Bell cord will be extended to the shaft bottom.
118	FS-GA-0112	REV. B No communication cables, air or dewatering lines, and power cables are shown on the drawing. N.SH.DGM.004	Agree.
119	FS-GA-0113	Station width at shaft location does not agree with other drawings. The widened out passageway may be unnecessary if the shaft and station are centered. J.SH.LJO.014	Drawing FS-GA-0113 will be updated to conform with station Dwg. FS-GA-0110. The widened out passage way will be used by a small LHD to transport the muck to the surge bin grizzly during the excavation of the demonstration breakout at the Main Test Level.
120	FS-GA-0113	Installation of ducts and other utilities over shaft and loading	Comment needs clarification. Ducts are installed in accordance with standard mining practice.

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		<p>pocket is more dangerous than from a drift floor. J.SH.LJO.040</p>	
121	FS-GA-0113	<p>B1, B2, C1, C2 The design of the ES-2 shaft bottom spillage arrangements should consider a malfunction of the gate on the 10 ton measuring flask, allowing 10 tons of rock to fall into the spillage hopper. The current design would not allow removal of the 5 ton spillage box without a considerable amount of rock falling into the pump sump. K.SH.DW.013</p>	<p>The probability of dumping measuring flask is very low during 5 year operation. If malfunction of the gate on the 10 ton measuring flask occurs, allowing 10 tons of rock into the spillage hopper, then the rocks will be manually shoveled to a bucket and hoisted back to the loading pocket. This will be done repeatedly until the spillage hopper is cleared enough to be hoisted to the loading pocket.</p>
122	FS-GA-0113	<p>Spillage collection and handling system is inefficient and prone to muck spillage burial. T.SH.SCS.061</p>	<p>Disagree. Level alarm or load cell will be installed at the spillage collection box support to alarm the hoist operator regarding overloading of the box. Regular inspection shall be performed during operation.</p>
123	FS-GA-0113	<p>7C Eliminate gate actuator mechanism used on spillage bucket in favor of a simple tipping bucket. This is a safer and more easily maintainable design (T.F.SS.032).</p>	<p>Disagree. The gate actuator is simpler and safer to operate. Gate design is similar to concrete bucket used in construction industry.</p>

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		T.SH.SCS.004	
124	FS-GA-0113	It is recommended that all underground self-propelled equipment be protected with a built-in automatic fire extinguishing system which can also be activated manually.	Agree. All mobile equipment will include these fire protection features.
		R.SH.JLB.013	
125	FS-GA-0113 GRID A-7	Adequate protection from falls is needed for ladder at the top of the 150 ton surge bin to meet MSHA regulation for fixed ladder landings (See 30 CFR 57.110066) because the ladder does not extend at least 3' above the landing. A/E should revise drawing as appropriate. (This comment was identified as T.F. SP.015 and listed as F-179 in the 50 Percent Design Review Report).	Agree. Ladderway will be provided with hinged cover and hand hold bars, same as for MTL Station on Shaft ES-1 (FS-GA-0091). Note will be added on the drawings.
		T.SH.SWP.016	
126	FS-GA-0113 0062, 0095, 0102	The submersible pump should rest on a full face shaft bottom and be provided with an angled deflector plate mounted above for protection.	Agree. The submersible pump sump will be deleted. Pumps will be located on full face shaft bottom. Pumps will be protected with overhead grating located at crash beam level.

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		<p>The pump, as shown, in a small box hole, without protection is operationally problematical.</p> <p style="text-align: right;">R.SH.DLK.024</p>	
127		<p>FS-GA-0113 REV B GRID B-1 The submersible pump needs some protection. Where the pump is now, it will be damaged and buried by muck spillage, and will be hard to maintain.</p> <p style="text-align: right;">A.SH.SDF.012</p>	<p>Disagree. The pumps sitting in a 4' x 6' x 6" sump pit are protected by a removable floor grating as shown on Section H-H Drawing FS-GA-0112. Drawing FS-GA-0113 will be revised accordingly.</p>
128		<p>FS-GA-0113 ZONE C7 The grizzly to the right of the dump wall in FS-GA-0113 could too easily become blocked with oversize material because:</p> <ul style="list-style-type: none"> o grizzly is small (only about 6 ft. in smaller dimension). o up to 10 percent of the muck is permitted to exceed the 12" x 12" spacing of the grizzly bars. o the grizzly is not sloped away from the dumping position (which on a 	<p>Agree. Grizzly will be enlarged from 6 ft. to 9 ft. in the smaller dimension and will be sloped to permit the LHD bucket to scoop the oversized material out of the grizzly if the air hammer or rock breaker fails to do the job. Revisions will be made during Title II design.</p>

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		<p>larger grizzly would allow oversize to collect on far side of grizzly for periodic breaking up with an air hammer).</p> <p>Suggest dump wall be moved and/or grizzly be enlarged so that grizzly right of dump wall is at least 9 ft. in smaller dimension.</p> <p align="right">T.SH.DMR.018</p>	
129	FS-SP-0201	<p>Delete reference document ESF Project QAPP.002 Quality Assurance Program Plan. This is an F&S document, not DOE/NV nor concensus, public document.</p> <p align="right">R.SH.MAF.012</p>	<p>Agree. F&S QA Document will not appear as a DOE reference.</p>
130	FS-SP-0201	<p>PAGE 1, SECTION 1.2.1 Change 29CFR 1986 to 29CFR 1926.</p> <p align="right">T.SH.EMC.027</p>	<p>Agree.</p>
131	FS-SP-0201	<p>PART 2.1 Equipment for fastening lining to sump and floor should be added.</p> <p align="right">A.SH.SDF.019</p>	<p>There was an error in the comment. It should have referred to FS-SP-0701. The response to comment No. 58 (J.SH.LJO.044) adequately addresses this issue.</p>

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132	FS-SP-0201	2.2, PAGE 2 Reference to "FS-SP-0603" (which does not exist in the current list of specs) should be changed to "FS-SP-0503". R.SH.LGC.001	Agree. Reference is "FS-SP-0503."
133	FS-SP-0201	PAGE 2, SECTION 2.2 Change FS-SP-0603 to FS-SP-0503. T.SH.EMC.028	Agree.
134	FS-SP-0201	3.1.1,3.1.2 PP.2 & 3 Cross references to FS-SP-0205 should be specific in subparagraphs to which paragraphs in 0205 apply. For instance: a) "Minimize Drill Water Use (in 3.1.1) and "Minimize Water Usage" (in 3.1.2) apparently refer to 0205, 3.6. and b) "Hole Patterns" refers to 0205,3.5.2 "Drilling Patterns". Make paragraph headings consistent. R.SH.LGC.002	Disagree on cross-referencing. Entire "Controlled Drilling and Blasting" specification applies to paragraph 3.1.1 and 3.1.2. Agree, however to make subparagraph headings consistent.
135	FS-SP-0201	PART 3.1.4 ADD THIS BULLET *Shaft mapping. *Radial borehole. A.SH.SDF.016	Agree.

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136	FS-SP-0201	PAGE 3, 3.1.5 Muck handling may require dust control. Add section for dust control. T.SH.THP.017	Agree. Will include requirements for dust control during muck cycle.
137	FS-SP-0201	Add before paragraph 3.2, a paragraph on "TEST SUPPORT PRIOR TO CONCRETE PLACEMENT" o Geologic Mapping o Location Markers G.SH.TLL.005	Agree. Will add scheduling: 3.1.6 Test Support prior to concrete placement.
138	FS-SP-0202	PAGE 1, SECTION 1.1 Add words that this work occurs below the collar. T.SH.EMC.029	Agree.
139	FS-SP-0202	1.2.3, PAGE 1 Same comment as for 0201, 1.2.3. R.SH.LGC.004	Agree.
140	FS-SP-0202	PAGE 3, PART 2 Sections 2.1 and 2.2 should be moved to Part 3 just as they are in FS-SP-0203. T.SH.EMC.030	Agree. These sections for Alignment and Overbreak and Underbreak belong under Part 3 - Execution.

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141	FS-SP-0202	3.1,3.2,3.3, PP 3&4 Same comment as for 0201,3.1.1 and 3.1.2. R.SH.LGC.005	o Disagree on cross-referencing. Entire "Controlled Drilling and Blasting" specification applies to paragraph 3.1 and 3.2, however it says nothing about 3.3, Scaling and Ground Support. o Agree. Will make subparagraph headings consistent.
142	FS-SP-0202	PART 3.5 ADD THIS BULLET, PART 3.6.1 *Shaft mapping. Delete "hydrochemistry test"; Add "sample management facility". A.SH.SDF.017	Disregard reference to Part 3.5 Shaft Mapping. F&S will substitute "sample management facility" for "hydro chemistry test" on Part 3.6.1.
143	FS-SP-0202	PAGE 5, 3.6 Muck handling may require dust control. Add section for dust control. T.SH.THP.016	Agree. Will include requirements for dust control during muck cycle.
144	FS-SP-0203	PAGE 1, SECTION 1.1 Add words that this work occurs below the collar. T.SH.EMC.031	Agree.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
145	FS-SP-0203	1.2.3 PAGE 1 Same comment as for 0201, 1.2.3. R.SH.LGC.006	Agree.
146	FS-SP-0203	3.3.1 PAGE 3 Add "flow meter" to determine water used. G.SH.MSW.013	Disagree. Total water balance will be accomplished at surface level.
147	FS-SP-0203	3.3, 3.4, AND 3.5 Same comment as for 0201, 3.1.1 and 3.1.2. R.SH.LGC.007	o Disagree on cross-referencing. Entire "Controlled Drilling and Blasting" specification applies to paragraph 3.3 and 3.4. It does not apply to paragraph 3.5, Scaling and Temporary Support. o Agree. Will make subparagraph headings consistent.
148	FS-SP-0203	PAGE 5, 3.8 Add section for dust control. T.SH.THP.018	Agree.
149	FS-SP-0301	Structural forms for containing and thus forming concrete for the shaft liner are considered tools or construction aids, not "items" that will remain in the shaft or serve an operational function. It is unlikely that such	Agree.

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		"tools" will be assigned a QA level. Identify the QA level as "TBD". F.SH.JAJ.018	
150	FS-SP-0301	State requirement for qualified welding equipment, qualified procedures, and qualified welders and/or inspectors. R.SH.MAF.013	Agree. Will add requirements for welding in specification.
151	FS-SP-0301	F&S Second sentence of third paragraph should be revised to delete subparagraphs for dimensional tolerances and read as follows: "Dimensions shall be measured at 70 degrees Fahrenheit (+/- 10 degrees) and shall be in accordance with certified drawings." R.SH.LGC.008	Agree.
152	FS-SP-0308	PAGE 1, SECTION 1.2.1 Since the shaft liner is mostly unreinforced, add to the list of references ACI 318.1, Building Code Requirements for Structural Plain Concrete. T.SH.EMC.032	Agree.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
153	FS-SP-0308	PART 3 A minimum time and distance should be specified before blasting resumes. A.SH.SDF.018	The minimum distance from the bottom of forms to the shaft bench shall be 20 feet. Blasting shall not resume before concrete has taken its initial set.
154	FS-SP-0308	PAGE 5, SECTION 3.8 State a minimum acceptable sampling frequency. This should not be solely at the direction of the Contracting Officer. T.SH.EMC.033	Agree. Minimum acceptable sampling shall be no more than seven cylinders from batch delivered to the site. Complete requirements to be amplified in Title II.
155	FS-SP-0503	PAGE 3 More information is required concerning the installation of anchor bolts and embedded items (including any drilling of holes in the forms, attachment of items to the forms). A survey plan (including a precise check on the location of each of these items, prior to pouring concrete) is also required. Suggested sub-section headings include: o Inspection of anchor bolts and other items to be embedded, and fasteners. o Survey Plan (to locate items to be installed).	o Inspection of Anchor Bolts - particular bolts and embeds will be specified per industrial standards (i.e., A307 bolts or ferrule type insert, minimum capacity....), and they should not require inspection. o Survey Plan - will be shown as a developed elevation on the drawings. o Installation - will be detailed on the drawings. o Inspection of Installations - will incorporate under Part 3 - Execution.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
		<ul style="list-style-type: none"> o Installation (including fastening, blocking). o Check Survey (including alignment and tolerances) prior to pouring concrete. o Inspection of installation. 	
156	FS-SP-1407	Change last sentence of paragraph 1.3 from "... shaft wall mounting." to "... shaft wall mapping." T.SH.DMR.019	Agree.
157	FS-SP-1409	1.3 PAGE 2 In second sentence, delete "by others". Contractor/Subcontractor is responsible for the installation of the system and may or may not require "vendor" to install it. "By others" could confuse the Subcontractor as to who is responsible for the "excavation". G.SH.TLL.006 R.SH.LGC.009	Agree.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
158	FS-SP-1409 THROUGH 1414	Under Part 3 - Execution suggest adding the following sub-section headings to the indicated specifications: a. Dimensional Inspection/Tolerances to 1409, 1411, 1412, and 1413. b. Testing (and Acceptance) to 1411, 1413. c. Periodic Inspection, Maintenance, and Testing Program to 1414. T.SH.DMR.020	a. Agree. b. Agree. c. Disagree. This is a maintenance item not applicable to procurement.
159	FS-SP-1414 1.3	Hoist rope length must include allowances for cut-offs. T.SH.IRC.010	Agree. Will amplify the system description for Title II.
160	FS-SP-1416	Add paragraph to Part 3 to provide for access to shaft wall instrument locations after installation of shaft equipment. G.SH.TLL.007	Agree. Will include sub-heading as "Access to Test Instrument Locations."

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161	FS-SP-1418	1.3 500 fpm is too high for emergency hoisting - 50-100 fpm should be max. T.S.H.IRC.011	Agree.

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TECHNICAL ASSESSMENT REVIEW

Acceptance Signatures

Chairperson [Signature] Date 9/15/88
 QA [Signature] Date 9/15/88
 AE [Signature] for R.L. Bullock Date 9-16-88
 WMPO [Signature] Date 9/16/88

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1		<p>FS-GA-0225 Outer vertical drifts are inclined. Future changes in drift configurations (see comment on FS-GA-0160) will have impact so changes to reflect incline alone may not be justified at this time.</p> <p align="right">L.VE.DGW.012</p>	<p>Agree. No further action needed.</p>
2		<p>FS-GA-0225 Comment from 50% review, "The return air plenums are not only a maintenance item, but also restrict cage size and the size of equipment, which can be transported therein. I suggest that the logic and rationale for having return air plenums in each shaft be reexamined and the results documented as a trade study".</p> <p>The response to this comment was that the need would be documented. However, documentation has not yet been provided. The reference to a 1986 DOE white paper does not satisfy this comment. As an alternative to a trade study, the appropriate documentation could be included in the Title I design report.</p>	<p>Standard response to comments on Flow-through ventilation versus Exhaust Duct System.</p> <p>The comparative logic and rationale of using exhaust duct ventilation over that of flow through system has been explained in the workshop and is hereby documented:</p> <p>There are two most feasible ventilation systems for the ESF, namely:</p> <p>Option 1. Flow Through Ventilation - The system will use ES 1 as the fresh intake air shaft and ES 2 as the exhaust air shaft. An underground primary fan at the main test level will move the ventilating air.</p> <p>Option 2. Exhaust Duct System in each Shaft - The system allows the fresh intake air to go through both ES 1 and ES 2 shafts. A space</p>

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T.VE.ALL.003			<p>inside each shaft is a structurally reinforced metal duct used as a separate exhaust airway. Primary exhaust fans in the duct move the ventilating air as shown in drawing #FS-GA-0225.</p> <p>The choice is Option 1 based on the following reasons:</p> <ul style="list-style-type: none"> o Simple system with minimum leakages o Less energy cost o Less capital cost o Less maintenance cost o More space available in the shaft o Visual inspection and maintenance of shaft liner, guides, buntons, etc. are easier. <p>To accommodate flow through ventilation, the ESF project will have to follow a sequential schedule such as:</p> <ul style="list-style-type: none"> o Construction of both ES 1 and ES 2 shafts at relatively the same sinking rate

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- o Connection of both shafts at the main test level with a 10' x 10' drift (maximum size of drift that can be ventilated by the 20" diameter ducts used in shaft sinking)

- o Construction of a runaround from the connecting drift for the underground primary fan space (a variance from the California less is required for this)

- o Installation of the underground primary fan and airlock to operate the flow through ventilation

- o Site characterization of the ESF will follow.

The objective of the ESF is site characterization, and a ventilation system that is adequate to support site characterization. It is apparent that Option 1 is a better alternative but its accommodation can support site characterization objectives only after the ventilation system is placed in operation. The choice of Option 2 is based upon the following:

- o The system can support various ESF site

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3	FS-GA-0225	<p align="right">RV.B</p> <p>Extensive experience with many sizes and applications of duct-type ventilation systems at the NTS have shown them to be expensive to install and maintain, inherently noisy, constantly prone to leaks and recirculation, and very inefficient in terms of air moved for the power required (when compared to ductless [flow through] systems). In general industry applications, the high resistance inherent in duct-type vent systems has resulted in their use essentially as auxiliary systems to solve local ventilation problems adjacent to primary ventilation airways.</p>	<p>charaterization activities during shaft construction and main test level development.</p> <ul style="list-style-type: none"> o It is constructible and maintainable o It satisfies the SDRD and other requirements imposed on the project. <p>The system will be re-evaluated during the safety analyses during Title II.</p> <p>Part 1. Agree.</p> <p>Part 2. Disagree. Current criteria and requirements are satisfied by the design as presented.</p>

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		<p>Any duct-type system that can be eliminated will improve the operation for the reasons stated above. E.VE.SAT.002</p>	
4	FS-GA-0227	<p>Show alternative for development of MTL after shaft to shaft connecting but without benefit of ES-1 vent system if testing delays final equipage of ES-1 shaft. R.VE.WHG.026</p>	<p>Ventilation modifications, can be made if parameters are clearly defined. Alternatives must consider the status of the MTL activities. With the present ventilation system alternatives are not required for this situation. Will develop in Title II if the development schedule indicates the alternative is necessary.</p>
5	FS-GA-0227	<p>Fresh air should flow over the power center and return through duct work. The way it is set up now, if a fire occurs in the power center, smoke would be coursed through the mine. M.VE.JW.004</p>	<p>Disagree. The power center has limited combustible material to burn, being dry type transformers. The center is also provided with automatic fire suppression system to prevent the spread of fire. Providing a separate return duct is not a requirement, and is not an industry practice.</p>
6	FS-GA-0227	<p>R/B Delete Note 4; it is misleading. The note implies that the design will not (eventually) describe the ventilation system in any greater detail than shown here. It also implies that the</p>	<p>Disagree. The note covers flexibility of the system to adapt to approved changes as required in the project. The actual day to day ventilation of a developing mine involves a series of transitions to meet specified requirements of advancing drifts. This can</p>

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		<p>system will be "modified...in the field as required". Neither of these implications can be accurate. F.VE.JAJ.006</p>	<p>not be shown in details by drawings. However, much more detail will be included in the Title II drawing package, Note 4 will be changed with the addition, "through approved changes."</p>
7	FS-GA-0228	<p>The basis for the fire control system must be contained in the fire control plan. This plan must address several credible fire scenarios. The plan must recognize that fire doors may not function and that the design should consider the consequences of such a malfunction. K.VE.JEM.004</p>	<p>Agree. Specific fire control plan and evacuation procedures to address credible fire scenarios will be included in Title II design. To PP 6 - end of Item 5.</p>
8	FS-GA-0228 C-4, C-6	<p>The minimum airflows shown for sequential drift #2 and the demonstration breakout drift, 12,500 cfm and 16,000 cfm respectively, are less than needed to satisfy the 60 fpm criteria. These quantities are also lower than those shown in F&S calculation, FS-CA-0030. Please correct drawing or provide explanation. T.VE.ALL.002</p>	<p>Agree. Title II drawings will include adjustment of air quantities per F&S calculation, FS-CA-0030.</p>

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9	FS-GA-0228	<p>C3, C7 The booster fans should be mounted in such a manner that return air from the faces of the exploratory drifts is confined to the exhaust ducting. Any other arrangement will direct return air through working areas, increasing the potential for worker exposure to hazardous dust and diesel exhaust components.</p> <p style="text-align: right;">B.VE.BC.003</p>	<p>Agree. Note 4 will cover this concern to read, "Fan and tube blowing air to the face can be repositioned for a reversed air flow during a development phase. The fan then becomes a primary booster of the main exhaust system."</p>
10	FS-GA-0228	<p>C5 Dust control at the ES-2 dump pocket appears to be very difficult since 164,000 cfm of fresh is being directed through this area. The high velocity will pick up dust and carry it along the fresh air stream. a regulator should be placed in this location to reduce the velocity or the air stream should be reversed so that all air over the dump goes directly to exhaust.</p> <p style="text-align: right;">K.VE.JEM.003</p>	<p>An appropriate dust control will be engineered for the dumping station as soon as details of the dump pocket are established.</p>
11	FS-GA-0228	<p>RV.B Experience at the NTS has shown that fewer fans with vent-line controls allow a quieter, more easily maintained</p>	<p>Disagree. The required air volume to maintain each drift with 65-70 fpm minimum design air velocity will require a large duct which with hinder accessibility of the main drift.</p>

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		<p>system. An example could be the "sequential drifts, where a single fan of appropriate size could serve the 3 drifts (and be extended to serve the waste package drifts as well) through a modified design utilizing appropriate ducting, dampers, etc.</p> <p align="right">E.VE.SAT.003</p>	<p>It will also require a high volume and relatively high pressure single fan that will be much noiser than the present proposal.</p>

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TECHNICAL ASSESSMENT REVIEW

Acceptance Signatures
 Chairperson [Signature] Date 9/15/88
 QA [Signature] Date 9/15/88
 A/E [Signature] R.L. Bullock Date 9-16-88
 WMPO [Signature] Date 9/16/88

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
1	FS-GA-0220	<p>THRU 0225 It is noted that several parameters are being monitored by the life safety and operations control. The workshop discussion indicated that the selection of monitored parameters are not necessarily supported by analysis. Because many of these systems are QA Level II, it is recommended that the life safety and operations control be fully integrated with operational emergency response. Additionally, the system features must be supported by safety and reliability analysis. After the analyses are performed, the SDRD should be amended accordingly to document the basic conclusions developed by the analysis.</p> <p align="right">T.PI.IRC.002</p>	<p>Agree. All systems not required by the SDRD will be supported by further analysis.</p>
2	FS-GA-0220	<p>Calls out a "Central Control Room". This appears to be the same as the "Life Safety and Fire Control" room in the Change House Building 6008. Perhaps the same nomenclature should be used in both packages.</p> <p align="right">A.PI.TJM.003</p>	<p>Agree. Will rename.</p>

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3	FS-GA-0220 B	Some of the compressed air and water systems instrumentation appear unnecessary for cost effective and safe system operation. There is the likelihood that the monitoring and control systems themselves could shut down operating equipment and systems just for the maintenance of the monitoring and control systems. Provide the safety and reliability analysis that justifies all of the detailed monitoring and control devices for the compressed air and water systems. R. PI. DLK. 028	Agree to the first sentence of the comment. Compressed air and water system instrumentation will be reviewed and revised for Title II design.
4	FS-GA-0220	Subsurface booster compressor is mobile and may not be conducive to installation of remote monitored instrumentation. Delete these instruments from consideration. R. PI. WHG. 025	Disagree. All instrumentation and control for booster compressor is local. See Note 5, FS-GA-0220.
5	FS-GA-0220	Los Alamos needs to generate an ECR to define the common data weather parameters that will be used for water balance calculations with respect to	General directions from WMPO and interface meetings between A/E and Los Alamos is required to clarify areas of responsibility.

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		<p>ventilation. Provision for these measurements is assumed to be needed in the headframe. The responsibility for all weather measurements was assumed to reside with SAIC.</p> <p align="right">A.PI.TJM.004</p>	
6		<p>FS-GA-0221 B Some of the hoist systems instrumentation appear unnecessary for cost effective and safe hoist system operation. There is the likelihood that the monitoring and control systems themselves could shut down operating equipment and systems just for the maintenance of the monitoring and control systems. Provide the safety and reliability analysis that justifies all of the detailed monitoring and control devices for the hoist systems.</p> <p align="right">R.PI.DLK.029</p>	<p>Agree to the first sentence. FS-GA-0221 will be reviewed and revised for Title II design.</p>
7		<p>FS-GA-0222 Note #4 - 30LFR57.5037 Note #5 - 10CFR60, 10CFR57 The drawings do not conform (not compatible) to the NTS drawing note requirements described in the DOE directive, issued by the DOE/NTSO Director to all NTS</p>	<p>Disagree to the comment on Note 4 since the codes and applicable paragraphs are indicated. Agree to the comment on Note 5. Note 5 will be revised.</p>

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		<p>contractors, NTSO:ON-233 dated 7/13/88 (attached), which states, in part, "Requirements shall be defined by citing individual sections, paragraphs or sentences of the selected code, standard... E.PI.ARV.004</p>	
8	FS-GA-0222	.B GRID D-7 Data on air quality parameters in underground locations will be more meaningful if the same parameters (e.g. oxygen level, carbon monoxide level, nitrogen oxide level) are measured in the surface intake air. This would also warn of toxic gases from a surface fire affecting air quality underground. Modify Life Safety System as appropriate. T.PI.SWP.005	Disagree. Subsurface monitoring is provided only as a life safety system for the personnel underground. Monitoring levels are set in such way to trigger the alarm when monitored condition U/G exceeds safe limits regardless of the source (surface or subsurface). Surface monitoring is being designed by H&N.
9	FS-GA-0222	.B GRID C-4 In the MTL drifts, approximately 60 instruments (or parameters) are specified for measurement of chemical concentrations including carbon monoxide, carbon dioxide, nitrogen oxides, sulfur dioxide, oxygen, and hydrogen sulfide. Automated	Monitoring system is required by SDRD 1.2.6.7.11. The quantity and exact location of sensor - transmitters will be developed during Title II design in order to provide optimal layout to monitor potential life - threatening conditions. Additional non-automated monitoring will be required to evaluate worker exposure to toxic substances

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10	FS-GA-0222 B	<p>monitoring at fixed locations may not be the most practical method for complying with 30 CFR 57.5001 requirements regarding exposure limits for air borne contaminants. Measurements should be taken at the worker's location to represent inhalation risk. Consider deleting these automated monitoring stations in favor of more flexible, non-automated monitoring, or provide design analysis documentation to support parameters selected and locations for instruments. T.PI.SWP.024</p> <p>Some of the ventilation systems instrumentation appear unnecessary for cost effective and safe vent system operation. There is the likelihood that the monitoring and systems themselves could shut down operating equipment and systems just for the maintenance of the monitoring and control systems. Provide the safety and reliability analysis that justifies all of the detailed monitoring and control devices for the ventilation systems. R.PI.DLK.009</p>	<p>according to 30 CFR 57.5001, 5002.</p> <p>Monitoring system has no features that might shut down the ventilation system under any conditions. The instrumentation and remote controls for ventilation will be reevaluated by 30% design to establish minimum requirements for safety and operational flexibility.</p>

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11		<p>FS-GA-0222 The need for monitoring on a continuous basis for NOX, NO2, SO2, O2, and H2S should be re-examined. Many of these are the result of fires which can be detected by measuring CO or CO2. K.PI.JEM.010</p>	<p>This would be in violation of SDRD requirement 1.2.6.7.11. Continuous monitoring of the gases is essential to life safety. This will be investigated further in Title II.</p>
12		<p>FS-GA-0222 Upper left corner shows a cont. stench warning system. No other mention is made anywhere else in the system. Please explain. N.PI.DGM.002</p>	<p>It is shown on the H&N DWG. FP5.B F-9 Quadrant. The system is considered necessary as a reliable back-up mechanical alarm system. Details for this system will be developed and shown on Mechanical and Instrumentation Drawings for Title II design.</p>
13		<p>FS-GA-0230 All valves controlling water that will supply fire protection systems must be electrically supervised, with the supervisory alarm and trouble signals annunciated with the fire alarm signals on the fire alarm panel. This will require a review of all drawings showing the water system and will require a revision of the symbols drawings to show supervised valves in accordance with NFPA 172. Other symbol revisions may be necessary. N.PI.PEP.058</p>	<p>Agree. "All Valves" is a TBD at this time. The complete Mine Water Supply and Distribution System is undergoing a safety analysis and is to be completed in Title II Design to determine if all, or only parts of the piping system components should comply with fire protection codes and standards.</p>

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14	FS-GA-0230	ZONES D-4 AND D-7 Delete all items on supply side of interface points, except for "water supply" and flow direction arrow (see Dwg. FS-GA-023, Zones D-5 and D-7 as example). Deleted components are H&N's responsibility and should appear on H&N drawings. T. PI. RLT.002	Disagree. The water taps for surface users, and the water meters, are shown for system completeness and clarity. They also help define the F&S/H&N interface location. Additionally the water meter is shown to include all components in the utility tunnels. All items on the supply side of the interface will have the notation "By others."
15	FS-GA-0235	No drainage is provided in central vertical testing drift (see L.I.DW.007-50% Review) nor is drainage specified for any of the Waste Package Tests. L. PI. DGW.005	Agree. Will comply with Appendix B of the SDRD.
16	FS-GA-0235	No provision for removal of waste water from inclined downward central vertical waste package test drift (see L.I.DW.007-50% Review). L. PI. DGW.013	Agree, will comply with Appendix B of the SDRD.
17	FS-GA-0240	A booster compressor is shown for test drilling in horizontal waste package test. It is not clear whether similar booster would be required in waste	Disagree. Please note that the "Booster Compressor" denotation on FS-GA-0240 includes the word "(Typical)". One skid mounted Booster Compressor will be used for all high pressure drilling/coring

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		<p>package vertical tests since the drilling is the same. No test drilling is allowed in the horizontal waste package drift other than for the WPET itself.</p> <p style="text-align: right;">L.PI.DGW.014</p>	<p>requirements. This is described in an F&S Design Analysis (FS-CA-0034) which is available for review.</p>
18		<p>FS-GA-0240 COMPRESSED AIR SYSTEM SCHEMATIC FLOW DIAGRAM</p> <p>It is recommended that gate valves be installed as needed on both air lines from ES-1 to ES-2, so that shutdowns in the system may occur at various places along the line rather than going back to ES-1 or ES-2. This would expedite shutoff time in case of emergency. Existing valves are now at each end of the system.</p> <p style="text-align: right;">R.PI.FAS.009</p>	<p>Agree. Additional isolation valves will be included in Title II, when more detailed information is known on compressed air requirements for testing.</p>
19		<p>FS-GA-0240 .B Designate on the schematic the compressed air line which supplies refuge area.</p> <p style="text-align: right;">T.PI.SWP.025</p>	<p>Agree. The double source of air supply to "Service Drift No. 2" (Location B-4 on FS-CA-0240) is for the refuge area. The wording will be revised to include "Refuge Area" in Title II when the refuge area is fixed and shown on Dwg. FS-GA-0006.</p>

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
20	FS-GA-0240	RV.B Experience at the NTS has shown that fewer, larger compressors are a successful approach for a given requirement. A typical installation is 3 compressors (one or two provide the design requirement with a standby compressor). E.PI.SAT.004	Agree. Title II will include an analysis on air compressor selection. Current DWGS. show 1500 SCFM units in an effort to utilize two GFE units designated for NNWSI use. The remaining units required for system peak demands will be selected based upon the aforementioned analysis.
21	FS-GA-0240	ZONES C-3 AND C-7 Change "surface utility air for ES-1 hoist" and "surface utility air for ES-2 hoist" to read: "surface utility air for ES-1 collar area" and "surface utility air for ES-2 collar area". T.PI.RLT.015	Agree.
22	FS-GA-0243	SURFACE COMPRESSED AIR SYSTEM PLAN & ELEVATION Surface compressed air receiver tanks need to have safety relief valves installed. These valves shall be set to prevent pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10%. All installations of valves	This is plan view of the compressor layout and excludes details of control, instrumentation, and safety devices. For Title I - the SRV's mentioned are shown on the flow diagram-(FS-CA-0240.) Title II will include detailed DWGS of all system components, including receivers. These detailed drawings will include all attachments and accessories.

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TECHNICAL ASSESSMENT REVIEW

Acceptance Signatures

Chairperson [Signature] Date 9/15/88
 QA [Signature] Date 9/15/88
 A/E W. Wilson for R.L. Bullock Date 9-16-88
 WMPO [Signature] Date 9/16/88

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RESOLUTION

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
1		<p>FS-GA-0200 B D7 Provide start-up sequence control to the compressors to assure that they start one at a time and in sequence to prevent excessive electrical power demands during start-up. R.EL.LJF.003</p>	<p>Agree. Will be developed during Title II.</p>
2		<p>FS-GA-0200 R/B, 0213 R/B Indicate interfaces with IDS design by reference to IDS or Interface Control Drawings. F.EL.JAJ.005</p>	<p>Agree. The design interface identification sheets processed by H&N are the basis for the interfaces shown on the drawings referenced. However, this does not necessitate a change to the drawing at this time.</p>
3		<p>FS-GA-0200 REV B B4 & B7 For ES1 and ES2, indicate provision for construction power (120/208 volt) for the headframe, collar, and galloway during shaft sinking. Show how construction power will be provided to the galloway. R.EL.LJF.012</p>	<p>Agree. Will be provided during Title II in the subsurface contract package.</p>
4		<p>FS-GA-0200 REV B B6 ES-1 surface vent fans are 200 hp; but on JS-025-ESF-E4B C8, the ES-1 surface vent fans are 125 hp. Show the same size on both drawings.</p>	<p>Agree.</p>

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		R.EL.LJF.001	
5		FS-GA-0201 Does not indicate a waste water pump for inclined vertical waste package test drift. (See L.I.DW.007-50% Review). L.EL.DGW.016	Current approved design criteria indicates dry construction. If pump is required in revised design criteria, an air operated pump will be utilized.
6		FS-GA-0201 Considering the concern with excess water in the shafts/drifts, one spare for the ten waste water pump motor controllers does not seem adequate. J.EL.RDE.002	Agree. Will provide adequate spares in Title II.
7		FS-GA-0201 B C5 Indicate that the U.G. 300 KVA UPS unit will require specific dust, humidity, and ventilation conditions for the proper operation of solid state devices and battery charging components. R.EL.LJF.004	H&N will provide this information on their detailed U/G UPS drawings and specifications during Title II, interfacing with F&S. A note will reference the H&N drawing.
8		FS-GA-0201 REV B 7B AND 6B Note 5 requires U.G. primary fans to be interlocked to reverse when surface fans reverse. Identify what control wiring system will be used to accomplish this as it will require wire	Agree. This control system will be identified on a Title II drawing.

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runs from the surface fan controller
to the U.G. primary fan controller.

R.EL.LJF.002

- 9 FS-GA-0202
Five heaters shown as 5 KW should
indicate that is normal operating
range. Heaters are 10 KW each and may
be operated at that loading for short
periods of time.
L.EL.DGW.007
- 10 FS-GA-0204
The width of the IDS and science shop
drift on Drawing FS-GA-0204 does not
agree with the width shown on Drawing
FS-GA-0160.
R.EL.RRR.015
- 11 FS-GA-0204
Identify either by note, table, or
dimension lines, the equipment alcove
size(s).
T.EL.SCS.067
- 12 FS-GA-0204
Waste package vertical tests are
conducted at the far ends of the
drifts. Horizontal tests are conducted
- Agree. Will indicate this on Title II
drawings.
- Agree. Will make drawings consistent.
- Agree. Will provide this on Title II
drawings.
- Power distribution equipment for these tests
will be determined in Title II when further
design criteria is received.

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		<p>at the beginning of drifts. Power distribution panels are needed at both ends of drifts. L.EL.DGW.011</p>	
13		<p>FS-GA-0204 .B Provide emergency lighting in panel access drifts, Service Drift No. 1, and refuge chamber. T.EL.SWP.019</p>	Agree.
14		<p>FS-GA-0204 REV B C4 Provide requirement to install electrical equipment and cabling in panel access drift No. 2 such that subsequent sequential drift mining does not damage equipment or cabling in adjacent areas. R.EL.LJF.011</p>	Agree. Will investigate this matter further during Title II design.
15		<p>FS-GA-0206 .B GRID B-7 Spacing of two rows of electrical switch gear five feet apart does not comply with requirements in 29 CFR 1910.303 and the National Electric Code. Widen drift or modify cabinets to obtain adequate spacing. T.EL.SWP.020</p>	Disagree. NEC section 110-34 and 29CFR 1910.303 states that for a 2400 volt phase-to-ground system, the minimum depth of clear working space in front of electric equipment is 3 ft. for live parts on one side and no live parts on the other side. The power center is totally enclosed and we provided 5 ft. spacing which is adequate. Back side spacing of equipment is also adequate since

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16	FS-GA-0207	Drawings, such as electrical details for the IDS cable plant, created in both H&N and F&S packages should be coordinated so that they agree. A.EL.TJM.010	codes state minimum of 30 inches for maintenance. Agree.
17	FS-GA-0207	Make cable trays open top, open work type. Same reasoning as stated in previous comment on cable trays, drawing JS-025-ESF-W3 (T.EL.SCS.020). T.EL.SCS.068	Disagree. The reason totally enclosed cable trays are utilized is for RF, EMI, and mechanical protection of IDS cabling as requested by the PI's.
18	FS-GA-0212	HOIST SIGNALING SYSTEMS ONE LINE SCHEMATIC DIAGRAMS Recommend that an additional signal station be installed in ES-2 between the bottom of the shaft and the MTL. This would give the skip tender adequate means of communication with hoist operator. R.EL.FAS.021	The signal pull cord is accessible to the skip loading area allowing the skip tender to communicate, by the pull cord, with the hoist operator.

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19	FS-GA-0213	5C, 5D The diagram for the hoist signalling system as shown is unclear as to means of operation, check and clarify. T.EL.SCS.069	The control diagram is correct as shown. The CR control relay is normally energized through the two series normally closed signal switches. The CR contact is open while the CR relay is energized and will close when one or the other series signal switch is opened or pulled, allowing the red light and bell in the hoist operators cab to signal. The CR contact is shown in its normally closed state on de-energization. This mine signal switch set-up will allow a more positive, and smoother signal sequence to be transmitted. Will note on drawing as to the normal state of the CR contact.
20	FS-SP-1600	1.4 SUBMITTALS 1.4.1.1 refers to Division 1 submittal requirements. No Division 1 specifications provided for review. R.EL.LGC.023	Agree, they will be part of the final specification.
21	FS-SP-1602	Section 1.4.1 Revise to: The Quality Level Assignments for these 460V AC induction motors are given in the following ESF-QALAS for the following items: 1. Surface ventilation fans	Agree to revision; however Motor Specifications are expected to be integrated into the system specifications for various equipment items.

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		2. Auxiliary hoisting system 3. Underground ventilation fans 4. Wastewater pumps 5. Sump pumps 6. Booster air compressor Section 3.2.1 Add "As required by the applicable QALAS". <p align="right">T.EL.PJK.026</p>	
22	FS-SP-1602	- 1604 PAGE 4, FABRICATION 2.2.1 "Vendors code of standard practice" should be submitted for approval or appropriate code cited. <p align="right">R.EL.LGC.024</p>	Agree. Vendors Code of Standard Practice will be removed and will be included under Submittals required under the Part 1 - General subsection of this specification. Fabrication to applicable code(s) shall always be cited.
23	FS-SP-1602	1619, 1.2.2 Delete reference to DOE order 6430.1A, General Design Criteria Manual. Each specification should detail the applicable criteria since most vendors will not have access to the document and it is not feasible to include it	Agree. Will not be part of a procurement document.

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		with procurement documents. R.EL.LGC.026	
24	FS-SP-1602	PARA. 1.3.4 Required motor protection needed to meet environmental requirements "dedicated by this project", should be specified here or under Para. 2.1. This would include plating, coatings and finished wireless telemetry system. F.EL.JAJ.022	Agree. However specific environmental requirements for physical motor protection are expected to be included into each of the equipment specifications per electrical comment #23.
25	FS-SP-1603	Section 1.4.1 Revise to "The Quality Assurance Level Assignment for the 4160V AC motors shall be in accordance with the applicable ESF-QALAS". (Explanation - neither fans or compressors have issued QALAS) Section 3.2 Add "As required by the applicable QALAS". T.EL.PJK.030	a) Agree. Statement to be revised with QALAS which is to be determined, however see response to comment electrical #23 regarding integration of motor specifications to equipment items. b) Disagree. QALAS do not define inspection requirements. They assign the criteria of the QA program.
26	FS-SP-1603	1607,1609,1611-1619 2.2.1 Same comment as for 1602 above. R.EL.LGC.025	Refer to Electrical #22.

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27		<p>FS-SP-1604 Section 1.4.1 Revise to "The Quality Assurance Level Assignment for these lighting systems shall be in accordance with the applicable ESF-QALAS".</p> <p>Section 3.2.1 Ad "As required by the applicable ESF-QALAS". T.EL.PJK.031</p>	<p>Agree. Statement to be revised.</p> <p>Disagree. QALAS do not define inspection requirements. They assign the criteria of the QA program.</p>
28		<p>FS-SP-1605 SECTION 1.4.1 Change to: "Systems shall be in accordance with the applicable ESF-QALAS". T.EL.PJK.022</p>	<p>Agree. Statement to be revised.</p>
29		<p>FS-SP-1605 SECTION 3.2.1 Add "And as required by the applicable ESF-QALAS". T.EL.PJK.023</p>	<p>Disagree. QALAS do not define inspection requirements. They assign the criteria of the QA program.</p>
30		<p>FS-SP-1606 Section 1.4.1 Change to: Systems shall be in accordance with the applicable ESF-QALAS.</p> <p>Section 3.2.1 Add "And as required by the applicable ESF-QALAS". T.EL.PJK.024</p>	<p>Agree. Statement to be revised.</p> <p>Disagree. QALAS do not define inspection requirements. They assign the criteria of the QA program.</p>

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31		<p>FS-SP-1607 Section 1.4.1 Change to: The ...Level Assignment... is "shown on the applicable ESF-QALAS".</p> <p>Part 3.2.1 Add - in accordance with the applicable ESF-QALAS. T.EL.PJK.025</p>	<p>Agree. Statement to be revised. Disagree. Refer to Electrical #30.</p>
32		<p>FS-SP-1609 1.4.1 Change to "The Quality Assurance Level Assignment for the 4160/480V MTL Mine Power Center is shown on ESF-QALAS 6.7.1-0002." T.EL.PJK.032</p>	<p>Agree. Statement to be revised.</p>
33		<p>FS-SP-1609 3.2.1 Add: In accordance with ESF-QALAS 6.7.1-0002. T.EL.PJK.033</p>	<p>Disagree. The QALAS do not define inspection requirements. They assign the criteria of the QA program</p>
34		<p>FS-SP-1611 1.4.1 Change to "The Quality Assurance Level Assignment for this equipment is shown on ESF-QALAS" (to be issued). T.EL.PJK.034</p>	<p>Agree. Statement to be revised.</p>

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35	FS-SP-1611	3.2.1 Add - In accordance with ESF-QALAS (to be issued). T.EL.PJK.035	Disagree. Refer to Electrical #33.
36	FS-SP-1611	PARA. 1.4.1 The QA Level for Power Distributin Panels used below the surface should be II per QALA 6.7.1-0002. F.EL.JAJ.021	Agree. Will revise paragraph to reflect Level II per QALAS 6.7.1-0002.
37	FS-SP-1612	1.4.1 Change to: "The Quality Assurance Level Assignment for the electrical cable systems is shown on ESF-QALAS 6.7.1-0001, 6.7.1-0005, 6.7.1-0007, 6.7.1-0002 AND 6.2.2-0009." T.EL.PJK.036	Agree. Will revise 1.4.1.
38	FS-SP-1612	3.2.1 Add - In accordance with applicable ESF-QALAS. T.EL.PJK.037	Disagree. Refer to Electrical #33.
39	FS-SP-1613	1.4.1 Revise to: The Quality Assurance Level Assignment for the instrumentation devices covered by this specification shall be in accordance with the ESF-	Agree. Will revise 1.4.1.

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		QALAS of the systems in which the devices are installed. T.EL.PJK.038	
40	FS-SP-1613 3.2.1	Add "Acceptance in accordance with the applicable ESF-QALAS". T.EL.PJK.039	Disagree. Refer to Electrical #33.
41	FS-SP-1614 1.4.1	Revise to: The Quality Assurance Level Assignment for the Motor Control Centers covered by this specification shall be in accordance with the ESF-QALAS of the systems in which the MCC's are installed. T.EL.PJK.040	Agree. Will revise 1.4.1.
42	FS-SP-1614 3.2.1	Add "...Acceptance in accordance with the applicable ESF-QALAS". T.EL.PJK.041	Disagree. Refer to Electrical #33.
43	FS-SP-1615 1.4.1	Revise to: "...is in accordance with the ESF-QALAS of the systems in which the PLC's are installed". T.EL.PJK.042	Agree. Will revise 1.4.1.

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44	FS-SP-1615	3.2.1 Add "...Acceptance in accordance with the applicable ESF-QALAS." T.EL.PJK.043	Disagree. Refer to Electrical #33.
45	FS-SP-1616	1.4.1 The A/E should consider a separate Level I grounding grid for the I.D.S. system because failure of the ground could affect operation of the system. The QA Level of such grounding systems would depend upon the ESF-QALAS of the equipment dependent upon it. T.EL.PJK.044	Agree. This ground grid for the IDS system will be the UPS ground system.
46	FS-SP-1616	3.2.1 Add "...Acceptance in accordance with the applicable ESF-QALAS." T.EL.PJK.045	Disagree. Refer to Electrical #33.
47	FS-SP-1617	1.4.1 Revise to: "Systems is in accordance with ESF-QALAS 6.7.1-0002." T.EL.PJK.046	Agree. Will revise 1.4.1.
48	FS-SP-1617	3.2.1 Add "...Acceptance in accordance with ESF-QALAS 6.7.1-0002." T.EL.PJK.047	Disagree. Refer to Electrical #33.

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49	FS-SP-1618	1.4.1 Revise to: "...Controls, shall be in accordance with the ESF-QALAS of the systems in which they are installed." T.EL.PJK.048	Agree. Will revise 1.4.1.
50	FS-SP-1618	3.2.1 Add: "...Acceptance in accordance with the applicable ESF-QALAS." T.EL.PJK.049	Disagree. Refer to Electrical #33.
51	FS-SP-1619	1.4.1 Revise to: "...Heaters shall be in accordance with ESF-QALAS (to be issued)." T.EL.PJK.050	Agree. Will revise 1.4.1.
52	FS-SP-1619	3.2.1 Revise to "...Acceptance in accordance with ESF-QALAS (to be issued)." T.EL.PJK.051	Disagree. Refer to Electrical #33.
53	FS-SP-1619	3.2.1 Revise to "...Acceptance in accordance with ESF-QALAS (to be issued)." T.EL.PJK.052	Disagree. Refer to Electrical #33.

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Date 8/8/88
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TECHNICAL ASSESSMENT REVIEW

Acceptance Signatures

Chairperson K. Beale Date 9/15/88
QA [Signature] Date 9/15/88
A/E M. Wilson for R.L. Bullock Date 9-16-88
WMPO [Signature] Date 9/16/88

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6	FS-SP-0902	Add a section to discuss curing processes and requirements. F.ME.JAJ.014	Agree. This will be included in Section 3.4 "Application" when this outline specification is developed into a full specification.
7	FS-SP-0902	Add a section to discuss requirements for process controls, hold points, documentation, etc., for QA Level I items. F.ME.JAJ.011	Agree. See Response to Comment 1.
8	FS-SP-0902	Add a section to discuss requirements for process controls hold points, documentation, etc. for QA Level I items. F.ME.JAJ.016	Agree. See Response to Comment 1.
9	FS-SP-0902	PARA. 1.4.1 The QA Level assignment for this specification should be the same as the individual specification for each item or system being painted, and not Level III as indicated in Para. 1.4.1. F.ME.JAJ.020	Agree.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
10	FS-SP-1500	1.4 SUBMITTALS, PAGE 1 1.4.1.1 refers to Division 1 requirements. Division 1 specifications were not included in the review documents package. R.ME.LGC.022	Agree. They will be part of the final specification.
11	FS-SP-1501	1.3.2 PAGE 2 Add the words "and meter" after the word "collect" under SYSTEM DESCRIPTION. G.ME.MSW.015	Disagree. The metering devices for mine supply water and mine waste water is currently located on the surface near the collar areas, specifically in the utility tunnels of ES-1 and ES-2. This is an H&N function at this time.
12	FS-SP-1501	2.1.1 PAGE 3 Add the words "water meters" under MATERIALS. G.ME.MSW.016	Disagree. See Response to Comment 11.
13	FS-SP-1501	SECTION 1.4.1 Instead of Quality Levels, list the applicable QALAS, i.e. 6.7.1-0013, 6.7.1-0015 and for "Compressed Air System Piping" - "QALAS to be issued". T.ME.PJK.018	Agree. Will comply with current QA requirements.
14	FS-SP-1507	SPECIFICATION The valves used for the ESF water and compressed air systems will be basic	Disagree. The line break valves will not be off-the-shelf.

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		<p>off-the-shelf items. This specification should be revised to cover procurement, inspection, installation and testing of the valves, but not manufacture of the valves.</p> <p align="right">T.ME.RLT.012</p>	<p>Procurement should not be part of this specification section.</p> <p>Section 3.2 does cover installation and will be expanded in the full Title II specification.</p> <p>Section 3.3 does cover inspection and testing.</p> <p>Valve fabrication practices (manufacturer) should be included in Part 2 - Products.</p>
15		<p>FS-SP-1507 SECTION 1.4.1 Instead of Quality Levels, list the applicable QALAS, i.e. 6.7.1-0013, 6.7.1-0015 and for "Compressed Air System Valves", QALAS to be issued".</p> <p>Part 3 - Sections 3.1, 3.2, 3.3, and 3.4 shall be in accordance with the Quality Level of the applicable QALAS.</p> <p align="right">T.ME.PJK.019</p>	<p>Agree. Will comply with current QA recommendations.</p>
16		<p>FS-SP-1507 The quality level of valves, meters, and fittings that could affect fluid control should be quality level 1. See QALA 1.2.6-0001. It appears to me</p>	<p>Need further clarification of fluid control. Mine waste water and mine supply water systems are two different QA levels, and fluid control is yet different again. What defines the parts of water systems that fall</p>

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		<p>that failure of this component could cause uncontrolled spillage of water in the ESF. A.ME.TJM.005</p>	<p>under fluid control? If the entire system falls under fluid control, why do we specify different QA levels for each?</p>
17	FS-SP-1509	<p>SPECIFICATION PART 2 - PRODUCTS</p> <p>-2.2 Change to "pressure indicator" -2.3 Change to "temperature indicator" -Add to list: -Flow controller -Pressure controller T.ME.RLT.013</p>	<p>Agree.</p>
18	FS-SP-1509	<p>SECTION 1.4.1 Instead of Quality Levels, list applicable QALAS, i.e. 6.7.1-0013, 6.7.1-0015 and for compressed air system, "QALAS to be issued". Part 3, Sections 3.1, 3.2, and 3.3 shall be in accordance with the Quality Level of the applicable QALAS. T.ME.PJK.013</p>	<p>Agree. Will comply with current QA recommendations.</p>

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19	FS-SP-1510	SECTION 1.4.1 Change to: "The Quality Assurance Level Assignment for the Mine Water Supply Distributin System is in accordance with ESF QALAS 6.7.1-0013". Reason - QA Level may change. T.ME.PJK.017	Agree. Will comply with current QA recommendations.
20	FS-SP-1510 Section 1.4 QA	Make compatible with QALA 1.2.6-0001 Fluid Control, which is QA Level I. R.ME.MAF.017	QALA 1.2.6-0001 "Fluid Control" will be applied where required.
21	FS-SP-1510	SECTION 1.4.1 T.ME.PJK.016	No comment.
22	FS-SP-1511 2.1 PAGE 1	Add "water meters" as 2.1.9 under MATERIALS. G.ME.MSW.017	Disagree. See Response to Comment 11.
23	FS-SP-1511	SECTION 1.4.1 Instead of Quality Level II, refer to ESF QALAS 6.7.1-0015. Part 3 - Sections 3.1, 3.2, and 3.3 shall be in accordance with the	Agree. Will comply with current QA recommendations.

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		requirements of QALAS 6.7.1-0015. T.ME.PJK.014	
24	FS-SP-1512	SECTION 1.4.1 Instead of Quality Level II, refer to "QALAS to be issued". Part 3 - Complete in accordance with the "QALAS to be issued". T.ME.PJK.015	Agree. Will comply with current QA recommendations.
25	FS-SP-1513	2.1 PAGE 1 Add "calibration requirements" under MATERIAL AND FABRICATION. G.ME.MSW.018	Disagree. "Factory Testing and Inspection" (Section 2.1) documents pump performance characteristics. "Calibration Requirements" would apply to the metering devices used in the testing process.
26	FS-SP-1513	SECTION 1.4.1 Instead of Quality Level, refer to "ESF QALAS to be issued". Part 3, Section 3.1 and 3.2 refer to requirements of "ESF QALAS to be issued". T.ME.PJK.020	Agree. Will comply with current QA recommendations.

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31	FS-SP-1518	Section 1.4.1 Instead of Quality Level, refer to "ESF-QALAS to be issued". Part 3 - Complete in accordance with "ESF-QALAS to be issued". <p align="right">T.ME.PJK.028</p>	Agree. Will comply with current QA recommendations.
32	FS-SP-1519	Section 1.4.1 Instead of Quality Levels, refer to ESF-QALAS 6.7.1-0013 and 6.7.1-0015. Part 3 - Complete in accordance with requirements of ESF-QALAS 6.7.1-0013 and 6.7.1-0015. <p align="right">T.ME.PJK.029</p>	Agree. Will comply with current QA requirements.

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TECHNICAL ASSESSMENT REVIEW
Acceptance Signatures
Chairperson [Signature] Date 9/15/88
QA [Signature] Date 9/15/88
A/E [Signature] for R.L. Bullock Date 9-16-88
WMPO [Signature] Date 9/16/88

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
1		<p>FS-GA-0150 Add the word "operation" to the title since this drawing shows the shaft fully equipped. A similar drawing should be added to the package showing the layout of the UDBR during preparation of the excavation effects test. Since this is a major test which will be conducted prior to installation of permanent shaft furnishings, some additional planning may be necessary to ensure that any special requirements for the testing can be satisfied by the shaft sinking contractor.</p> <p align="right">T.MI.ALL.001</p>	<p>Disagree. The word "operation" would not add to the understanding of the title. Dwg. FS-GA-0151 depicts the excavation effects test. Will put excavation effects test on a separate drawing for Title II showing additional views during the various construction phases.</p>
2		<p>FS-GA-0150 Identify the cutout for the future loading pocket shown in Section A-A.</p> <p align="right">R.MI.RRR.011</p>	<p>Same as Shaft Comment 104.</p>
3		<p>FS-GA-0150 On Section B-B, the location of the cutout for the future loading pocket is shown incorrectly.</p> <p align="right">R.MI.RRR.012</p>	<p>Same as Shaft Comment 104.</p>

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
4	FS-GA-0150 A4	The space similar to the future loading chute space should not show in Section B-B. Delete. G.MI.TLL.018	Agree.
5	FS-GA-0150	There is no obvious justification for the width of the shaft station and east drift to be 25 ft. wide. Reduce size to 22 ft. or state why larger size is required. J.MI.LJO.013	This is in resolution of 50% Mining Comment #16. 25 ft. wide station provides access for men and materials around the shaft. It provides greater flexibility and ease for future expansion, eliminates smooth wall transition rounds, and does not appreciably add to cost.
6	FS-GA-0150	Vent duct arrangement shown does not allow for series ventilation with MTL. J.MI.LJO.039	Disagree. Drawing will be correctly labeled to indicate presence of a damper (normally closed) between the level vent pipe and the exhaust duct.
7	FS-GA-0151 AND FS-GA-0164	The number of boreholes to be drilled as part of the Excavation Effects Test at each of the UDBR and MTL stations are shown in the drawings as: 6 permeability holes, 6 stress relief holes, and 6 extensometer holes (total of 18 holes). However, the SDRD (also the SCP and ESTP) requires 9 of each type of hole for a total of 27 holes.	Agree.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
		Inconsistency needs to be resolved. T.MI.DMR.009	
8	FS-GA-0151	UDBR PLAN UDBR Plan dimensions do not agree with those on Dwg. R07048A/6 in Appendix A of the SDRD, specifically the area centered on the shaft and the area to the NE. T.MI.EMC.021	Agree. Will be updated by 30% Title II.
9	FS-GA-0151	ZONE D5 Plan of UDBR is inconsistent with drawing to its left (and ECR-007) regarding length of extension east of the station (70' vs. 85') and the central location of shaft. T.MI.DMR.010	Agree. Will increase to 85'.
10	FS-GA-0151	ZONES A6, B6 For the Plate Loading Test, the scale of Detail 1 and Section A-A on full-size drawing should be 1/10" = 1'-0". Scale bar also needs to be changed. In the legend add a circle to MPBX symbol to make it consistent with Plan View above and FS-GA-0003. T.MI.DMR.011	Agree.

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11	FS-GA-0160	Indicate first 50 ft. of drifts to tuff main and imbricate fault as an excavated portion of the MTL to be used as support areas for test bed construction. R.MI.WHG.017	Agree. Will indicate these areas may be used for support during MTL development.
12	FS-GA-0160	To avoid becoming muck bound at the face when using the shaft for hoisting men and materials, a muck stockpile area is required in service drift no. 1 on the NE side and in line with the ES-2 shaft access drift. Functional requirement 1 of Section 1.2.6.6 of the SDRD requires that the facility be designed to support the construction effort. (50% R.I.WG.022). R.MI.WHG.034	Core area can be used for stock piling until testing begins. The widened areas in the long exploratory drifts are also stockpile areas.
13	FS-GA-0160	Operational considerations require operational areas for a craft lunchroom plus storage for tools and supplies which cannot safely be stored in the drifts. SDRD.1.2.6.6 functional requirement 1 requires space to be made available for operations.	Agree. ECRs will be submitted to cover these considerations by 30% of Title II.

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		Requirements for operational space underground are for craft labor agreements and housekeeping needs. (50% R.I.WG.028) R.MI.WHG.036	
14	FS-GA-0160	DAS locations are not shown. (50% R.I.WG.027) R.MI.WHG.035	DAS needs have not been transmitted as design input.
15	FS-GA-0160	Show detail of how entry intersections are constructed to comply with +6 -0 excavation tolerance. R.MI.WHG.018	F&S will attempt to show this detail at 30% of Title II.
16	FS-GA-0160	Redraw the coordinate intersection marks so they are aligned with the coordinate system. (See 50%, Mining Comment 35). T.MI.EMC.003	Agree.
17	FS-GA-0160	Delete the refuge chamber note located in zone C-4. R.MI.RRR.013	Agree.

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18	FS-GA-0160	Suggest that all drifts and alcoves be named or identified uniquely to establish a standard nomenclature. T.MI.IRC.009	Agree.
19	FS-GA-0160	An ECR will need to be submitted by Los Alamos to modify drift geometry for the Engineered Barrier Test. Specifically, the separation between the vertical waste package drifts needs to be 76 ft. and the drift width in the first 50 ft. of the horizontal and vertical drifts will need to be 20 ft. wide to allow drilling and instrumentation operations in the rib. A.MI.TJM.002	Defer to LANL.
20	FS-GA-0160	Flexibility is greatly constrained by having the sequential mining test located as shown. This drift is the main access through the ESF and the location of the core area facilities indicates the need for additional isolation. A barrier pillar south of panel access drift number 2 should be considered. Further, a barrier pillar	Disagree. Current MTL satisfies requirements as given. Will meet early in Title II among A/E and program participants to re-address these concerns and to gather updated information.

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21	FS-GA-0160	<p>(FLEXIBILITY) Current arrangement of MTL is fine provided experiments remain as they are currently planned; however, if experiments change in configuration or orientation, current design will not accomodate these changes without a major impact. An alternative design that can more readily accomodate changes in experiment type, configuration, location and orientation is required. An example of such an alternative is:</p> <p>Increase dimension between service drifts 1 and 4 and panel drifts 1 and 2 so that DBR, sequential drift mining and vertical waste package experiments can be situated between panel access drifts 1 and 2. This would allow the outer perimeter of the area encompassed by service drifts 1 and 4</p>	<p>Disagree. Flexibility is provided to the extend that potential experiment change is known. Additional excavation can be carried out to the south. In order to determine that the present layout is, in fact, unsuitable and to determine what alternates would better fulfill current requirements, the latest available needs of the P.I. for testing, including configurations, offsets, orientation possibilities, and flexibility requirements should be formally transmitted to the A/E as revised design input as soon as possible. F&S Suggests a meeting(s) wherein clarification of these needs can be formalized prior to issuance, of an ECR or additional design input prior to commencing Title II work.</p>

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22	FS-GA-0160	<p>MECHANICAL</p> <p>Meets requirements of SDRD but will require significant modifications in future to reflect ECR submitted but not approved. Changes will include drift sizing, spacing, and computer and IDS alcoves. Does not adequately provide for equipment installation in boreholes -- insufficient drift width. (See L.I.DW.004-50% Review comment.)</p> <p style="text-align: right;">S.MI.RES.004 L.MI.DGW.009</p>	<p>See Mining Comments #19 and #21. The Requirements should be conveyed to the AE for evaluation.</p>

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23	FS-GA-0160	<p align="center">ZONE B3</p> <p>The pillar width between the eastern Waste Package Vertical drift (16 ft. wide) and the repository drift (approximately 21 ft. wide) is shown as 22 ft. This represents a pillar width between the drifts of approximately one drift diameter.</p> <p>From the point of view of stress interaction between openings and good mining practice, this is the minimum acceptable spacing under normal operating conditions. Due to the fact that this pillar eventually will be subject to thermal stresses from repository waste, and that we may later have to show that the ESF design does not impact the integrity of the repository, it is recommended that the width of this pillar be increased to 2 times the width of the larger drift (i.e., 42 ft.)</p> <p align="right">T.MI.DMR.014</p>	<p>Agree, will investigate the applicability of concerns of Title II design.</p>
24	FS-GA-0160	<p align="center">B6</p> <p>Identify Bulk Permeability Test area.</p> <p align="right">G.MI.RWC.011</p>	<p>Disagree. Location has not been given to the AE.</p>

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25	FS-GA-0160	The size of the refuge chamber appears to be too small for the planned number of people underground. Also ensure interfaces with Appendix A and performance assessment activities. J.MI.LJO.043	Title II design will consider most recent population studies for Refuge Chamber sizing. An ECR will be generated to cover Appendix A interface.
26	FS-GA-0160	UPS drift in area B5 appears unnecessary. Add this facility in power center drift to maintain shaft pillar. J.MI.LJO.016	Disagree. Locating the UPS in the same drift as the power center compromises safety and integrity of the UPS in the credible accident scenario of a fire in the power center.
27	FS-GA-0160	The sump drift in area B6 does not appear to be necessary, state why a sump drift is needed and ensure interface with SDRD Appendix A is maintained. J.MI.LJO.041	Due to particle settling requirements, the sump requires more space than a standard drift width allows. Refer to F&S Design Analysis FS-CA-0044 for further explanation. An ECR will be generated to cover Appendix A interface.
28	FS-GA-0160	Fuel station in Area C5 appears too close to DBR, relocate to not interfere. J.MI.LJO.042	Disagree. Discussions with LANL indicate that this is not a problem with DBR tests, however, alternate locations and layout will be examined in Title II to accommodate fuel bay and operational spaces.

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29	FS-GA-0160	JS-025-ESF-FP3.B Reference CFR 30 Section 57.4462 Storage areas for combustible liquids must be provided with a means of confinement or removal of contents of largest storage tank in the event of tank rupture. Neither drawing provides this information or the area fire protection characteristics. M.MI.RMB.002	Agree. Detail liquid containment facilities design, as well as fire protection facilities design will be provided in Title II.
30	FS-GA-0160	JS-025-ESF-FP3.B Reference 30 CFR Section 57.4460 Only small quantities of flammable liquids can be stored underground. Fueling area does not identify product or storage method. M.MI.RMB.005	Agree. Will attempt to address these problems by 30% Title II. An ECR will be submitted.
31	FS-GA-0160	ZONE H10, JS-025-ESF-FP3.B ZONE D-5 Drawings conflict on location of fuel storage area. H&N drawing depicts preferable location because area can be sealed and is not exposed to traffic. M.MI.RMB.001	Disagree. Location shown provides drive-through access with two means of egress in a lower volume traffic drift. Life Safety committee considers a dead-end cutout as less desirable. Alternate location for fuel transfer area will be considered in the same ECR effort to provide additional operational space. See Mining Comment #13.

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32		FS-GA-0161 Canister scale heater test encompasses area along the eastern rib of panel access drift No. 1 between the test alcove and service drift No. 4. Redraw as required. <p align="right">R.MI.WHG.019</p>	Agree.
33		FS-GA-0161 Show drift to Ghost Dance Fault relative to general layout (G.I.BG.013). <p align="right">G.MI.RWC.004</p>	Disagree. Not enough room. Exploratory drifts are shown on the other drawings.
34	B7	FS-GA-0161 Identify Bulk Permeability Test area. <p align="right">G.MI.RWC.012</p>	Disagree. See Mining Comment #29.
35		FS-GA-0162 No comment. <p align="right">R.MI.DRD.009</p>	No response.
36		FS-GA-0162 Show distance between rows of bolts. <p align="right">R.MI.WHG.020</p>	Agree. Title II drawings will show prescribed bolt pattern spacing.
37		FS-GA-0162 Show the typical details for a permanent grouted rock bolt. Include bolt length, diameter, plate, washer, nut, grout,	Agree. Title II effort.

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		hole size, etc. <p align="right">R.MI.RRR.014</p>	
38	FS-GA-0162 4B	Wire mesh installation is not standard mining practice. This installation does not permit retensioning of rock bolt. Place mesh directly against rock. <p align="right">T.MI.SCS.062</p>	Agree.
39	FS-GA-0162 ZONE A4	It probably will be necessary to retorque some or all of the mechanical bolts, and to test some of them to evaluate how effective they are. The double plate, double nut arrangement (shown in Detail 1) appears to preclude this (or make it very time consuming) since the top plate must be removed prior to retorquing. Suggest that a single plate be used, clamping the mesh directly to the rock face. This may not look as nice, but will be more efficient in providing effective support to the excavated opening. <p align="right">T.MI.DMR.015</p>	Agree.

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40		FS-GA-0163 Provide ground support and control blasting details of infiltration test, especially in the block of rock being tested. <p align="right">R.MI.WHG.021</p>	Agree. Title II.
41		FS-GA-0163 ZONE C5 Section B-B of the Infiltration Test is not consistent with Section A-A (e.g., heights of cross-cut and Service Drift No. 4; also the latter drift should be shown as a broken line). <p align="right">T.MI.DMR.007</p>	Agree.
42		FS-GA-0163 Section B-B view is in error. <p align="right">T.MI.SCS.063</p>	Agree. Will correct this view.
43		FS-GA-0163 A5, A7 (50 Percent G.I.TL.015, 016) Change descriptions of TYPICAL ES-1 STATION AREA and TYPICAL ES-1 SHAFT ELEVATION from "... SHOWING EXCAVATION EFFECTS TEST..." to "... SHOWING INTACT FRACTURE TEST..." <p align="right">G.MI.TLL.004</p>	Agree.

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44	FS-GA-0163 A5 Change "Excavation Effects Test Coring" to read "Intact Fracture Test Coring" (G.I.BG.014).	G.MI.RWC.005	Agree.
45	FS-GA-0163 A7 Change "Excavation Effects Test" to read "Intact Fracture Test" (G.I.BG.015).	G.MI.RWC.006	Agree.
46	FS-GA-0163 GRID A-5, A-7 Change "Excavation Effects Test" to "Intact Fracture Test". G.I.MW.019	G.MI.MSW.003	See Comment #45.
47	FS-GA-0163 ZONES A7 AND A5 Wording below the two left-hand diagrams of the Intact Fracture Test should refer to the "intact fracture test" instead of the "excavation effects test."	T.MI.DMR.006	See Comment #45.
48	FS-GA-0164 Note 1 states, "All holes drilled dry", Note 4 states, "Dust collection system." As a dust collection system is to be used in lieu of wet drilling,		Disagree. The configuration of this test is proposed to be significantly changed. Title I design of utilities has provided adequate ventilation and other services to allow dry drilling where required. F&S agrees to

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49	FS-GA-0164 GRID D-2	<p>the bounding features of this system need to be identified, to provide assurance that the 100 percent title I design is adequate to accommodate this system (ventilation, power requirements, etc.). Additionally, California Administrative Code, Mine Safety Orders, Article 31 7093(b) states, "Rock drilling in underground mines is prohibited unless the dust is controlled by wet drilling or other means acceptable to the Division." Therefore, the dust collection system needs to be approved as acceptable by the body enforcing these regulations, or by DOE ES&H.</p> <p style="text-align: right;">K.MI.DW.016</p> <p>The agreed resolution of a 50 Percent Design Review comment was that the A/E would evaluate feasible dust control measures for dry drilling. Progress has been made, including identification of portable air filtration systems. Written documentation of this evaluation should be provided before completion of Title I, including indication of the locations and</p>	<p>comply with all regulations. The A/E assumes that DOE ES&H currently accepts regulation conformance of this design by virtue of their design review participation.</p> <p>Preliminary dust control was addressed and documented in an F&S design report; additional site data is required before more detailed work can be accomplished.</p>

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		<p>operations where this equipment can be effectively used, and identification of dry drilling or mining operations for which additional dust control measures will be needed. (The relevant comment was identified as T.I. SP.011 and listed as I-062 in the 50 Percent Design Review Report).</p> <p align="right">T.MI.SWP.015</p>	
50	FS-GA-0164	<p>B7 Permeability or stress testing holes next to muck bin cutout may be impacted by overbreak from excavation of the bin area. Special excavation controls for this area will be needed.</p> <p align="right">K.MI.JEM.011</p>	<p>Agree. Controlled drilling and blasting practices are planned.</p>
51	FS-GA-0164	<p>ZONE D6 Arrangement of the boreholes B, B, and A in the Bulk Permeability Test differ from that shown in the SDRD. Also, holes are labelled as being 100' in length but shown as being about 160' in length.</p> <p align="right">T.MI.DMR.008</p>	<p>Agree.</p>

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52	FS-GA-0165 B6	To the title of "Layout, Plate Loading Test" add "in Demonstration Breakout" to better tie this to FS-GA-0161. As an alternative, add "Plate Loading Test" to the demonstration breakout boxed area on FS-GA-0161. T.MI.EMC.022	Agree.
53	FS-GA-0165 C7	Delete reference to UDBR under plan view because this test in the UDBR is covered on FS-GA-0151. T.MI.EMC.023	Agree.
54	FS-GA-0165 ZONE A4	Symbols for geotechnical instrumentation should be modified to be consistent with FS-GA-0003 (e.g., neutron probe, thermocouple). T.MI.DMR.016	Agree.
55	FS-GA-0166	The shape of the drill chambers at the end of the three vertical waste package test drifts would be extremely difficult to smooth blast with a normal jumbo. Transitions must be much longer. Show longer transitions.	Appropriate test drift and drill chamber section transition details will be provided during Title II.

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		R.MI.WHG.022	
56	FS-GA-0166	Rib on widened section of center (decline) drift cannot be control blasted as shown per Performance Criteria 3, 11, and 23 of Section 1.2.6.6 of the SDRD. Re-design as required. (50% R.I.WG.039) R.MI.WHG.037	Agree. Drift enlarging details will be furnished in Title II drawings entitled "Controlled Blasting Plans and Details".
57	FS-GA-0166	Roof on 25 ft. high raised area cannot be control blasted as designed per Performance Criteria 3, 11, and 23 of Section 1.2.6.6 of the SDRD. Re-design as required. (50% R.I.WG.040) R.MI.WHG.038	Agree. Drift enlarging details will be furnished in Title II drawings entitled "Controlled Blasting Plans and Details."
58	FS-GA-0166	Sections A-A and B-B are not drawn to same scale as noted. T.MI.SCS.064	Agree. Will correct drawings.
59	FS-GA-0166	A4, B4, C3 Section E-E is drawn upside down relative to the orientation of the section markers on Section C-C (See 50%, Mining Comment 71). In conjunction with	Agree. Will correct drawings.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
		<p>this, Section D-D should be drawn with the collar on the right side to be compatible with the orientation of the section markers on C-C. If it is the intent to show both sections D-D and E-E with the collar on the left, then the arrows on the Section D-D markers on Section C-C must be reversed. T.MI.EMC.004</p>	
60	FS-GA-0166	<p>ZONE C3 In Section C-C of the Canister Scale Heater Test, Section lines E-E and D-D should be rotated slightly, to more accurately reflect the instrument holes intersected and shown in the sections below. Also symbols for geotechnical instrumentation should be modified to be consistent with FS-GA-0003 (e.g., MPBX, neutron probe). T.MI.DMR.003</p>	Agree.
61	FS-GA-0166	<p>PLAN Meets requirements of SDRD but will require significant modifications in future to reflect ECR submitted but not approved. Changes will include drift sizing, spacing, and computer and IDS alcoves. Does not adequately provide</p>	See Mining comments #19 and 21. The requirements should be conveyed to the AE for evaluation.

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		for equipment installation in boreholes -- insufficient drift width. (See L.I.DW.004-50% Review comment.) L.MI.DGW.010	
62	FS-GA-0166	REV B GRID 7-A Heater emplacement hole is 40 feet deep. A 20 foot long heater will be emplaced in the hole. A.MI.SDF.013	Criteria comment.
63	FS-GA-0166	SECTION B-B Height shown at ends of vertical test drifts does not reflect increased section (see Section AA). Heater holes scale at slightly less than 30 ft. and drift separation also scales at this amount. Heater holes are 40' deep and drift separation is 37 ft. (SDRD). L.MI.DGW.008	Agree. Will make corrections.
64	FS-GA-0166	SECTIONS A-A & B-B Section A-A. The 190 ft. dimension for	Agree. Corrections will be made.

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		<p>the sloped drifts does not agree with the 150 ft. dimension given on Dwg. R07048A/4 in Appendix A of the SDRD. The 280 ft. dimension just below it is also in disagreement. The 190 ft. dimension scales 150 ft. If 150 ft. is the intended dimension, remove the break lines. If the intended dimension is 190 ft., the elevation difference at the right side is not compatible with the slopes stated and there needs to be elevation offsets at the break lines.</p> <p>Section B-B. The portions of cross sections of the drifts labeled, "Waste Package Vertical", that are shown near service drift No. 4 should be shown dashed, not solid. Only the portions of the drifts actually at Section B-B on the plan view should be shown solid. The 12" heater emplacement holes should be shown starting at the 3099.95 floor level of the "Waste Package Vertical" drifts.</p>	
		T.MI.EMC.024	

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65	FS-GA-0166	SECTION B-B LLNL has not agreed to dry drilling nor have we specified such. Dry drilling may jeopardize tests. Appendix C of SDRD specifies wet drilling. L.MI.DGW.017	Agree. Will remove note 2.
66	FS-GA-0171	7B Provide large door in science shop wall/stopping to allow equipment movement if other door is temporarily blocked. T.MI.SCS.066	Disagree. It is anticipated that the IDS alcove will be almost completely blocked, therefore equipment movement is impossible in this area.
67	FS-GA-0171	7D Provide overhead door in shop wall/stopping to allow equipment movement if other door is temporarily blocked. T.MI.SCS.065	Disagree. There is a door shown.
68	FS-GA-0171	SCIENCE SHOP Show a reinforced concrete wall to protect IDS from blast damage when excavating Sequential Drift Mining Test No. 2. R.MI.WHG.023	Reconfiguration of the layout will be reinvestigated and a solution proposed by 30% of Title II.

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69		<p>FS-GA-0172 .B GRID C-7 Spacing of two rows of electrical switch gear five feet apart does not comply with the requirements in 29 CFR 1910.303 (h) and the National Electric Code for minimum clear working space. Widen the drift or modify cabinets to obtain spacing listed in 29 CFR 1910.303 (h) Table S-2, "Minimum Depth of Clear Working Space in Front of Electric Equipment".</p> <p align="right">T.MI.SWP.018</p>	<p>See Electrical Comment #15.</p>
70		<p>FS-GA-0180 Section A-A and C-C of this drawing show a 2' x 6' door on the side of the air control door. This doorway is undersized and does not comply with the NFPA 101 Life Safety Code. It is recommended that the door be modified to a minimum of 32" x 80".</p> <p align="right">R.MI.FAS.020</p>	<p>Agree. Title II details will determine the applicability of this code for ESF design.</p>
71		<p>FS-GA-0180 B, C, D - 3 AND 4 The design should show, in more detail, how a shotcrete wall is constructed. The rationale should also be available for choosing a shotcrete construction instead of a concrete block wall.</p>	<p>Agree. Title II effort.</p>

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		K.MI.DW.014	
72	FS-GA-0180 D5	Move Section D-D markers inside the plan view. (See 50% Mining Comment 91). T.MI.EMC.005	Agree.
73	FS-GA-0194	Details of transitions and how control blasting is to be accomplished on the widened sections of the exploratory drifts is missing. Add this detail. R.MI.WHG.024	Title II effort.
74	FS-GA-0194	For ease of identification, label the ends of the exploratory drifts as "Ghost Dance Fault", "Drill Hole Wash" and "Imbricate Fault". T.MI.EMC.026	Agree.
75	FS-GA-0194 A5, A6	Show the match line between sheets 0197 and 0198. T.MI.EMC.025	Agree.
76	FS-GA-0199 B-4	Turning point along drifts should be designed with a curve radius	Disagree. Not required for the minor direction change indicated. Curve would complicate controlled blasting.

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		<p>appropriate to the type of traffic which could be used in these repository operations.</p> <p style="text-align: right;">K.MI.JEM.009</p>	
77	FS-SP-0204	<p>Current design of the MTL does not allow this specification to be followed at entry intersections and where the entries change sizes. Change the specification to detail how these areas are to be excavated.</p> <p style="text-align: right;">R.MI.WHG.028</p>	<p>Agree. Drift intersections and size change details with respect to controlled blasting will be covered in Title II.</p>
78	FS-SP-0204	<p>PARA. 1.4.1 This specification covers both QA Level II and III activities per QALAS 1.2.6-0005 (controlled blasting) and 1.2.6-0002 (mucking) respectively. For the Level II activities, Para. 1.4 should be changed to include the applicable quality assurance program requirements as contained in Para. 1.5 of FS-SP-0205.</p> <p style="text-align: right;">F.MI.JAJ.019</p>	<p>Agree.</p>
79	FS-SP-0204	<p>PAGE 2 Section 1.4 of the outline should be expanded to list the specific activities that quality assurance will</p>	<p>Agree. Dust control methods will be defined in the Part 3 - Execution subsection. Appropriate dust control will be provided to ensure that airborne dust concentrations will</p>

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		deal with. This should include dust control procedures associated with all stages of the excavation. B.MI.BC.008	not exceed regulatory TLV's.
80	FS-SP-0204	PAGE 2, SECT. 3.1.2 The concept of local dust control using mobile collectors is not applicable to dust entrained by muck haulage and utility traffic. In light of the constraints placed on the ventilation system by SDRD 1.2.6.7.4, and additional system should be provided for control of dust on the main traffic routes of the MTL and exploratory drifts. This might be accomplished using part of the ventilation system or by using auxiliary controls such as chemicals dust suppressants. B.MI.BC.005	Agree. Measures to control dust created by vehicular traffic will be specified in Title II. Refer to response B.MI.BC.004 (F&S Mining Comment #147).
81	FS-SP-0204	PG.3, PAR. 3.1.3 Suggest rewording as follows: "For drill and blast excavations the deviation of finished surfaces from the lines, grades, and levels shown on contract drawings shall on an average be within a radial tolerance of +6 inches,	Agree. The section will be rewritten to eliminate the term "radial distance". "A" line and "B" line dimensions will be defined and referenced. Language for geologic condition allowance will be inserted.

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		<p>-0 inches.</p> <p>Note: Holding to an absolute of +5 inches will be difficult or impossible in this medium.</p> <p style="text-align: right;">S.MI.RES.002</p>	
82	FS-SP-0204	<p>SECTION 3.1.3 Tolerance does not take into account the reality of needed clearance for currently available drill designs and the 6 inch tolerance will be used up just to provide clearance for the drills which leaves zero tolerance for drill accuracy. Change spec to provide clearance, required by drill feed design for look out and clearance of centralizers, drill and hoses.</p> <p style="text-align: right;">R.MI.WHG.027</p>	<p>Agree. Perimeter holes in each round will have to be angled out enough to allow for drill clearance for the next round.</p>
83	FS-SP-0204	<p>SECTION 3.1.3 Control of fracturing will require light loading of rib holes. This may require a more liberal excavation tolerance. For example, if 16 ft. clear width is required maybe lightly loaded holes at 17 ft. would produce the best results. At any rate fracture control is more important than</p>	<p>Agree.</p>

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		dimensional control. Perhaps we should focus on the blasting process and accept the resulting physical configuration. <p align="right">T.MI.IRC.022</p>	
84	FS-SP-0204	3.5 PAGE 6 Two top paragraphs on the page are duplicates. <p align="right">R.MI.LGC.010</p>	Agree. Will eliminate duplicate paragraph.
85	FS-SP-0204	PAGE 6 Remove one of the two first paragraphs on top of the page as they are identical. <p align="right">T.MI.EMC.034</p>	Agree. Will eliminate duplicated paragraph.
86	FS-SP-0204	3.5 SURVEY WORK General survey requirements (i.e., experience) will be defined by a project administrative procedure. Technical specifications should be limited to specific technical requirements. <p align="right">T.MI.IRC.023</p>	Agree.
87	FS-SP-0204	PAGE 5, 3.3.3 Add "Perched Water Test" after the first sentence.	Agree. Add " o Perched Water Test if water is encountered".

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		G.MI.MSW.010	
88	FS-SP-0204	SECTION 3.6.2 (Penalty) Changing geological conditions may make compliance to this spec impossible. Penalty should be in force only when it is determined that conditions are not changing.	Agree. Will change specification.
		R.MI.WHG.029	
89	FS-SP-0204	SECTION 3.13 Typically the blasting of "Tites" requires very high powder factors, consequently the remaining surface is "burned" and highly fractured. In many cases tites should be left "as is" unless a clear operational problem is apparent.	Agree.
		T.MI.IRC.021	
90	FS-SP-0205	1.2 PAGE 1 Should reference FS-SP-0201, ES-1 and ES-2 Collar Installation, since 0201 cross references 0205 repeatedly.	Agree. Also add SP-0204 Excavations for Stations, Drifts and Alcoves.
		R.MI.LGC.011	
91	FS-SP-0205	1.3.3 PAGE 1 Delete reference to "ESF Project Q.A.P.P 002 - Quality Assurance Program Plan".	Agree. Deleted reference.

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		<p>It is not a U.S. DOE NNWSI document. Criteria therein should be detailed in the Quality Assurance or other sections of the specification as appropriate.</p> <p align="right">R.MI.LGC.012</p>	
92	FS-SP-0205	<p>1.5 PAGE 2 Same comment as for 1.3.3 above.</p> <p align="right">R.MI.LGC.013</p>	Agree.
93	FS-SP-0205	<p>SECTION 1.5 It is unnecessary and redundant to reference NNWSI QA Plan. This tech. spec. should implement all of the appropriate requirements contained in the QA Plan. The constructor must rely on the drawing and specifications to define all the technical requirements. It is understood that nontechnical requirements will be defined by management plans and implementing procedures.</p> <p align="right">T.MI.IRC.015</p>	Agree.
94	FS-SP-0205	<p>1.6 PAGE 3 Delete and substitute the following: "The Data Requirements List (DRL)</p>	<p>Disagree to deletion of list "a" thru "i". Section 1.6 "Submittals" is a brief description of each submittal item required. The "DRL" is a list of informational</p>

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97	FS-SP-0205	2.1.1 "Watergel" and "emulsion" are different products. Therefore, delete "other". Delete "TOVEX 100". Its blast strength characteristics are not uniquely suited to the situation. It is overly restrictive to specify a brand name. Delete "DuPont". It no longer manufactures explosives. B.MI.RAD.001	Agree. Will delete brand names and "other."
98	FS-SP-0205	2.1.1, PAGE 5 Change word "similar" to "equal" or specify "blast strength characteristics" in detail. R.MI.LGC.016	Agree.
99	FS-SP-0205	2.1.2 Same comment as for 2.1.1 above. R.MI.LGC.017	Agree.
100	FS-SP-0205	2.1.2 "Watergel" and "emulsion" are different products. Therefore, delete "other". Delete "TOVEX 90". Its blast strength characteristics are not uniquely suited to the situation. It is overly restrictive to specify a brand name. Delete "DuPont". It no longer	Agree. Rewrite paragraph.

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		manufactures explosives. B.MI.RAD.002	
101	FS-SP-0205	2.2.1 Delete reference to NONEL and Ensign Bickford and substitute, "an approved non-electric detonating system must be used". It is overly restrictive to specify a brand name. The word "internal" should be "interval". B.MI.RAD.003	Agree. Delete brand names.
102	FS-SP-0205	2.2.2 Substitute, "An approved detonating cord system shall be used". It should not be the practice of the government to recommend a brand name. B.MI.RAD.004	Agree. Delete brand names. Note that "approved" implies that the Contracting Officer will review and approve blasting materials.
103	FS-SP-0205	3.1 In line 3, add the word "parallel" before holes. B.MI.RAD.005	Agree. Add "parallel."
104	FS-SP-0205	3.1 In Para. 2, line 7, delete "due to blasting procedures". There could be a disagreement as to whether the unacceptable shaft, drift or	Agree.

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		foundation is due to blasting procedures or the nature of the rock. Regardless, the blasting procedures must be adjusted. <p align="right">B.MI.RAD.006</p>	
105	FS-SP-0205	3.2 The blasting should conform to safety standards set forth in 30 CFR 57, Subpart E, "Explosives". This section should be specifically referenced here. <p align="right">B.MI.RAD.007</p>	Agree. Will add reference in Sec. 3.2.
106	FS-SP-0205	3.4 The seismograph recording or seismogram should provide both the peak particle velocity and frequency of the vibration. <p align="right">B.MI.RAD.008</p>	Agree.
107	FS-SP-0205	3.5, PAGE 7 Delete "and the Base Bid unit prices for pay items involving rock excavation." Consideration Schedule in the RFP will provide for bidding such unit priced items. <p align="right">R.MI.LGC.018</p>	Agree. Some basis for adjustment for bid prices should be provided to allow for changing conditions.

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108	FS-SP-0205	3.5.1.A.1 The term "consistently" must be defined. I suggest it be defined as 80% of the time. To give this section enforcibility, add, "If the contractor fails to consistently break 85% of the drilled depth in both shafts and drifts, the contractor will be required to reduce the depth of the drill holes". B.MI.RAD.009	Agree. Amend paragraph as follows: "If the Contractor fails to break 85% of the drilled depth in 8 out of 10 blast rounds, the Contractor will be required to reduce the depth of drill holes at any location.
109	FS-SP-0205	3.5.2, PAGE 8 If this specification applies to ES-2, it should be referenced also in the first sentence. R.MI.LGC.019	Agree. This also applies to ES-2 and will be so referenced.
110	FS-SP-0205	3.5.5 In line 3, "criteria" should be "criterion". B.MI.RAD.010	Agree.
111	FS-SP-0205	SECTION 3.5 Machine scaling should be considered as a supplement to the controlled blasting. Perhaps ribs holes could be drilled just inside the neat line and final dimensions achieved by scaling.	If Controlled Blasting does not prove to be adequate in preventing unacceptable wall rock damage - scaling machines could be considered for use.

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		T.MI.IRC.012	
112	FS-SP-0205 3.6	Delete the last sentence in paragraph 1. It is a repeat of the next-to-last sentence.	Agree.
		B.MI.RAD.011	
113	FS-SP-0205 3.6, PAGE 9	Delete last sentence. It duplicates the preceding sentence.	Agree.
		R.MI.LGC.020	
114	FS-SP-0205 PAGE 9, SECTION 3.6	Delete the last sentence on the page as it is a repeat of the one before it.	Agree.
		T.MI.EMC.035	
115	FS-SP-0205 SECTION 3.7	Drill deviation plus allowed overbreak equals 12 inches or six inches over the allowed profile deviation. Change specifications to allow reasonable misalignment, and change inspection such that they are required for only the profile holes.	Agree. Perimeter holes will angle out in order to provide drill clearance. In addition to this desired maximum overbreak, whether caused by hole deviation, overcharging, changing ground conditions, etc., should be targeted at 6".
		R.MI.WHG.030	

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116	FS-SP-0205	PAGE 10, SECT. 3.10 Quality control for drilling and blasting should include acceptance criteria for dust and fume control equipment and procedures. B.MI.BC.007	Agree. Dust and fumes from Drilling and Blasting will be effectively controlled by the use of mobile dust equipment and the direct exhaust ventilation system. Appropriate dust control will be provided to minimize airborne dust below the threshold limit in accordance with applicable codes and standards. Acceptance criteria will be based on these standards and will be provided during Title II design.
117	FS-SP-0205	SEC.3.10.2.1 PAR. 3 PAR. 3.10.2.1.C RE: BLAST HOLE TRACES --- Compliance with requirement, as stated, cannot be substantiated-- i.e. requirements are not quantified. Suggest Hale Casts as a measure of performance be deleted. Requirement on overbreak should be sufficient. S.MI.RES.003	Disagree. Half casts are a common method of determining the existence of overbreak.
118	FS-SP-0205	3.10.2.1 In C., there should be a period after underbreak. B.MI.RAD.012	Agree.

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119	FS-SP-0205	3.10.2.2 In line 5, "data is" should be "data are". B.MI.RAD.013	Agree.
120	FS-SP-0205	3.11, PAGE 9 Specify if trial blasts are to be in ES-1 or ES-2 or another location with like conditions. If trial blasts are in ES-1 or ES-2 and do not achieve the desired result according to specifications, the entire shaft could be in jeopardy. Specifications should address alternatives. R.MI.LGC.021	Agree.
121	FS-SP-0205	3.11.1 The drilling and blasting plan should include a dimensioned sketch of the proposed blast round. B.MI.RAD.014	Agree. Dimensioned drawings of proposed blast patterns will be furnished in Title II.
122	FS-SP-0205	DATA REQUIREMENT LIST References for each submittal listed on the DRL should not be to 1.6 "Submittals" but to an appropriate specification paragraph for which it is required. (e.g. "Credentials of Drilling and Blasting Supervisor"	Agree.

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		should reference 1.9, etc.) Each submittal required should be described in detail in its referenced specification paragraph. <p align="right">R.MI.LGC.039</p>	
123	FS-SP-0205	DATA REQUIREMENTS LIST No specification is included, other than the list in 1.6, which requires submission (Item 6) of Contractor's Daily Blasting Log and the data required thereon. <p align="right">R.MI.LGC.040</p>	Agree. Will add definitions of the Contractor's Daily Blasting Log and the data required.
124	FS-SP-0205	DATA REQUIREMENTS LIST Change "Info - Information" to "REC - Record". <p align="right">R.MI.LGC.041</p>	Agree.
125	FS-SP-0205	SHEET 15 Add the following to the Data Requirements List: "Contractor's Daily Water Usage for blast holes". <p align="right">G.MI.MSW.012</p>	Refer to Resolution Comment #95.

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126		<p>FS-SP-0208 Specifications and tolerances are necessary for bolthole diameters, bolthole lengths, and bolthole locations not just for bolthole alignment. R.MI.DRD.005</p>	<p>Agree. These will be depicted on detailed Contract Drawings showing various classes of Rock Reinforcement.</p>
127		<p>FS-SP-0208 Torque or active pressure requirements, specifications, and tolerances, should be included under bolt installation. Pretensioning and retightening of rock bolts should also be placed under this section. R.MI.DRD.008</p>	<p>Agree. Torque, pressure, and tolerances will be amplified by installation details in the final Title II Spec. in the Part 3 - Execution subsection.</p>
128	1-3	<p>FS-SP-0208 It is very important that in the near future, specific procedures be established and the equipment selected to install temporary, permanent, primary and secondary ground support systems for the underground facility. These requirements are in 30 CFR 57. No specifications are presented in this document regarding roof and rib control and these may affect significantly the underground facility design.</p>	<p>Agree.</p>

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		<p>Establishing the procedures and selecting the equipment for ground control by the 60% Title II Design Review would allow the necessary time for constructive comments to finalize the ground control plan for the underground facility. This is especially important because of the many different sized underground openings.</p> <p align="right">B.MI.RLM.001</p>	
129	FS-SP-0208	<p>PAGE 1, SECTION 1.2.4 Explain the need for ACI 318 as there is no other apparent reference to reinforced concrete in this specification.</p> <p align="right">T.MI.EMC.036</p>	<p>Use of the reinforced concrete is considered for the station area. Further details will be provided on the respective drawings.</p>
130	FS-SP-0208	<p>PAGE 2 An equipment requirement or specification section should be added to the outline both for drilling the bolt holes and for installing the bolts. The minimum and maximum working heights and widths for such equipment should be included to ensure the equipment is designed to install the required length</p>	<p>Equipment-type selection is a responsibility of the Contractor. Equipment is sized according to the application.</p>

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
		of both in the various sizes of openings. <p align="right">R.MI.DRD.001</p>	
131	FS-SP-0208 PAGE 2	A support system design section should be added to the outline either as a main heading or under bolt installation. In Title II, this section should be developed to include the support strategy, the criteria for selecting a particular bolt and when to use a given bolt system underground. Also the criteria for designing the bolt pattern must be included. Specific items that should be addressed are the bolt spacing, bolt length, bolt orientation and torque requirements. <p align="right">R.MI.DRD.003</p>	Agree. An appropriate reference will be made to a specific document developed for bolt selection purposes by 60% of Title II.
132	FS-SP-0208 PAGE 2	Rock bolt installation should be Section 3.1 in the outline. Subordinate to installation are timing, borehole, and rock face preparation and types of rock bolts to be used. <p align="right">R.MI.DRD.004</p>	Refer to response to Mining Comment #127.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
133	FS-SP-0208	PAGE 1 Grout should be added to the product list. R.MI.DRD.002	Agree.
134	FS-SP-0208	PAGE 3 Cartridges placement tool, placement of resin cartridges and placement of retainer should be subordinated under resin bolt installation or eliminated from this outline. These items may be too much detail for such a general outline. Grout or pumpable grouts must also be considered as an anchorage system. R.MI.DRD.006	Disagree. Hardware deemed necessary for the proper rock re- inforcement installation must be considered as an integral part of the specification. The importance of these subtitles will become clear in the fully developed specification at 90% of Title II.
135	FS-SP-0208	PAGE 3 Because two types of bolts are being considered (mechanical, anchored and resin grouted bolts) criteria must be added specifying where each type of support should be used. R.MI.DRD.007	Refer to response to Comment #131.
136	FS-SP-0213	PART 1.3 2ND BULLET Add "or orientation" at end of sentence. (This comment will be the same for all drilling specifications).	Agree.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
		A.MI.SDF.014	
137	FS-SP-0214	PART 1.3 2ND BULLET A 15 inch 1,000 ft. borehole cannot be accomplished. Water usage shall be kept to a minimum. (This should be added to all drilling specifications). A.MI.SDF.015	Disagree. Since this is a drill specification, the drill must have this capability and reference to water usage is not applicable to a drill specification.
138	FS-SP-0303	& 0304, 0307, 0308 10 CFR 60.15d(1) requires that site characterization activities be conducted in a manner as to limit adverse effects on the long-term performance of the geologic repository. Further, in accordance with 10 CFR 60.17 2(iv) the SCP/CD Section 8.3.4.2.H requires that "... and shaft and borehole seals will be designed and constructed so that the changes in water chemistry resulting from interaction of those materials with the vadose water ... for [sic] water that might contact a waste package will be within the limits established in Issue 1.4. The tests to evaluate the rock-water interactions in the presence of concretes, grouts and other repository materials (Activity 1.10.4.1.2 SCP/CD)	During the ESF phase, water from the shaft will be collected in the shaft sump and pumped to the surface, and this will not come into contact with waste packages. Similarly, concrete placed in the core area for equipment bases, ventilation barriers, etc., will be situated in areas where drainage is to the shaft. Drainage from exploratory drifts can be intercepted and pumped to the shaft area for disposal to surface. Specification will consider construction materials other than standard concrete, if necessary.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
		<p>will not be completed by the time shaft construction is scheduled to start. Therefore, the design needs to provide for possible impacts. This issue is not addressed in the specifications, and no provisions are provided for alternatives to standard concrete mixes using Portland Cement.</p> <p align="right">L.MI.DGW.018</p>	
139	FS-SP-0303	<p>PAGE 5, SECTION 3.8 Specify a minimum frequency of testing.</p> <p align="right">T.MI.EMC.037</p>	Agree. Title II detail.
140	FS-SP-0304	<p>PAGE 1, SECTION 1.1 Explain where drilling and grouting of instrument emplacement holes are covered.</p> <p align="right">T.MI.EMC.038</p>	A comprehensive specification covering exploratory and test hole drilling will be submitted in Title II.
141	FS-SP-1103	<p>1.3 Include features in shop for controlling and containing fluids and/or chemicals and spills.</p> <p align="right">T.MI.THP.019</p>	Agree. Appropriate measures (curbs) for containment of non-flammable chemicals and other spills will be provided in Title II drawings.
142	FS-SP-1105	<p>PAGE 3, PART 3 Include items under execution similar to those in Part 3 of FS-SP-1106 and</p>	Agree. Will include similar execution items in fully developed specification.

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
1107.		T.MI.EMC.039	
143	FS-SP-1107	No QA level has been assigned to the Mine Service Vehicle. Identify the QA level as "TBD". This comment was made in the 50 Percent review. F.MI.JAJ.017	Agree.
144	FS-SP-1107	PAGE 3, SECTION 2.1 The entry "o Exhaust Muffler and Air Conditioning Equipment" appears twice in Section 2.1. If "air conditioning equipment" indicates a catalytic converter or exhaust scrubbing system, it should be so stated. B.MI.BC.009	Agree. Changed E-1 entries as follows: o Exhaust Muffler o Catalytic Converter and Other Exhaust Conditioning Equipment.
145	FS-SP-1109	PAGE 1 The described unit should be effective for local dust control in operations that can be confined to a small volume by curtains or other means used to control air flow past a work site. Dry drilling is one such operation. It will not be totally effective for an operation that cannot be confined or in an entry where the 10,000 CFM filter	Disagree. Proper use of the mobile dust collector will be effective in any location of the ESF activities. Sizes of ESF drifts are planned ranging from 172 to 425 square feet in cross sectional areas. The air quantity of 10,000 cubic feet per minute processed by the dust collector will be able to produce a drift air velocity before the dust sources ranging from 23 to 58 feet per minute. The airflow pattern will be in one

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
		<p>flow is a small portion of the total. In the latter case; if the ventilation is removing a large portion of the dust from the work site, use of the mobile collection system may be unnecessary. B.MI.BC.001</p>	<p>general direction towards the dust sources and into the inlet hood of the collector. As the air stream tapers towards the inlet hood with a cross sectional area of about 5 square feet, the captured air velocity will rapidly increase to about 2,000 feet per minute. Airborne dust within the captured path of the air stream will be effectively collected. During mucking or drilling or bolting or after blast activity, the inlet hood position will have been adjusted to get the best effect of dust control. Airflow turbulence from the main ventilation circuitry will be controlled without sacrificing the air quality requirement of the drift behind the dust sources. The unit proposed is currently used successfully to collect dust from dry continuous miner operations and should work better in the ESF. One of the objectives of controlling dust at the underground sources is to avoid excessive dust going into the main exhaust system which would involve installation of another dust collecting equipment at the surface. The operation portion of this specification will include operational details and parameters for optimum performance of the dust collector in the ESF.</p>

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COMMENT NO.	PAGE	REVIEWER'S COMMENTS	RESOLUTION
146	FS-SP-1109 PAGE 1	<p>CFR 30 part 57.8529 states that auxiliary fan systems shall minimize recirculation.</p> <p>CFR 30 part 32.9 states that air carrying diesel exhaust gases should be returned to the surface "without traversing working places."</p> <p>As a result, the mobile dust collection exhaust should be capable of connecting to the ESF ventilation return ducts.</p> <p align="right">B.MI.BC.002</p>	<p>Agree to the option that the mobile dust collection exhaust should be capable of connecting to the ESF ventilation return ducts where it is feasible.</p> <p>Disagree to the base interpretation of CFR 30, Part 32.9 which the commentor implies that air carrying diesel exhaust gases be directed to return airways. Part 32.9 states: "If possible... where diesel equipment is used...air carrying exhaust gases from the engine is returned...without traversing working places."</p> <p>Ventilation of diesel equipment dilutes diesel exhaust gases below threshold limit values for human exposure. It is unavoidable for diesel equipment to work in the fresh intake air shaft station and consider the main intake air contaminated and unfit for the workers at the face.</p>
147	FS-SP-1109 PAGE 1	<p>The concept of local dust control using mobile collectors is not applicable to dust entrained by muck haulage and utility traffic. In light of the constraints placed on the ventilation system by SDRD 1.2.6.7.4, an</p>	<p>Agree. Regular application of chemical additives to suppress dust along roadways will be included in Title II design. A 500 gallon mobile tank to contain the chemical mix will be designed. Detail will be included in Title II detailed specifications.</p>

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RESOLUTION

additional system should be provided for control of dust on the main traffic routes of the MTL and exploratory drifts. This might be accomplished using part of the ventilation system or by using auxiliary controls such as chemical dust suppressants.

B.MI.BC.004

4.0 Technical Assessment Review Plan



Department of Energy

Nevada Operations Office
P. O. Box 98518
Las Vegas, NV 89193-8518

JUN 21 1988

NV 880622-0003

Michael E. Spaeth
Technical Project Officer
for NNWSI
ATTN: G. Kenton Beall
Science Applications
International Corporation
Suite 407
101 Convention Center Drive
Las Vegas, NV 89109

REMOTE FACILITIES FOR THE 100 PERCENT TITLE I EXPLORATORY SHAFT FACILITY (ESF)
DESIGN REVIEW (WMPO ACTION ITEM 88-2079)

Science Applications International Corporation (SAIC) is authorized to conduct and procure meeting spaces and other support required for the ESF 100 Percent Title I Design Review, at a location remote from the SAIC offices in Las Vegas, Nevada. The meeting dates will be from early August to mid-September 1988. Please prepare a Design Review Plan for the 100 percent review and submit it to the Waste Management Project Office for approval.

If you have any questions regarding this matter, please contact Dennis H. Irby at 794-7932.

Lester P. Skousen, Chief
Technology Development and
Engineering Branch
Waste Management Project Office

WMPO:DHI-2452

cc:

- V. J. Cassella, HQ (RW-123) FORS
- Dean Stucker, HQ (RW-223) FORS
- M. C. Brake, SAIC, Las Vegas, NV
- G. K. Beall, SAIC, Las Vegas, NV
- R. R. Reust, SAIC, Las Vegas, NV
- J. G. Reiser, SAIC, Las Vegas, NV
- S. H. Klein, SAIC, Las Vegas, NV
- W. E. Narrows, SAIC, Las Vegas, NV
- S. C. Smith, SAIC, Las Vegas, NV
- James Blaylock, WMPO, NV
- M. P. Kunich, WMPO, NV



SAIC/T & M

JUN 21 1988

DOE RECEIVED



Science Applications International Corporation

L88-ESF-JGR-037
WBS # 1.2.6.1
QA Level: III

August 1, 1988

Carl P. Gertz, Project Manager
Waste Management Project Office
U.S. Department of Energy
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Attention: Lester P. Skousen

Subject: Contract #DE-AC08-87NV10576
Title I - Technical Assessment Review Plan for the Exploratory Shaft
Facility (ESF) at 100 Percent Design Completion

Reference: Letter Skousen to Spaeth, dated June 21, 1988

Dear Mr. Gertz:

In accordance with your request, per the reference, for Science Applications International Corporation to prepare a Plan, which supplements QMP-02-08, for the subject review, I am pleased to transmit a copy of the Plan for your review, comment, and approval. The Technical Assessment Review Plan includes the dates, location, scope of work, instructions to reviewers, reviewer's qualifications, and other pertinent information, and satisfies the requirements of Section 3.2 Technical Assessment Review Notice of QMP-02-08. As the WMPD responsible designee, SAIC will conduct the Technical Assessment Review in accordance with the approved plan.

Briefly, this Technical Review Plan has been adapted from the Waste Management Project Office Title I Design Review for the ESF at 50 Percent Completion. The purpose of the Plan is to provide a Review of the ESF Title I Design at 100 Percent Completion and document the review comments and resolutions according to the subject Plan.

Should additional information be required, please contact G. Kenton Beall at 794-7829.

Sincerely,

SCIENCE APPLICATIONS
INTERNATIONAL CORPORATION

Michael E. Spaeth
Project Manager

MES:JGR:gg

Carl P. Gertz
L88-ESF-JGR-037
August 1, 1988
Page Two

Enclosure:
As stated

cc w/encl:
D. H. Irby, WMFO, NV
James Blaylock, WMFO, NV
E. L. Wilmot, WMFO, NV
G. K. Beall, SAIC, Las Vegas, NV
S. H. Klein, SAIC, Las Vegas, NV
M. E. Spaeth, SAIC, Las Vegas, NV
J. G. Reiser, SAIC, Las Vegas, NV

NNWSI Project

AUG 01 1988

CRF Received

Rev. 1
8/3/88

TITLE I - TECHNICAL ASSESSMENT REVIEW PLAN
FOR THE EXPLORATORY SHAFT FACILITY (ESF)
AT 100 PERCENT DESIGN COMPLETION

AUGUST/SEPTEMBER 1988

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
LAS VEGAS, NEVADA

TITLE I - TECHNICAL ASSESSMENT REVIEW PLAN
FOR THE ESF AT 100 PERCENT DESIGN COMPLETION

The Science Applications International Corporation (SAIC) Plan for the Title I - Technical Assessment Review (TAR) for the ESF at 100 Percent Design Completion is approved. SAIC, the WMPO designee, is authorized to conduct the TAR according to this Plan, as indicated by the appropriate U.S. Department of Energy (DOE)/Waste Management Project Office (WMPO) signatures below:


L. P. Skousen, Chief
Technology Development and
Engineering Branch

8/2/88
Date


James Blaylock,
Project Quality Manager

8/2/88
Date


C. F. Gertz, Project Manager
Waste Management Project Office

8/2/88
Date

TITLE I - TECHNICAL ASSESSMENT REVIEW PLAN
FOR THE ESF AT 100 PERCENT DESIGN COMPLETION

Revision 1 8/3/88

Changes shown in the plan text on the Title Page, Table of Contents, and Pages 1 are shown and are approved as indicated by the appropriate U.S. Department of Energy (DOE) Waste Management Project Office's (WMPO) Signatures below:


L. P. Skousen, Chief
Technology Development and
Engineering Branch

8/5/88
Date


James Blaylock,
Project Quality Manager

8/5/88
Date


C. P. Gertz, Project Manager
Waste Management Project Office

8/5/88
Date

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1.0 PREFACE

1.1 INTRODUCTION

The ESF Architect/Engineers (A/Es) are currently completing the Title I Design activities for the ESF. Part of the contractual agreements between the A/Es and the WMPO, is for the A/Es to submit all of the ESF design documents (drawings and specifications) at 100 percent design completion for a WMPO Technical Assessment Review. SAIC will plan, organize, conduct, document, and coordinate, the Technical Assessment Review. This plan satisfies the purpose and scope of QMP-02-08 Sections 1.0 and 4.1.2.

SAIC will conduct this Technical Assessment Review in accordance with the WMPO QMP-02-08 and this Plan. This Plan, which supplements QMP-02-08, defines the logistics and methodologies by which the review process shall be implemented. In addition, SAIC will integrate the Review of other selected organizations and conduct comment resolution meetings. Subsequent to the review's completion, a final review report, titled Review Record Memorandum (RRM) shall document the review activities including the comment resolutions. The RRM, in addition to being provided to DOE/WMPO and participating organizations, shall be placed by the TARC Chairperson into the SAIC Correspondence Control Facility for retention and retrieval upon request, this satisfies QMP-02-08 Section 5.6.

1.2 Technical Assessment Review Definitions

This Technical Assessment Review is being conducted by the DOE and other participating organizations in accordance with DOE Order 4700.1, Project Management System, Attachment III-1, Section 2 Technical Reviews, paragraph (3) Preliminary Design (Title I) Review, which states "This Review is conducted in order to: a) Evaluate the progress, technical adequacy, and risk resolution (on a technical, cost, and schedule basis) of the selected design approach; b) determine its compatibility with performance and engineering specialty requirements of the development specification [in the case of the Nevada Nuclear Waste Storage Investigations Project (NNWSI) Project ESF Subsystems Design Requirements Document (SDRD) and other ESF Baseline Design Basis Requirements Documents]; and c) establish the existence and compatibility of the physical and functional interfaces among facilities, hardware, software, personnel, and procedures." This Technical Review Plan was adapted from the NNWSI Project ESF Title I - Design Review Plan for the ESF at 50 Percent Completion. This section satisfies QMP-02-08 Sections 2.0 and 3.0.

2.0 SCOPE

The scope of this Plan is to provide a Technical Assessment Review of the ESF Title I Design at 100 percent completion and to document the review comments and resolution according to this Plan's requirements. The review must determine whether the design meets the criteria required by the Office of Civilian Radioactive Waste Management and the Office of Geologic Repositories for the ESF. Included among the criteria is the need to assess the appropriate ESF

Design features with the GRD/Appendix E for regulatory compliance with 10 CFR 6 requirements. For the NWSI Project, these criteria are set forth in the ESF SDRD, Volumes I and II; the NWSI Project Reference Information Base (RIB); the NWSI Project ESF Design Scope and Planning Document for Title I Design, prepared by Fenix and Scisson, Inc. (F&S); the NWSI Project ESF Basis for Design, prepared by F&S; the ESF Title I Scope and Planning Basis Document for the NWSI Project, prepared by Holmes and Narver, Inc. (H&N); the ESF Title I Design Basis Document, prepared by H&N; all codes and standards specified in these documents; and the Nuclear Waste Repository in Tuff Subsurface Facility Conceptual Design ESF/Repository Interface Control Drawing Number R07048A, Sheets 1-15, prepared by Sandia National Laboratories (SNL).

This review is to assess the compliance of the A/Es prepared Technical Assessment Review packages (Designs, specifications, etc.) to the design requirements provided to them. Valid assessments which may impact the approved design requirements provided to the A/E will be addressed outside of this review process, using existing WMPO change procedures.

3.0 PLAN BASIS

3.1 Organizations

The following organizations will participate in the Technical Assessment Review:

- U.S. Department of Energy/Headquarters (DOE/HQ)
- Nevada Operations Office/Safety and Health Division (NVO/SHD)
- Nevada Test Site Operations (SSD)
- Nevada Test Site Operations (HPED)
- Nevada Test Site Operations (NTSO)
- WMPO
- Weston
- SAIC
- U.S. Army Corps of Engineers (COE)
- Mine Safety and Health Administration (MSHA)
- Bureau of Mines (B of M)
- Reynolds Electrical and Engineering Company (REECO)
- Los Alamos National Laboratory (Los Alamos)
- U.S. Geological Survey (USGS)
- SNL
- Lawrence Livermore National Laboratory (LLNL)
- NVO/ISD

ADND →

The following organizations will provide observers at the Technical Assessment Review:

- U.S. Nuclear Regulatory Commission
- The State of Nevada
- University of Nevada - Las Vegas
- University of Nevada - Reno

SAIC will provide a multidiscipline group of personnel, Technical Assessment Review Committee (TARC) qualified in their chosen disciplines as part of Technical Review Team.

The TARC is composed of a Review Chairman, a Review Secretary, one representative of each specific design discipline, a Quality Assurance (QA) Specialist, and Regulatory Compliance, and others as appropriate (Figure I). Participating Organizations, in addition to providing Reviewers, shall designate a Lead Representative for their respective organization, (Figure II).

It is the TARC's role, in addition to providing review comments, to integrate the comments from each outside reviewing organization into one set of comments to be presented to the A/Es for resolution. The TARC Chairman shall coordinate all efforts between the SAIC, the outside reviewing organizations, and the A/Es.

3.2 Technical Review Assessment Team Selection

Team Members selection is based on the individual's qualifications of his or her technical/scientific speciality, as a competent reviewer representative for the scope of work identified for each respective participating organization. Team Members will, in their respective areas of competency be as qualified as those who, on the staff of the A/Es, prepared the Exploratory Shaft Facilities surface and underground works, engineering designs, and specifications, in accordance with the WMPO design requirements.

In order to meet the above qualification, Team Members will as a minimum, possess a Bachelors Degree and five years of experience or the demonstrated equivalency of training and experience in their area of expertise. Team Members' qualifications will be certified and documented by the Team Members' supervision. Documentation will be prepared on WMPO Proficiency Review Report, Form No. N-QA-007 and provided to the Technical Review Committee Secretary on or before the first day of the start of the review process. Background data/material which substantiates the qualification certification will be retained at the reviewer's organization. Prior to the destruction of such material notice shall be given to the WMPO. Background data/material may be subjected to audit by personnel from the Nuclear Regulatory Commission or the U.S. Department of Energy. The completed form N-QA-007 shall be included in the RRM. The above satisfies QMP-02-08, Section 5.2.

3.3 Location/Time

To accomplish a technical review of a large number of drawings and specifications in the time allocated, SAIC requires a concentrated effort by all designated reviewers at a single location away from their respective offices. A single location simplifies the review process by eliminating those problems associated with multioffice reviews (i.e., document transmittals, reference material, misunderstood comments and resolutions, and conflicting work commitments of the Reviewers). The designated location is at the Henderson Convention Center, Henderson, Nevada, (Figure III). The review is scheduled to start on August 8, 1988, at 8 a.m.

Ken Beall

J. Reiser

P. Karnoski

J. Davenport

Reviewers

M. Brake

E. Cikanek

R. Tome'

I. Cottle

J. McConville

T. Pysto

S. Smith

A. Langstaff

S. Phillips

C. Pflum

Chairperson

Secretary

Quality Assurance

Regulatory Compliance

Discipline or Department

Civil/Structural/Architectural

Geotechnical

Mechanical

Testing

Electrical

Environmental Design

Repository/Operations

Mining/Ventilation

Safety

Regulatory Compliance

FIGURE I

SAIC TECHNICAL ASSESSMENT REVIEW COMMITTEE

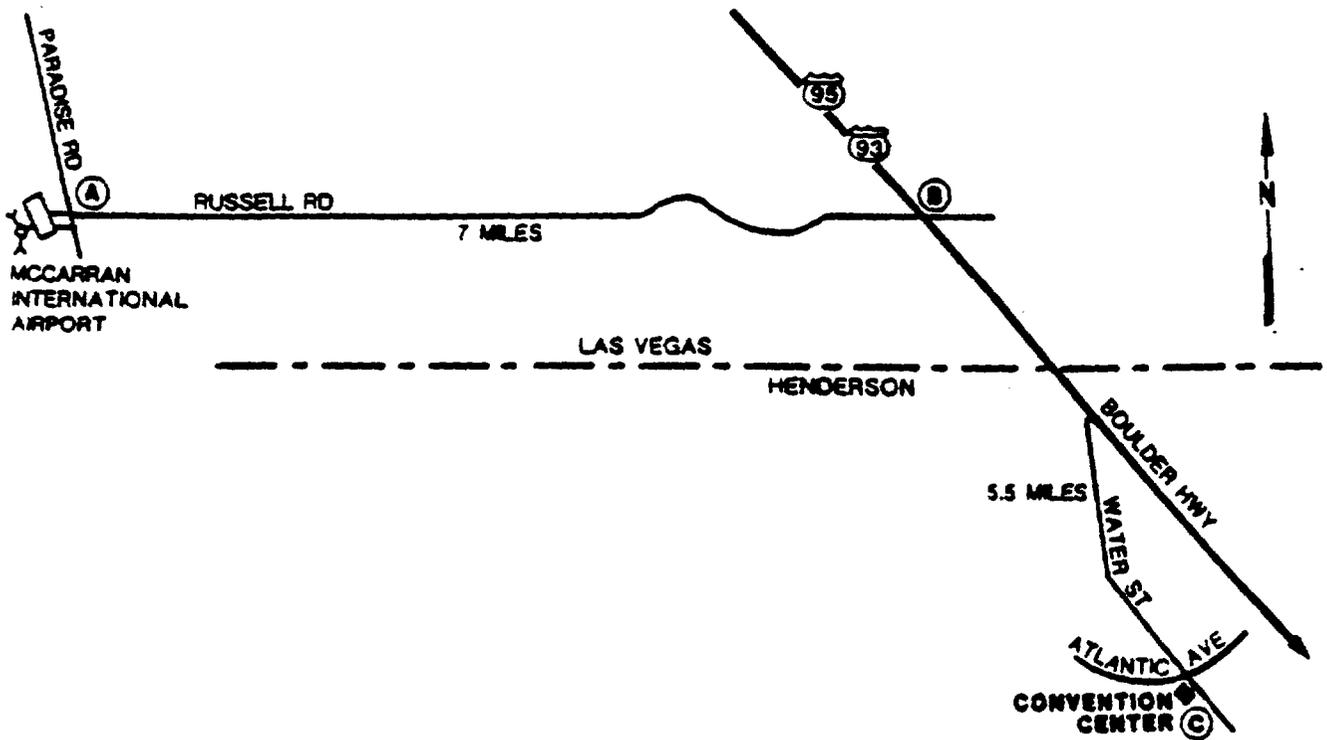
<u>ORGANIZATION</u>	<u>REPRESENTATIVE</u>
1. DOE/HQ	D. Stucker
2. DOE/WMPO	D. Irby
3. Roy F. Weston	J. Montgomery
4. SAIC/OA	J. Jardine
5. SAIC/TARC	I. Cottle
6. B of M	B. Cantrell
7. USGS	B. Craig
8. SNL	B. Stinebaugh
9. LLNL	D. Wilder
10. Los Alamos	T. Merson
11. NVO/SHD	D. Martin
12. DOE/NTSO	A. Veloso
13. REECO	D. Koss
14. COE	E. Jensen
15. MSHA	R. Breland
16. NVO/SSD	—
17. NVO/HPED	—
ADDED 18. NVO/ISD	DEAN BROGAN

(1) This is a tentative list and will be confirmed by the participating organizations on the first official day of the review proceedings.

FIGURE II

LEAD REPRESENTATIVES FOR PARTICIPATING ORGANIZATIONS (1)

**HENDERSON CONVENTION CENTER
200 WATER STREET
HENDERSON, NEVADA 89015**



DIRECTIONS FROM AIRPORT TO HENDERSON CONVENTION CENTER

- A. Out of McCarran Airport to corner of Paradise Avenue and Russell Road.
- B. East on Russell Road to Boulder Highway (93 & 95) - 7 miles.
- C. South on Boulder Highway to Convention Center (on southwest corner) - 5.5 miles

FIGURE III - REVIEW MEETING LOCATION

4.0 TECHNICAL ASSESSMENT REVIEW PROCESS

4.1 Pre-Review

A formal request has been received by SAIC from the WMPO as designee to conduct a multiple participating organizations Technical Assessment Review.

The Review Technical Assessment Committee Secretary shall contact the WMPO and obtain the list of reviewing organizations and approved scope of review for each group (Figure IV). A Technical Assessment Review Notice announcing the planned review shall be sent to each reviewing organization. The Review Notice shall focus on the plan, dates, location, scope of work, review process outline, and any other pertinent or background information necessary for the review. The Review Notice shall also request reviewers names, qualifications, and commitment for the review period.

The reviewing organizations shall send a list of reviewers with qualifications according to the Scope of Work, Figure IV in the Plan, using form N-QA-007 as indicated in Figures V, and VI respectively.

Reviewers shall be required to complete the WMPO QA training prior to the acceptance of their comments into the review process. It is emphasized that an integral part of the Reviewer's qualification training completion and his/her commitment for the review period are that each reviewer, as a minimum, be in attendance during the following:

- o Review Presentation and Indoctrination
- o Review period
- o Reviewer comment disposition (transmit or not to transmit comments to A/Es)

SAIC shall reserve meeting rooms, provide for logistical support (i.e., secretarial, copying, etc.) and shall also obtain the appropriate number of drawings and specification copies to provide each reviewer with a complete set for the area being reviewed. Calculations may be requested as required from the A/Es during the review period.

4.2 Review Process Outline

The Presentation Meeting will be held in Henderson, Nevada, on the first day of the review. The A/Es will present a design overview by discipline, followed by Review indoctrination by SAIC to provide guidance on the scope of the review and comment content. Attendance at this presentation shall be documented as part of the review record. Subsequent to the completion of the design presentation and work shops, the A/Es will present their Technical Assessment Review Package to the review Team Members to be assessed. The above satisfies QMP-02-08, Section 3.4 and 4.2, compile a data package for review.

The main points of guidance to the Reviewers will be:

1. Purpose and scope.
2. Participants and their responsibility.
3. Comment guidelines.
4. Review Forms completion.

1. DOE/HQ/Weston - Review for compliance to Program Requirements, constructibility, operations, maintenance, and safety (10 CFR 60).
2. REECO - Review for constructibility, use of standard construction practices, quality control, operations, maintenance, and safety (industrial/worker).
3. SAIC - Review of general compliance with Program Requirements, standard construction practices, and environmental permitting compliance, and regulatory compliance.
4. WMPO - Review for general compliance with Program Requirements.
5. COE - Review for general compliance with regulations for site preparation and civil works, constructibility, and use of standard construction practices.
6. MSHA - Review for general compliance with MSHA regulations and standard safety practices, and for use of standard construction practices.
7. B of M - Review for mining technology applications with respect to controlled blasting and blast effect on instrumentation, dust abatement and control, diesel emissions at surface and underground works, and drift and pillar stability design.
8. USGS - Review for adequacy to support ESF in situ characterization testing needs.
9. SNL - Review for general compliance with site and engineering properties data base identified in the RIB, adequacy to support ESF in situ site characterization testing needs, and compatibility of ESF permanent items which will be incorporated into the repository. Design features of the ESF for regulatory compliance with 10 CFR 60 requirements, as defined in the DOE Generic Requirements Document, Appendix E for the ESF.
10. LLNL - Review for general compliance with the waste package interfaces and for adequacy to support ESF in situ site characterization testing needs.
11. Los Alamos - Review for adequacy to support in situ site characterization testing needs.
12. NVO/SHD - Review for compliance to health and safety regulations.
13. NTSO - Review with respect to security concerns and for compatibility/interface with present on-site utilities, buildings, roads, maintenance facilities, etc.
14. NVO/SSD - Review with respect to physical security concerns.
15. NVO/HPED - Review for environmental compliance with regulations.

FIGURE IV

SCOPE OF WORK FOR REVIEWING ORGANIZATION



WMPO PROFICIENCY REVIEW REPORT

M-04-007
8/86

Name I. A. REVIEWER Review Date May 4, 1988
Title Senior Mining Engineer

The proficiency review is based on the experience, knowledge and training of the individual. The activities the individual is capable to perform are listed below.

Activities Based upon a review of MR REVIEWER'S education and employment history,
he is fully qualified to serve on the Title II TECHNICAL Review Board. Mr. REVIEWER
holds a B.S. degree in Mining Engineering from the Colorado School of Mines. He
was employed by Amax Inc. at the Urad and Henderson mines in various capacities
including ventilation engineer, mine planning engineer, underground surveyor, and
blasting crew miner. Subsequently, MR. REVIEWER was employed by Cleveland Cliffs
where he was responsible for completion of feasibility studies. Duties included
design of mine layouts, ventilation system design, equipment selection and material
handling system design. Prior to joining the ABC Co. team he was employed by
Westinghouse Hanford on the Basalt Waste Isolation Project where he was responsible
for providing mining expertise and guidance for design of the BWIP exploratory shaft
facility. Assignments included leading a study group reviewing changes in mine
regulations, direction of Architect Engineer contractor and team leader of a group
defining design recommendations for the underground facility.

Proficiency Report Conducted and Certified by
Signature H.S. SUPERVISOR Title Integration Mining Manager
Date MAY 4, 1988

NOTE: This report should be completed on an annual basis.

FIGURE VI - WMPO PROFICIENCY REVIEW REPORT EXAMPLE

4.2 Review Process Outline (Continued)

After the Presentation Meeting, work areas for the Reviewers will be provided at the Henderson Convention Center, as required. The Reviewers will have the next seven calendar days to review the Technical Assessment Review Package and submit their comments to SAIC. SAIC will have copies of the SDRD, RIB, A/Es Planning and Scoping and Design Basis Documents, and its referenced documents, available in a library at the meeting room. Each Reviewer must have their comments reviewed by the Lead Representative from the Reviewer's organization prior to submittal to SAIC.

The Lead Representative must ensure that the submitted comments are appropriate, relative, and not redundant or conflicting with another Reviewers comments from that organization.

SAIC Discipline Coordinators (Figure VII) will remain in specific areas to assist the Reviewers on questions or data needs. The Reviewers shall follow the WMPO Plan, Sections 4.2.1 and 4.2.2 for review process and submit their comments on forms, RCS (Figures VIII and IX), DRS (Figures X and XI). Comments shall be dispositioned and consolidated to a common form by the SAIC Discipline Coordinators. Typing and copying services will be available in the secretarial and copy room.

The SAIC Technical Assessment Review Secretary or Discipline Coordinators will review the comments with the designated Lead Representative to help ensure proper comments. Improper comments (comments in question form, duplicate comments, comments on the requirements documents, comments outside the Reviewer's scope, etc.) will be brought to the Reviewer's attention by the SAIC Coordinators.

Comment disposition disagreement between SAIC Discipline Coordinators and the Reviewer, shall be submitted to the Review Chairman. [The Review Chairman shall have final disposition authority on the comments transmitted to the A/Es. Comments should be assessed for appropriateness and relativity by the following:

1. The Reviewer.
2. The Designated Lead Representative of the reviewing organization.
3. The SAIC Review Secretary/respective Discipline Coordinator.

The Review Secretary shall then compile all comments into a single set of integrated comments.

It is the intent of this plan that all comments will be resolved at the joint resolution meeting with the ESF A/Es and representatives from reviewing organizations. Unreconciled differences of opinion, which occur between the Reviewer(s) and the A/Es during the joint resolution meeting which are not resolved through the office of the Review Committee Chairperson will be identified as open items in the Review Record Memorandum (RRM). Open items will be reviewed by the TARC. The TARC will include in the final RRM a recommendation for each unresolved comment.

ALL
COMMENTS
ARE
SUBMITTED
TO A/Es

ALL DISPUTES
ARE RESOLVED
AT TPO & WMPO
LEVEL - WE
TRACK ONLY

Conflicts are referred, with a documented recommendation by the TARC Chairperson, to the appropriate TPO for conflict resolution. The TPO documents the resolution of the conflict to the Chairperson and the responsible WMPO branch chief. The joint resolution meeting will begin 18 calendar days after final comment disposition to allow time for comments to be properly consolidated and proposed resolutions prepared by the A/Es. This satisfies QMP-02-08 Section 5.5.3 and 5.5.5.

Closure of Resolution, the responsible WMPO Branch Chief or designee, shall ensure that the appropriate TPO satisfies and closes out the commitments made in resolutions to the Technical Assessment Review Comments. This satisfies QMP-02-08 Section 5.7.

Information needs on the forms shown on the figures in QMP-02-08 for documentation of the Technical Assessment Review Comment Record is provided for by a suitable alternative which enables computerization of the comment/resolution process. The Review Comment Record form shown in QMP-02-08 is reformed for this plan into two forms namely: 1) Reviewer's Comment Sheet (Figure VIII) and Discipline Resolution Sheet (Figure X), including appropriate continuation sheets. This satisfies QMP-02-08, Section 7.0, Figures 3 and 4.

<u>Category⁽¹⁾</u>	<u>SAIC Principal Coordinator</u>	<u>Support Coordinators</u>
General	I. Cottle	S. Smith
Civil/Architectural	M. Brake	I. Cottle
Mechanical	R. Tome'	None (as necessary)
Electrical	J. McConville	None (as necessary)
Mining	S. Smith	A. Langstaff/E. Cikanek
Shafts	I. Cottle	E. Cikanek/S. Smith

(1) Specification shall be reviewed within the category.

Figure VII

SAIC TARC DISCIPLINE COORDINATORS

REVIEWER'S COMMENT SHEET

TECHNICAL ASSESSMENT REVIEW

Acceptance Signatures

Document Originator _____

Date _____

Reviewer _____

Date _____

Document Title _____

Discipline Coordinator _____

Date _____

Name of Reviewer _____

Date _____

COMMENT NO. & TYPE	PAGE NO.	COMMENT
--------------------	----------	---------

RESOLUTION

FIGURE VIII - REVIEWER'S COMMENT SHEET

REVIEWER'S COMMENT CONTINUATION SHEET

Document Title _____

Name of Reviewer _____

COMMENT NO. & TYPE	PAGE NO.	REVIEWER'S COMMENTS	RESOLUTION

FIGURE IX - REVIEWER'S COMMENT CONTINUATION SHEET

DISCIPLINE RESOLUTION CONTINUATION SHEET

N-ES-002

7/88

Document Title _____

**COMMENT
NO.
& TYPE**

**PAGE
NO.**

REVIEWER'S COMMENTS

COMMENT

RESOLUTION

FIGURE XI - DISCIPLINE RESOLUTION CONTINUATION SHEET

4.2.1 Instructions to Reviewers

A. General Guidance

Particular attention should be given to the comment content and structuring to provide the document author with constructive and referenced or supported comments. Comments should be provided that are clear and concise, and which may be dispositioned on the RCS without dialogue to determine the meaning of the comment. The Review shall provide information which may be incorporated or expanded by the A/Es to enhance the quality of the document. Since the RCS are records which may become public information, the comments should be structured in a professional manner and with enough detail to communicate and resolve the intent of the comment.

B. Specific Guidance

1. Reviewers shall determine that their respective organization's ESF 50 Percent Title I Design Review comments/resolutions agreed to be completed at the ESF 100 Percent Title I Technical Review have been incorporated into the A/E's designs and specifications.
2. Avoid comments in the form of questions directed to the author. Make statements that can be dispositioned by the author to resolve your concerns. Questions such as, "What is the intent of...?" or "Why did you...?" or "Can you?" are not comments on the document content requiring resolution. Most question-type comments can be structured into constructive comments. For example, "What is the intent of...?" can be restructured to, "Provide an explanation in this section to support the intent of..."
3. Avoid comments of "More detail required," "change" or "clarify." Rather, state what additional details or clarifications are considered necessary, or state "change to..." and support the suggested change with reference or justification, or provide the additional text necessary to resolve the comment.
4. Provide supporting evidence such as a reference, or attach verified information or rationale if a comment identifies a technical error or disagreement with a conclusion.
5. If the document is a specification, give page number, paragraph, and sentence number.
6. If the document is a drawing, give specific zone number (i.e., drawing number, zone A-Z, detail 1, etc.).

4.2.1 Instructions to Reviewers (Continued)

B. Specific Guidance (Continued)

7. Give enough detail so the designated person from the reviewing organization can dispose of the comment with the A/E.
8. The Reviewer should restrict his comments to the Scope of Work designated by the WMPO (Figure IV) Page 8 for his organization and to the area of the Reviewer's qualified expertise.
9. Comments must be integrated by the reviewing organization by discipline and typed by SAIC on the appropriate forms. No correction fluids or tape may be used on the signed document. Corrections may be made by lining out the incorrect text and making additions. The original text must not be obliterated. Changes must be initialed in black ink and dated. All submitted comment forms must be signed by the Reviewer in black ink.
10. Comments must consider the stage of design completion and scope of the review.
11. It should be kept in mind that Technical Reviews are intended to improve the product and not impose alternative design choices or concepts.
12. Conflicting comments within a reviewing organization must be resolved internally by the Lead Representative before submittal for disposition.
13. The design needs to meet the requirements and should be reasonable and defensible. Refer to design criteria documents. These documents will be provided, during the meeting periods, in the library at Henderson Convention Center.
14. This Review requires that all comments shall be written on the document review sheets, as provided.
15. Editorial comments or comments on the contractual language in specifications will not be accepted.
16. Comments on the Design Basis Requirements Documents should not be prepared; they will not be accepted for transmittal to the A/Es. Change Requests to the Design basis requirements are outside the scope of this reaview. Such requests are processed through the WMPO using the formal change request procedures for the project.

4.2.1 Instructions to Reviewers (Continued)

B. Specific Guidance (Continued)

17. To meet the spirit and intent of the WMPO to have a single location to facilitate the review process, paragraph 3.3 Location, Reviewers are required to sign a "Reviewer Comment Resolution Designation Authority" which designates his/her signature authority to their Organization's Lead Representative. This signature authority enables the review process, as regards the Reviewer's comments to continue in the review process, in the necessary absence of the Reviewer (Figure XII).
18. In order to enable closure between the Reviewing Organizations and the Comment Resolutions developed by the A/Es, when final concurrence is reached, this concurrence shall be evidenced by the signature of the Reviewing Organization's Lead Representative on "Comment Resolution Concurrence Form", (Figure XIII). This statement satisfies the requirement of QMP-02-08, Section 5.4 that "The TARC Chairperson will review and sign and date the RRM". These forms will be included in the RRM.
19. Reviewers should note that all comments dispositioned as "transmit" to the A/Es are major comments by definition.
20. Each Reviewer is responsible for both the technical and grammatical (i.e., spelling errors, etc.) content of their submitted comments.

THE REVIEWER, NAMED BELOW, IN HIS ABSENCE DESIGNATES AND TRANSFERS COMMENT
RESOLUTION AUTHORITY AND CONCURRENCE AUTHORITY TO HIS LEAD REPRESENTATIVE.

REVIEWER: _____

ORGANIZATION NAME: _____

LEAD REPRESENTATIVE: _____

DATE: _____

FIGURE XII

ESF TITLE I - 100 PERCENT TECHNICAL ASSESSMENT REVIEW

REVIEWER COMMENT RESOLUTION DESIGNATION AUTHORITY

THE REVIEWER TEAM LEAD REPRESENTATIVE CONCURS WITH ALL THE RESOLUTIONS DEVELOPED FOR ALL OF THE COMMENTS SUBMITTED BY HIS ORGANIZATION DURING THE COMMENT AND RESOLUTION ACTIVITIES.

ORGANIZATION NAME: _____

LEAD REPRESENTATIVE: _____

DATE: _____

FIGURE XIII

ESF TITLE I - 100 PERCENT TECHNICAL ASSESSMENT REVIEW

COMMENT RESOLUTION CONCURRENCE

4.2.2 Comment/Resolution Development

Comment Development

- | | <u>Remarks</u> |
|---|--------------------------------|
| 1) Reviewers Written Comments on RCS
Delivered to Review Control Room
typing box | In pencil on RCS |
| 2) Initial Processing by SAIC Control Room <ul style="list-style-type: none">o Type drafto Individual comment tracking numbers assignedo Return to Reviewer | |
| 3) Draft Review and Mark-up <ul style="list-style-type: none">o Reviewer edits commentso Lead Representative concurs with commentso Return final draft comments to SAIC Control Room typing box | Direct mark-up of draft |
| 4) Final Typing Input <ul style="list-style-type: none">o SAIC corrects and types Reviewers draft commentso Printout on RCSo Reviewer proof reads signs and delivers finished comments to their Lead Representativeo Lead Representative ensures compliance with Review requirements and initials his concurrenceo Lead Representative delivers final comments to Discipline Coordinator's in box | See comment ID format (Pg. 19) |

Comment Disposition

- | | <u>Remarks</u> |
|---|---|
| 1) <ul style="list-style-type: none">o Disposition by Designated Review/Discipline Coordinatorso Reviewer concurs and signs off on Reviewer line on RCSo Coordinator signs and dates on Discipline coordinator lineo Comment Originals to Master Comment File Book | Any corrections necessitate re-printing |
| 2) Signoffs - RCS <ul style="list-style-type: none">o Chairperson/Secretary as responsible manager, sign and date in proper lineo QA Specialist, sign and date in proper line. | |

4.2.2 Comment/Resolution Development (Continued)

<u>Comment Disposition (continued)</u>	<u>Remarks</u>
3) Sorting and Consolidation of Comments for each A/E	
a. By A/E	Computer sort
b. By category (Pg. 19)	Computer sort
c. By A/E drawing specification list	Computer sort
d. By comment commonalty	Coordinator sort
e. SAIC Control Room makes file modifications as directed by coordinator for each drawing category	
4) Consolidation	
o Transfers comments to DRS	
5) Number Comments	
o Number comments DRS consecutively within categories	
6) Comments to A/E's	
o Consolidated comments transmitted to A/Es for development of proposed resolutions	

Resolution Meeting

- 1) Resolutions
 - o Resolution acceptance or rejection
 - o Resolution modification or rewrite of rejected comments
 - o Concurrence on all resolutions
- 2) Comment/Resolution Consolidation
 - o Comment and resolution typed on DRS
 - o Resolution modifications or rewrites to be reviewed by appropriate SAIC Discipline Coordinators for accuracy and consistency

Review Record Memorandum

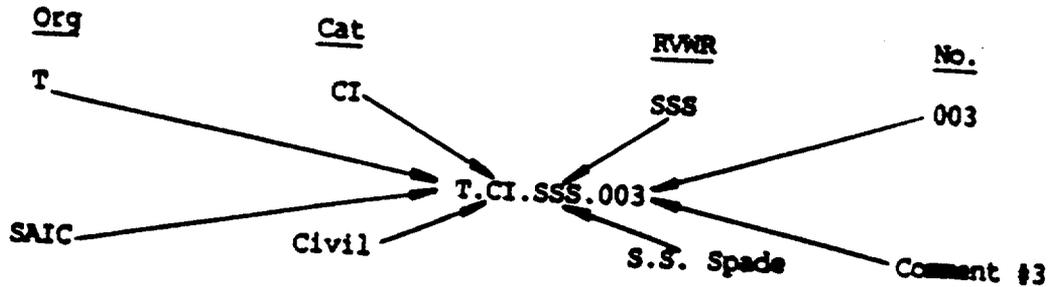
- o All inclusive report
- o Findings and recommendations by TARC

4.2.3 Comment Identification Number Definition

1) Format

- o Organization (Org)
- o Category (Cat)
- o Reviewer (RVWR)
- o Number (No.)

EXAMPLE



<u>Category (1)</u>	<u>Codes</u>	<u>Organization</u>	<u>Codes</u>	<u>Reviewer Codes</u>
1. General	GE	1. DOE/EQ	Q	<ul style="list-style-type: none"> o Three initials o Duplications modified as needed <p>Reviewer's Consecutive <u>Comment Numbers</u> 001 thru 999</p>
2. Civil	CI	2. NVO/SHD	N	
3. Mechanical	ME	3. NTSO	E	
4. Structural	ST	4. WMFO	J	
5. Architectural	AR	5. Weston	R	
6. Electrical	EL	6. SAIC	T	
7. Mining	MI	7. Corps of Eng.	C	
8. Shaft	SH	8. MSHA	M	
9. Specifications	SP	9. BOM	B	
		10. REECO	R	
		11. Los Alamos	A	
		12. USGS	G	
		13. Sandia	S	
		14. LLNL	L	
		15. NVO/SSD	D	
		16. NVO/HPED	H	

- o Ascending numbering within each designated category (9 categories above)

4.3 Review Record Memorandum

The Review Secretary collects and prepares and the Review Chairman shall issue a final report in the form of a Review Record Memorandum (RRM) to the WMPO and each reviewing organization on the final comment resolution. The RRM shall be signed by the SAIC Technical Assessment Review Committee Chairperson. This memorandum shall be issued 30 calendar days after the final joint resolution meeting.

5.0 SCHEDULE/ACTIVITIES

All major milestones required to meet the current review schedule are shown on (Figure XIV) of this Plan. The Review activities in Henderson, Nevada, will be scheduled as follows:

5.1 Calendar Days Activities

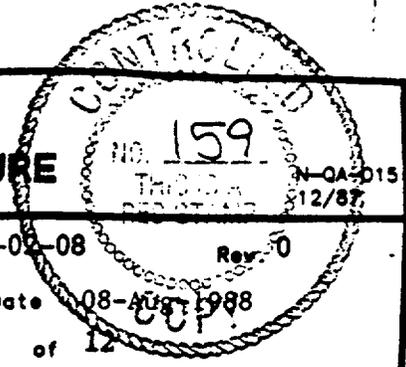
<u>Calendar Day</u>	<u>Activity</u>
1	Review Presentation Meeting
2 - 8	Review and Workshops
9 - 12	Review and completion of comment disposition by SAIC
15 - 19	Comment consolidation and tracking by SAIC
22	Comment due to A/Es
22 - 26	Comment response preparation by H&N and F&S
30 - 37	Comment resolution with review organization representatives and A/Es
67	SAIC RRM to the WMPO and reviewing organizations

6.0 Acronyms

A/Es	Architect/Engineers
B of M	U.S. Department of Interior, Bureau of Mines
COE	U.S. Army Corps of Engineers
DOE/HQ	U.S. Department of Energy/Headquarters
DOE/NVO	U.S. Department of Energy/Nevada Field Operations
DOE/NVO-HPED	U.S. Department of Energy/NOV-Health Physics and Environmental Division
DOE/NVO-SHD	U.S. Department of Energy/NVO-Safety and Health Division
DOE/NVO-SSD	U.S. Department of Energy/NVO-Safeguards and Security Division
DOE/NTSO	U.S. Department of Energy/Nevada Test Site Operations
DOE/OCRWM	U.S. Department of Energy/Office of Civilian Radioactive Waste Management
DOE/OGR	U.S. Department of Energy/Office of Geologic Repositories
DOE/WMPO	U.S. Department of Energy/Waste Management Project Office
DRS	Discipline Review Sheet
ESF	Exploratory Shaft Facility (Surface, Shafts, Underground)
F&S	Fenix and Scisson, Inc.
GRD/APP. E	OCRWM Generic Requirements for a Mined Geologic Disposal System/Attachment I, Appendix E, Generic Requirements for Exploratory Shaft Facility (ESF) Design, Construction, and Operations
H&N	Holmes and Narver, Inc.
Los Alamos	Los Alamos National Laboratory
LLNL	Lawrence Livermore National Laboratory
MSHA	Mine Safety and Health Administration
NNWSI	Nevada Nuclear Waste Storage Investigations
NRC	U.S. Nuclear Regulatory Commission
QA	Quality Assurance
RCS	Reviewers Comment Sheet
REECO	Reynolds Electrical and Engineering Co., Inc.
RIB	Reference Information Base
RRM	Review Record Memorandum
SAIC	Science Applications International Corporation
SDRD	Subsystems Design Requirements Document
SNL	Sandia National Laboratories
TAR	Technical Assessment Review
TARC	SAIC Technical Assessment Review Committee
TRC	SAIC Technical Review Committee
TARP	Title I - Technical Assessment Review Plan for the ESF at 100 Percent Design
UNLV	University of Nevada - Las Vegas
UNR	University of Nevada - Reno
USGS	U.S. Geological Survey



QUALITY MANAGEMENT PROCEDURE



N-QA-015
12/87

Title

TECHNICAL ASSESSMENT REVIEW

No. QMP-01-08

Rev. 0

Effective Date 08-Aug-1988

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1.0 PURPOSE AND SCOPE

This procedure defines the method to be used and responsibilities for performing Technical Assessment Reviews for the Nevada Nuclear Waste Storage Investigations (NNWSI) Project. The requirements of this procedure may be supplemented with further documented guidance that defines the logistics and methodologies to be used in a review.

2.0 APPLICABILITY

This procedure applies to Technical Assessment Reviews conducted by the Waste Management Project Office (WMPO) for the NNWSI Project. A Technical Assessment Review is one of a set of review methods defined for the NNWSI Project in Section 4.2.5 of the Systems Engineering Management Plan (SEMP). This procedure can be used in meeting the requirements for technical reviews defined in the SEMP and in U.S. Department of Energy (DOE) Order 4700.1, Attachment III-1, Page III-47, Section 2.

3.0 DEFINITIONS

3.1 TECHNICAL ASSESSMENT REVIEW

The Technical Assessment Review is a documented evaluation of technical status, technical progress, or technical merit, in combination or separately. It is performed by qualified individuals other than those who performed the technical work being reviewed, but who may be from the same organization. Technical Assessment Review is a management method that may be used to accomplish such items as the following:

1. Assessing requirements.
2. Determining the degree to which technical work meets requirements.
3. Identifying technical issues in a timely fashion, including interfaces with site and design efforts.
4. Assessing the technical status or technical progress of activities.
5. Providing a basis to accept technical services rendered.

APPROVED BY

Project Manager, T&MS

Date 3 August 1988

WMPO Project Quality Manager

Date 08/03/88

WMPO Project Manager

Date 8/4/88

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6. Defining and directing necessary changes in accordance with WMPO procedures.

3.2 TECHNICAL ASSESSMENT REVIEW NOTICE

The Technical Assessment Review Notice (Figure 1) is issued by the responsible WMPO Branch Chief, or designee, announcing the Technical Assessment Review. The notice provides the following:

1. Technical Assessment Review scope and purpose, identifying areas and items to be assessed, including an indication of the required depth. This may be accomplished in a variety of ways, including the use of questionnaires, checklists, a list of design requirements, or through other suitable means.
2. Date, time, location, and other logistical information for the Technical Assessment Review meeting.
3. Name of the Technical Assessment Review Team Chairperson.

3.3 TECHNICAL ASSESSMENT REVIEW TEAM SELECTION RECORD

3.3.1 The Technical Assessment Review Team Selection Record (Figure 2) is completed, signed, and dated by the Technical Assessment Review Team Chairperson. It identifies the functions involved in the review, and the names of qualified individuals selected to be on the Technical Assessment Review Team. The review team members are assigned the responsibility for reviewing and providing comments, as applicable, for those functions. The review team members must be other than those who performed the technical work, but they may be from the same organization.

3.3.2 The Technical Assessment Review Team Selection Record includes the documentation of the qualifications of the review team members assigned for the various review functions.

3.4 TECHNICAL ASSESSMENT REVIEW PACKAGE

The Technical Assessment Review Package is a collection of documents (e.g., reports, schedules, plans, and drawings) that provides the information to be assessed by the review team members to achieve the established scope and purpose.



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3.5 REVIEW RECORD MEMORANDUM

The Review Record Memorandum is a documented summary of the Technical Assessment Review prepared by the Secretary, which includes the following:

1. Scope of the review.
2. Technical Assessment Review Notice.
3. Technical Assessment Review Meeting minutes.
4. Technical Assessment Review Team Selection Record.
5. Technical Assessment Review Comment Records identifying comments and resolutions.
6. List of meeting attendees and, when specified, their Technical Assessment Review responsibilities.
7. Correspondence relating to the Technical Assessment Review.
8. Information presented during the Technical Assessment Review meeting and other information provided to the review team members that was not contained in the original Technical Assessment Review Package or in subsequent additions or modifications to the package.
9. Conclusions and recommendations.

3.6 TECHNICAL ASSESSMENT REVIEW COMMENT RECORD

The Technical Assessment Review Comment Record is a form used to document Technical Assessment Review comments and their resolution (Figures 3 and 4).

3.7 TECHNICAL ASSESSMENT REVIEW DATA PACKAGE

The Technical Assessment Review Package is a set of Quality Assurance (QA) records consisting of the Technical Assessment Review Package and the Review Record Memorandum, including any supplements as described in Section 5.5.6.

4.0 RESPONSIBILITIES

4.1 RESPONSIBLE WMPO BRANCH CHIEF OR DESIGNEE

4.1.1 The responsible WMPO Branch Chief or designee shall plan, schedule, and announce the Technical Assessment Review, designate the Technical Assessment Review Chairperson, and distribute the Review Record Memorandum.



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4.1.2 If the responsible WMPO Branch Chief determines that a Project Participant is to be the designee, the responsible WMPO Branch Chief shall document that decision and the designated organization shall prepare and issue the Technical Assessment Review Notice.

4.2 TECHNICAL ASSESSMENT REVIEW CHAIRPERSON

The Technical Assessment Review Chairperson is responsible for the following:

1. Designating the Secretary for the Technical Assessment Review.
2. Determining the technical disciplines to be used to accomplish the scope and purpose of the review.
3. Establishing minimum qualifications (e.g., education, experience, and independence) needed by review team members to fulfill technical disciplines to accomplish the scope and purpose of the review.
4. Obtaining suitable documentation of review team members' qualifications for the various technical disciplines.
5. Ensuring that the documentation of the review team members' qualifications meets the needs of the review.
6. Determining the number of reviewers for the Technical Assessment Review Team.
7. Obtaining information for the review from the appropriate Technical Project Officer (TPO) and others, as appropriate.
8. Coordinating the Technical Assessment Review Team, the meeting, and the review process.
9. Issuing the Review Record Memorandum to the responsible WMPO Branch Chief for distribution.
10. Compiling a data package of the Technical Assessment Review.

4.3 SECRETARY

The Secretary documents the Technical Assessment Review Team activities. Specifically, the Secretary records the meeting minutes, collects comments and resolutions, and prepares the Review Record Memorandum (per Section 3.5).



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4.4 TECHNICAL ASSESSMENT REVIEW TEAM MEMBERS

It is the responsibility of the review team members to review and provide comments in their technical area, as designated by the Chairperson, and to participate in the evaluation of proposed resolutions.

5.0 PROCEDURE

5.1 INITIATION OF THE TECHNICAL ASSESSMENT REVIEW

The responsible WMPO Branch Chief or designee plans, scopes, and schedules the Technical Assessment Review and designates the Technical Assessment Review Chairperson. The responsible WMPO Branch Chief or designee also issues the Technical Assessment Review Notice to Quality Assurance, Regulatory Compliance, and others, as appropriate.

5.2 TEAM SELECTION

5.2.1 The Technical Assessment Review Chairperson performs the following:

1. Designating the Secretary for the Technical Assessment Review.
2. Determining the technical disciplines to be used to accomplish the scope and purpose of the review.
3. Establishing minimum qualifications (e.g., education, experience, and independence) needed by review team members to fulfill the technical disciplines to accomplish the scope and purpose of the review.
4. Obtaining suitable documentation of review team members' qualifications for the various technical disciplines, as described in Section 5.2.2
5. Ensuring that the documentation of the review team members' qualifications meets the needs of the review, and signing and dating the Technical Assessment Review Team Selection Record(s).
6. Determining the number of reviewers for the Technical Assessment Review Team.
7. Ensuring that assigned Review Team Members are trained to this procedure and other applicable documents.



QUALITY MANAGEMENT PROCEDURE

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5.2.2 The Technical Assessment Review Chairperson requests the following information for each of the review team members: name of the person and a statement that the review team member meets the education, experience, and independence qualifications established for the review. This information is to be provided by the employer of the review team member.

5.2.3 If a review team member's employer is an agency outside of the NNWSI Project, the chairperson is responsible for notifying the agency that the documentation verifying the education, experience, and independence of the review team member must be obtained and retained by that agency. This documentation shall be made available for surveillance and audit by the U.S. Nuclear Regulatory Commission or the DOE. In addition, the agency shall be required to notify the WMPO prior to destruction of this verification documentation.

5.3 TECHNICAL ASSESSMENT REVIEW PACKAGE

The Technical Assessment Review Chairperson obtains the information for the review from the appropriate TPO and others, as appropriate.

5.4 TECHNICAL ASSESSMENT REVIEW

5.4.1 The review team members review the material and document their comments on Technical Assessment Review Comment Records. If a review team member has no comment, this is documented on a Technical Assessment Review Comment Record.

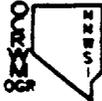
5.4.2 The Secretary records meeting minutes, collects comments and resolutions, and prepares the Review Record Memorandum (per Section 3.5). The Technical Assessment Review Chairperson reviews, signs, and dates the Review Record Memorandum.

5.5 RESOLUTION OF TECHNICAL ASSESSMENT REVIEW COMMENTS

5.5.1 The Technical Assessment Review Chairperson obtains resolutions for the Technical Assessment Review comments from the appropriate TPO.

5.5.2 The Technical Assessment Review Chairperson coordinates the team's evaluation of the resolutions obtained in Section 5.5.1. After deciding the appropriateness of the resolutions, such acknowledgment is documented to the appropriate TPO.

5.5.3 Any unresolved comments are referred by the Chairperson to the appropriate TPO for resolution. (The appropriate TPO is the one who has responsibility for the subject of the unresolved comment.)



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5.5.4 The Chairperson, upon submittal of a review comment resolution by the appropriate TPO, shall ensure that the resolution is provided to the review team member and the responsible WMPO Branch Chief.

5.5.5 The review team member who had the unresolved comment shall evaluate the provided comment resolution, and either:

1. Sign and date the review comment resolution (according to the Chairperson's instruction) to indicate agreement, and return it to the Chairperson.
2. If a disagreement exists, attempt to achieve an agreement, (via the Chairperson) with the appropriate TPO. If agreement cannot be reached, provide the documented basis for the disagreement to the Chairperson and request assistance from successively higher levels of management.

5.5.6 The Chairperson may complete the Review Record Memorandum with a documented unresolved comment; however, supplements must be provided to the memorandum as the appeals process is pursued, such that a complete record of the comment is retained as a QA record.

5.6 REVIEW RECORD MEMORANDUM

The Technical Assessment Review Chairperson issues the Review Record Memorandum to the responsible WMPO Branch Chief for distribution to the TPO(s) and others, as appropriate.

5.7 CLOSURE OF RESOLUTION

The responsible WMPO Branch Chief or designee shall ensure that the appropriate TPO satisfies and closes out the commitments made in resolutions to the Technical Assessment Review comments.

5.8 TECHNICAL ASSESSMENT REVIEW DOCUMENTATION

The Technical Assessment Review Chairperson shall (1) compile a data package relative to the Technical Assessment Review that consists of the Technical Assessment Review Package and the Review Record Memorandum (including any supplements as described in Section 5.5.6) and (2) provide for disposition of the data package in accordance with Section 8.0.



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6.0 REFERENCES

The latest revisions of the following apply:

NWSI/88-3, NWSI Project Systems Engineering Management Plan

DOE Order 4700.1, Project Management System

QMP-17-01, QA Records

7.0 FIGURES

At a minimum, the information needs on the forms shown on the following figures shall be satisfied. This may be accomplished by the use of the form itself or a suitable alternate.

Figure 1, Technical Assessment Review Notice

Figure 2, Technical Assessment Review Team Selection Record

Figure 3, Technical Assessment Review Comment Record

Figure 4, Technical Assessment Review Comment Record Continuation Sheet

8.0 QA RECORDS

The following are QA records and are maintained in accordance with QMP-17-01, QA Records.

1. Technical Assessment Review Package.
2. Review Record Memorandum (including any supplements as described in Section 5.5.6).



WASTE MANAGEMENT PROJECT OFFICE

QUALITY MANAGEMENT PROCEDURE

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TECHNICAL ASSESSMENT REVIEW NOTICE

N-QA-010
7/88

To _____ Date _____

Technical Area to be Reviewed _____

WBS No.: _____

Review Date _____ Location _____ Time _____

Technical Assessment Review Chairperson _____

Based on review of the qualification documentation, this Technical Assessment Review Chairperson is qualified to execute the responsibilities of QMP-02-08 with respect to the scope and purpose of this Review.

Scope of Technical Assessment Review:

Purpose of Technical Assessment Review:

Signed _____

Attachments:

Figure 1. Technical Assessment Review Notice.



QUALITY MANAGEMENT PROCEDURE

N-QA-016
7/87

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TECHNICAL ASSESSMENT REVIEW

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TECHNICAL ASSESSMENT REVIEW COMMENT RECORD	
N-QA-006 7/88	
Sheet _____ of _____	
Technical Assessment Review Subject _____	
Reviewer _____	Organization _____
Comments Resolved By _____	Organization _____
Date _____	
Date _____	
REVIEWER'S COMMENTS	
Item Number	Comments
Reference Dist. No.	
RESOLUTION	
Accept	Reject
Reason	
Accept	Reject

Figure 3. Technical Assessment Review Comment Record.

5.0 List of Reviewers (By Name, Organization, Discipline, and Comment
Reference Number Summary)

COMMENT TRACKING SYSTEM
 SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	Mining	A. LANGSTAFF	MI-001	T.MI.ALL.001	FS-GA-0150	T
SAIC/TARC	Ventilation	A. LANGSTAFF	VE-008	T.VE.ALL.002	FS-GA-0228	T
SAIC/TARC	Ventilation	A. LANGSTAFF	VE-002	T.VE.ALL.003	FS-GA-0225	T
SAIC/TARC	General	A. LANGSTAFF	GE-005	T.GE.ALL.004	GENERAL	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
A. LANGSTAFF	3	0	1	4

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
NTOS	General	A. VELOSO	GE-039	E.GE.ARV.001	GENERAL	T
NTOS	General	A. VELOSO	GE-018	E.GE.ARV.002	GENERAL	T
NTOS	General	A. VELOSO	GE-038	E.GE.ARV.003	GENERAL	T
NTOS	Piping & Instrum	A. VELOSO	PI-007	E.PI.ARV.004	FS-GA-0222	T
NTOS	General	A. VELOSO	GE-002	E.GE.ARV.005	GENERAL	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
A. VELOSO	1	0	4	5

COMMENT TRACKING SYSTEM
 SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
B OF M	Mining	B. CANTRELL	MI-145	B.MI.BC.001	FS-SP-1109	PAGE 1 T
B OF M	Mining	B. CANTRELL	MI-146	B.MI.BC.002	FS-SP-1109	PAGE 1 T
B OF M	Ventilation	B. CANTRELL	VE-009	B.VE.BC.003	FS-GA-0228	C3, C7 T
B OF M	Mining	B. CANTRELL	MI-147	B.MI.BC.004	FS-SP-1109	PAGE 1 T
B OF M	Mining	B. CANTRELL	MI-080	B.MI.BC.005	FS-SP-0204	PAGE 2, SECT. 3.1.2 T
B OF M	Civil	B. CANTRELL	CI-068	B.CI.BC.006	FS-GA-0031	B3, B4 T
B OF M	Mining	B. CANTRELL	MI-116	B.MI.BC.007	FS-SP-0205	PAGE 10, SECT. 3.10 T
B OF M	Mining	B. CANTRELL	MI-079	B.MI.BC.008	FS-SP-0204	PAGE 2 T
B OF M	Mining	B. CANTRELL	MI-144	B.MI.BC.009	FS-SP-1107	PAGE 3, SECTION 2.1 T
B OF M	Civil	B. CANTRELL	CI-007	B.CI.BC.010	JS-025-ESF-C3	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
B. CANTRELL	9	1	0	10

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
NVO/ISD	Electrical	D. BROGAN	EL-049	I.EL.DDB.001	JS-025-ESF-W10 B,E,D8,9	T
NVO/ISD	General	D. BROGAN	GE-013	I.GE.DDB.002	GENERAL H&N	T
NVO/ISD	Civil	D. BROGAN	CI-024	I.CI.DDB.003	JS-025-ESF-C6 H6	T
NVO/ISD	Electrical	D. BROGAN	EL-015	I.EL.DDB.004	JS-025-6006-W1 B,D,E7	T
NVO/ISD	Mechanical	D. BROGAN	ME-082	I.ME.DDB.005	JS-025-6008-M1 E9	T
NVO/ISD	Civil	D. BROGAN	CI-148	I.CI.DDB.006	JS-025-ESF-C43 E9	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
D. BROGAN	0	6	0	6

COMMENT TRACKING SYSTEM
 SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
NVO/SHD	Shaft	D. MCPHERSON	SH-109	N.SH.DGM.001	FS-GA-0100	T
NVO/SHD	Piping & Instrum	D. MCPHERSON	PI-012	N.PI.DGM.002	FS-GA-0222	T
NVO/SHD	Shaft	D. MCPHERSON	SH-117	N.SH.DGM.003	FS-GA-0112	T
NVO/SHD	Shaft	D. MCPHERSON	SH-118	N.SH.DGM.004	FS-GA-0112 REV. B	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
D. MCPHERSON	4	0	0	4

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
LLNL	Electrical	D. WILDER	EL-036	L.EL.DGW.001	JS-025-ESF-E5 B	T
LLNL	Civil	D. WILDER	CI-003	L.CI.DGW.002	FS-GA-0011	T
LLNL	Civil	D. WILDER	CI-014	L.CI.DGW.003	JS-025-ESF-C4 B	T
LLNL	Civil	D. WILDER	CI-165	L.CI.DGW.004	JS-025-ESF-C44 B	T
LLNL	Piping & Instrum	D. WILDER	PI-015	L.PI.DGW.005	FS-GA-0235	T
LLNL	General	D. WILDER	GE-038	L.GE.DGW.006	FS-GA-0006 GENERAL	T
LLNL	Electrical	D. WILDER	EL-009	L.EL.DGW.007	FS-GA-0202	T
LLNL	Mining	D. WILDER	MI-063	L.MI.DGW.008	FS-GA-0166 SECTION B-B	T
LLNL	Mining	D. WILDER	MI-022	L.MI.DGW.009	FS-GA-0160 MECHANICAL	T
LLNL	Mining	D. WILDER	MI-061	L.MI.DGW.010	FS-GA-0166 PLAN	T
LLNL	Electrical	D. WILDER	EL-012	L.EL.DGW.011	FS-GA-0204	T
LLNL	Ventilation	D. WILDER	VE-001	L.VE.DGW.012	FS-GA-0225	T
LLNL	Piping & Instrum	D. WILDER	PI-016	L.PI.DGW.013	FS-GA-0235	T
LLNL	Piping & Instrum	D. WILDER	PI-017	L.PI.DGW.014	FS-GA-0240	T
LLNL	Mechanical	D. WILDER	ME-023	L.ME.DGW.015	JS-025-ESF-FP8 B	T
LLNL	Electrical	D. WILDER	EL-005	L.EL.DGW.016	FS-GA-0201	T
LLNL	Mining	D. WILDER	MI-065	L.MI.DGW.017	FS-GA-0166 SECTION B-B	T
LLNL	Mining	D. WILDER	MI-138	L.MI.DGW.018	FS-SP-0303 & 0304, 0307, 0308	T
LLNL	General	D. WILDER	GE-012	L.GE.DGW.019	GENERAL	T

VIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
D. WILDER	14	4	1	19

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
REECO	Civil	D. KOSS	CI-031	R.CI.DLK.001	JS-025-ESF-C14 B	T
REECO	Civil	D. KOSS	CI-032	R.CI.DLK.002	JS-025-ESF-C14 B	T
REECO	Civil	D. KOSS	CI-008	R.CI.DLK.003	JS-025-ESF-C3 B	T
REECO	Civil	D. KOSS	CI-005	R.CI.DLK.004	JS-025-ESF-C3 B	T
REECO	Civil	D. KOSS	CI-139	R.CI.DLK.005	JS-025-ESF-C42 B	T
REECO	Civil	D. KOSS	CI-045	R.CI.DLK.006	JS-025-ESF-C19 B	T
REECO	Civil	D. KOSS	CI-098	R.CI.DLK.007	JS-025-ESF-C38 B	T
REECO	Mechanical	D. KOSS	ME-016	R.ME.DLK.008	JS-025-ESF-FP5 B	T
REECO	Piping & Instrum	D. KOSS	PI-010	R.PI.DLK.009	FS-GA-0222 B	T
REECO	Electrical	D. KOSS	EL-062	R.EL.DLK.010	JS-025-ESF-W7 B, W8.B	T
REECO	Electrical	D. KOSS	EL-061	R.EL.DLK.011	JS-025-ESF-W6 B, AND W17.B	T
REECO	Architectural	D. KOSS	AR-028	R.AR.DLK.012	JS-025-6002-A1 A, A2.A	T
REECO	Mechanical	D. KOSS	ME-057	R.ME.DLK.013	JS-025-6002-M4 B, FP1.B, E3.B, W1.B	T
REECO	Shaft	D. KOSS	SH-037	R.SH.DLK.014	FS-GA-0057	T
REECO	General	D. KOSS	GE-021	R.GE.DLK.015	GENERAL F&S	T
REECO	General	D. KOSS	GE-022	R.GE.DLK.016	GENERAL F&S	T
REECO	General	D. KOSS	GE-019	R.GE.DLK.017	GENERAL F&S	T
REECO	Civil	D. KOSS	CI-013	R.CI.DLK.018	JS-025-ESF-C4 B	T
REECO	Civil	D. KOSS	CI-033	R.CI.DLK.019	JS-025-ESF-C14 B	T
REECO	Architectural	D. KOSS	AR-040	R.AR.DLK.020	JS-025-6008-A1 A	T
REECO	Architectural	D. KOSS	AR-005	R.AR.DLK.021	JS-025-6000-A1 B, M4.B-M7.B, FP1.B- FP2.B,E2.B, W1.B	T
REECO	Shaft	D. KOSS	SH-032	R.SH.DLK.022	FS-GA-0056	T
REECO	Civil	D. KOSS	CI-080	R.CI.DLK.023	JS-025-ESF-C36 B	T
REECO	Shaft	D. KOSS	SH-126	R.SH.DLK.024	FS-GA-0113 0062, 0095, 0102	T
REECO	General	D. KOSS	GE-018	R.GE.DLK.025	GENERAL F&S	T
REECO	General	D. KOSS	GE-020	R.GE.DLK.026	GENERAL F&S	T
REECO	General	D. KOSS	GE-017	R.GE.DLK.027	GENERAL F&S	T
REECO	Piping & Instrum	D. KOSS	PI-003	R.PI.DLK.028	FS-GA-0220 B	T
REECO	Piping & Instrum	D. KOSS	PI-006	R.PI.DLK.029	FS-GA-0221 B	T
REECO	Shaft	D. KOSS	SH-038	R.SH.DLK.030	FS-GA-0057	T
REECO	Shaft	D. KOSS	SH-104	R.SH.DLK.031	FS-GA-0095 C6, FS-GA-0150 A4, A5	T
REECO	Shaft	D. KOSS	SH-019	R.SH.DLK.032	FS-GA-0050 FS-GA-0100	T
REECO	General	D. KOSS	GE-006	R.GE.DLK.033	GENERAL	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
D. KOSS	15	17	1	33

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
COE	Civil	D. POTTER	CI-001	C.CI.DLP.001	JS-025-ESF-C1 A - C10	T
COE	Civil	D. POTTER	CI-004	C.CI.DLP.002	JS-025-ESF-C2 B	T
COE	Civil	D. POTTER	CI-017	C.CI.DLP.003	JS-025-ESF-C4 B	T
COE	Civil	D. POTTER	CI-018	C.CI.DLP.004	JS-025-ESF-C4 B	T
COE	Civil	D. POTTER	CI-019	C.CI.DLP.005	JS-025-ESF-C4 B	T
COE	Civil	D. POTTER	CI-020	C.CI.DLP.006	JS-025-ESF-C4 B	T
COE	Civil	D. POTTER	CI-021	C.CI.DLP.007	JS-025-ESF-C4 B	T
COE	Civil	D. POTTER	CI-022	C.CI.DLP.008	JS-025-ESF-C4 B	T
COE	Civil	D. POTTER	CI-025	C.CI.DLP.009	JS-025-ESF-C6 B	T
COE	Civil	D. POTTER	CI-027	C.CI.DLP.010	JS-025-ESF-C11 B	T
COE	Civil	D. POTTER	CI-028	C.CI.DLP.011	JS-025-ESF-C11 B	T
COE	Civil	D. POTTER	CI-030	C.CI.DLP.012	JS-025-ESF-C11 B. ZONE G7	T
COE	Civil	D. POTTER	CI-029	C.CI.DLP.013	JS-025-ESF-C11 B	T
COE	Civil	D. POTTER	CI-034	C.CI.DLP.014	JS-025-ESF-C16 B	T
COE	Civil	D. POTTER	CI-038	C.CI.DLP.015	JS-025-ESF-C18 B	T
COE	Civil	D. POTTER	CI-039	C.CI.DLP.016	JS-025-ESF-C18 B	T
COE	Civil	D. POTTER	CI-040	C.CI.DLP.017	JS-025-ESF-C18 B	T
COE	Civil	D. POTTER	CI-041	C.CI.DLP.018	JS-025-ESF-C18 B	T
COE	Civil	D. POTTER	CI-042	C.CI.DLP.019	JS-025-ESF-C18 B	T
COE	Civil	D. POTTER	CI-043	C.CI.DLP.020	JS-025-ESF-C18 B	T
COE	Civil	D. POTTER	CI-044	C.CI.DLP.021	JS-025-ESF-C18 B	T
COE	Civil	D. POTTER	CI-046	C.CI.DLP.022	JS-025-ESF-C19 B	T
COE	Civil	D. POTTER	CI-047	C.CI.DLP.023	JS-025-ESF-C19 B	T
COE	Civil	D. POTTER	CI-049	C.CI.DLP.024	JS-025-ESF-C19 B	T
COE	Civil	D. POTTER	CI-050	C.CI.DLP.025	JS-025-ESF-C19 B	T
COE	Civil	D. POTTER	CI-051	C.CI.DLP.026	JS-025-ESF-C19 B	T
COE	Civil	D. POTTER	CI-052	C.CI.DLP.027	JS-025-ESF-C19 B	T
COE	Civil	D. POTTER	CI-054	C.CI.DLP.028	JS-025-ESF-C19 B	T
COE	Civil	D. POTTER	CI-053	C.CI.DLP.029	JS-025-ESF-C19 B	T
COE	Civil	D. POTTER	CI-048	C.CI.DLP.030	JS-025-ESF-C19 B	T
COE	Civil	D. POTTER	CI-057	C.CI.DLP.031	JS-025-ESF-C20 B	T
COE	Civil	D. POTTER	CI-056	C.CI.DLP.032	JS-025-ESF-C20 B	T
COE	Civil	D. POTTER	CI-055	C.CI.DLP.033	JS-025-ESF-C20 B	T
COE	Civil	D. POTTER	CI-065	C.CI.DLP.034	JS-025-ESF-C24 B	T
COE	Civil	D. POTTER	CI-064	C.CI.DLP.035	JS-025-ESF-C24 B	T
COE	Civil	D. POTTER	CI-063	C.CI.DLP.036	JS-025-ESF-C24 B	T
COE	Civil	D. POTTER	CI-062	C.CI.DLP.037	JS-025-ESF-C24 B	T
COE	Civil	D. POTTER	CI-061	C.CI.DLP.038	JS-025-ESF-C24 B	T
COE	Civil	D. POTTER	CI-060	C.CI.DLP.039	JS-025-ESF-C24 B	T
COE	Civil	D. POTTER	CI-059	C.CI.DLP.040	JS-025-ESF-C24 B	T
COE	Civil	D. POTTER	CI-068	C.CI.DLP.041	JS-025-ESF-C26 B	T
COE	Civil	D. POTTER	CI-069	C.CI.DLP.042	JS-025-ESF-C26 B	T
COE	Civil	D. POTTER	CI-070	C.CI.DLP.043	JS-025-ESF-C26 B	T
COE	Civil	D. POTTER	CI-071	C.CI.DLP.044	JS-025-ESF-C26 B	T
COE	Civil	D. POTTER	CI-072	C.CI.DLP.045	JS-025-ESF-C27 B	T
COE	Civil	D. POTTER	CI-074	C.CI.DLP.046	JS-025-ESF-C27 B	T
COE	Civil	D. POTTER	CI-073	C.CI.DLP.047	JS-025-ESF-C27 B	T
COE	Civil	D. POTTER	CI-076	C.CI.DLP.048	JS-025-ESF-C28 B	T
COE	Civil	D. POTTER	CI-075	C.CI.DLP.049	JS-025-ESF-C28 B	T
COE	Civil	D. POTTER	CI-081	C.CI.DLP.050	JS-025-ESF-C36 B	T
COE	Civil	D. POTTER	CI-091	C.CI.DLP.051	JS-025-ESF-C37 B	T
COE	Civil	D. POTTER	CI-082	C.CI.DLP.052	JS-025-ESF-C37 B	T
COE	Civil	D. POTTER	CI-094	C.CI.DLP.053	JS-025-ESF-C37 B	T

COE	Civil	D. POTTER	CI-095	C.CI.DLP.054	JS-025-ESF-C37	B	T
COE	Civil	D. POTTER	CI-088	C.CI.DLP.055	JS-025-ESF-C37	B	T
COE	Civil	D. POTTER	CI-089	C.CI.DLP.056	JS-025-ESF-C37	B	T
DE	Civil	D. POTTER	CI-092	C.CI.DLP.057	JS-025-ESF-C37	B	T
.OE	Civil	D. POTTER	CI-096	C.CI.DLP.058	JS-025-ESF-C37	B	T
COE	Civil	D. POTTER	CI-090	C.CI.DLP.059	JS-025-ESF-C37	B	T
COE	Civil	D. POTTER	CI-093	C.CI.DLP.060	JS-025-ESF-C37	B	T
COE	Civil	D. POTTER	CI-099	C.CI.DLP.061	JS-025-ESF-C38	B	T
COE	Civil	D. POTTER	CI-100	C.CI.DLP.062	JS-025-ESF-C38	B	T
COE	Civil	D. POTTER	CI-102	C.CI.DLP.063	JS-025-ESF-C39	B	T
COE	Civil	D. POTTER	CI-101	C.CI.DLP.064	JS-025-ESF-C39	13	T
COE	Civil	D. POTTER	CI-104	C.CI.DLP.065	JS-025-ESF-C39	B	T
COE	Civil	D. POTTER	CI-105	C.CI.DLP.066	JS-025-ESF-C39	B	T
COE	Civil	D. POTTER	CI-106	C.CI.DLP.067	JS-025-ESF-C39	B	T
COE	Civil	D. POTTER	CI-108	C.CI.DLP.068	JS-025-ESF-C39	B	T
COE	Civil	D. POTTER	CI-107	C.CI.DLP.069	JS-025-ESF-C39	B	T
COE	Civil	D. POTTER	CI-113	C.CI.DLP.070	JS-025-ESF-C40	B	T
COE	Civil	D. POTTER	CI-114	C.CI.DLP.071	JS-025-ESF-C40	B	T
COE	Civil	D. POTTER	CI-121	C.CI.DLP.072	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-124	C.CI.DLP.073	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-125	C.CI.DLP.074	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-126	C.CI.DLP.075	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-136	C.CI.DLP.076	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-127	C.CI.DLP.077	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-128	C.CI.DLP.078	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-129	C.CI.DLP.079	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-130	C.CI.DLP.080	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-131	C.CI.DLP.081	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-132	C.CI.DLP.082	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-133	C.CI.DLP.083	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-134	C.CI.DLP.084	JS-025-ESF-C41	B	T
E	Civil	D. POTTER	CI-135	C.CI.DLP.085	JS-025-ESF-C41	B	T
JE	Civil	D. POTTER	CI-123	C.CI.DLP.086	JS-025-ESF-C41	B	T
COE	Civil	D. POTTER	CI-122	C.CI.DLP.087	JS-025-ESF-C41		T
COE	Civil	D. POTTER	CI-137	C.CI.DLP.088	JS-025-ESF-C42	B	T
COE	Civil	D. POTTER	CI-138	C.CI.DLP.089	JS-025-ESF-C42	B	T
COE	Civil	D. POTTER	CI-140	C.CI.DLP.090	JS-025-ESF-C42	B	T
COE	Civil	D. POTTER	CI-141	C.CI.DLP.091	JS-025-ESF-C42	B	T
COE	Civil	D. POTTER	CI-143	C.CI.DLP.092	JS-025-ESF-C43	B	T
COE	Civil	D. POTTER	CI-144	C.CI.DLP.093	JS-025-ESF-C43	B	T
COE	Civil	D. POTTER	CI-145	C.CI.DLP.094	JS-025-ESF-C43	B	T
COE	Civil	D. POTTER	CI-146	C.CI.DLP.095	JS-025-ESF-C43	B	T
COE	Civil	D. POTTER	CI-147	C.CI.DLP.096	JS-025-ESF-C43	B	T
COE	Civil	D. POTTER	CI-157	C.CI.DLP.097	JS-025-ESF-C44	B	T
COE	Civil	D. POTTER	CI-158	C.CI.DLP.098	JS-025-ESF-C44	B	T
COE	Civil	D. POTTER	CI-159	C.CI.DLP.099	JS-025-ESF-C44	B	T
COE	Civil	D. POTTER	CI-160	C.CI.DLP.100	JS-025-ESF-C44	B	T
COE	Civil	D. POTTER	CI-161	C.CI.DLP.101	JS-025-ESF-C44	B	T
COE	Civil	D. POTTER	CI-162	C.CI.DLP.102	JS-025-ESF-C44	B	T
COE	Civil	D. POTTER	CI-163	C.CI.DLP.103	JS-025-ESF-C44	B	T
COE	Civil	D. POTTER	CI-164	C.CI.DLP.104	JS-025-ESF-C44	B	T
COE	Civil	D. POTTER	CI-083	C.CI.DLP.105	JS-025-ESF-C37	B	T
COE	General	D. POTTER	GE-042	C.GE.DLP.106	GENERAL H&N	SPECIFICATION	T
COE	General	D. POTTER	GE-043	C.GE.DLP.107	GENERAL H&N	SPECIFICATION	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
POTTER	0	107	0	107

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	Shaft	D. ROSS-BROWN	SH-090	T.SH.DMR.001	FS-GA-0072	SECTION D-D T
SAIC/TARC	Shaft	D. ROSS-BROWN	SH-056	T.SH.DMR.002	FS-GA-0059	ZONES C3 AND B3 T
SAIC/TARC	Mining	D. ROSS-BROWN	MI-060	T.MI.DMR.003	FS-GA-0166	ZONE C3 T
SAIC/TARC	Shaft	D. ROSS-BROWN	SH-055	T.SH.DMR.004	FS-GA-0059	ZONE D6 T
SAIC/TARC	Shaft	D. ROSS-BROWN	SH-053	T.SH.DMR.005	FS-GA-0059	ZONE A8 T
SAIC/TARC	Mining	D. ROSS-BROWN	MI-047	T.MI.DMR.006	FS-GA-0163	ZONES A7 AND A5 T
SAIC/TARC	Mining	D. ROSS-BROWN	MI-041	T.MI.DMR.007	FS-GA-0163	ZONE C5 T
SAIC/TARC	Mining	D. ROSS-BROWN	MI-051	T.MI.DMR.008	FS-GA-0164	ZONE D6 T
SAIC/TARC	Mining	D. ROSS-BROWN	MI-007	T.MI.DMR.009	FS-GA-0151	AND FS-GA-0164 T
SAIC/TARC	Mining	D. ROSS-BROWN	MI-009	T.MI.DMR.010	FS-GA-0151	ZONE D5 T
SAIC/TARC	Mining	D. ROSS-BROWN	MI-010	T.MI.DMR.011	FS-GA-0151	ZONES A6, B6 T
SAIC/TARC	Shaft	D. ROSS-BROWN	SH-035	T.SH.DMR.012	FS-GA-0056	TEST MONITORING T
						SECTION
SAIC/TARC	Shaft	D. ROSS-BROWN	SH-093	T.SH.DMR.013	FS-GA-0085	FS-GA-0091 T
SAIC/TARC	Mining	D. ROSS-BROWN	MI-023	T.MI.DMR.014	FS-GA-0160	ZONE B3 T
SAIC/TARC	Mining	D. ROSS-BROWN	MI-039	T.MI.DMR.015	FS-GA-0162	ZONE A4 T
SAIC/TARC	Mining	D. ROSS-BROWN	MI-054	T.MI.DMR.016	FS-GA-0165	ZONE A4 T
SAIC/TARC	General	D. ROSS-BROWN	GE-028	T.GE.DMR.017	FS-GA-0003	SYMBOLS T
SAIC/TARC	Shaft	D. ROSS-BROWN	SH-128	T.SH.DMR.018	FS-GA-0113	ZONE C7 T
SAIC/TARC	Shaft	D. ROSS-BROWN	SH-155	T.SH.DMR.019	FS-SP-0503	PAGE 3 T
SAIC/TARC	Shaft	D. ROSS-BROWN	SH-158	T.SH.DMR.020	FS-SP-1409	THROUGH 1414 T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
D. ROSS-BROWN	20	0	0	20

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
B OF M	Mining	D. Dolinar	MI-130	B.MI.DRD.001	FS-SP-0208	PAGE 2 T
B OF M	Mining	D. Dolinar	MI-133	B.MI.DRD.002	FS-SP-0208	PAGE 1 T
B OF M	Mining	D. Dolinar	MI-131	B.MI.DRD.003	FS-SP-0208	PAGE 2 T
B OF M	Mining	D. Dolinar	MI-132	B.MI.DRD.004	FS-SP-0208	PAGE 2 T
B OF M	Mining	D. Dolinar	MI-126	B.MI.DRD.005	FS-SP-0208	 T
B OF M	Mining	D. Dolinar	MI-134	B.MI.DRD.006	FS-SP-0208	PAGE 3 T
B OF M	Mining	D. Dolinar	MI-135	B.MI.DRD.007	FS-SP-0208	PAGE 3 T
B OF M	Mining	D. Dolinar	MI-127	B.MI.DRD.008	FS-SP-0208	 T
B OF M	Mining	D. Dolinar	MI-035	B.MI.DRD.009	FS-GA-0162	 T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
D. Dolinar	9	0	0	9

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
WESTON	Electrical	D. WAGG	EL-045	K.EL.DW.001	JS-025-ESF-E7 A	T
WESTON	Architectural	D. WAGG	AR-041	K.AR.DW.002	JS-025-6008-A1 A	T
WESTON	Architectural	D. WAGG	AR-042	K.AR.DW.003	JS-025-6008-A1 A	T
WESTON	Architectural	D. WAGG	AR-013	K.AR.DW.004	JS-025-6001-A2 A	T
WESTON	Architectural	D. WAGG	AR-021	K.AR.DW.005	JS-025-6001-A3 A	T
WESTON	Civil	D. WAGG	CI-064	K.CI.DW.006	FS-GA-0031	T
WESTON	Civil	D. WAGG	CI-018	K.CI.DW.007	FS-GA-0013	T
WESTON	Civil	D. WAGG	CI-024	K.CI.DW.008	FS-GA-0015	T
WESTON	Civil	D. WAGG	CI-025	K.CI.DW.009	FS-GA-0015	T
WESTON	Shaft	D. WAGG	SH-012	K.SH.DW.010	FS-GA-0050	B 5, C AND D 5
WESTON	Shaft	D. WAGG	SH-015	K.SH.DW.011	FS-GA-0050	D4
WESTON	Shaft	D. WAGG	SH-034	K.SH.DW.012	FS-GA-0056	A4 - A5
WESTON	Shaft	D. WAGG	SH-121	K.SH.DW.013	FS-GA-0113	B1, B2, C1, C2
WESTON	Mining	D. WAGG	MI-071	K.MI.DW.014	FS-GA-0180	B, C, D - 3 AND 4
WESTON	General	D. WAGG	GE-023	K.GE.DW.015	GENERAL	T
WESTON	Mining	D. WAGG	MI-048	K.MI.DW.016	FS-GA-0164	T
WESTON	Shaft	D. WAGG	SH-025	K.SH.DW.017	FS-GA-0054	T
WESTON	Civil	D. WAGG	CI-043	K.CI.DW.018	FS-GA-0025	B, C-3
WESTON	Shaft	D. WAGG	SH-073	K.SH.DW.019	FS-GA-0063	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
D. WAGG	13	5	1	19

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	General	E. CIKANEK	GE-009	T.GE.EMC.001	GENERAL H&N	T
SAIC/TARC	General	E. CIKANEK	GE-029	T.GE.EMC.002	FS-GA-0003	D2 T
SAIC/TARC	Mining	E. CIKANEK	MI-016	T.MI.EMC.003	FS-GA-0160	T
SAIC/TARC	Mining	E. CIKANEK	MI-059	T.MI.EMC.004	FS-GA-0166	A4, B4, C3 T
SAIC/TARC	General	E. CIKANEK	MI-072	T.MI.EMC.005	FS-GA-0180	D5 T
SAIC/TARC	Civil	E. CIKANEK	GE-017	T.GE.EMC.006	GENERAL	T
SAIC/TARC	Civil	E. CIKANEK	CI-003	T.CI.EMC.007	JS-025-ESF-C2	T
SAIC/TARC	Civil	E. CIKANEK	CI-010	T.CI.EMC.008	JS-025-ESF-C3	E10 T
SAIC/TARC	Civil	E. CIKANEK	CI-011	T.CI.EMC.009	JS-025-ESF-C3	F10 T
SAIC/TARC	Electrical	E. CIKANEK	EL-046	T.EL.EMC.010	JS-025-ESF-E7	C7 T
SAIC/TARC	General	E. CIKANEK	GE-030	T.GE.EMC.011	FS-GA-0003	8D T
SAIC/TARC	Civil	E. CIKANEK	CI-023	T.CI.EMC.012	JS-025-ESF-C6	H6 T
SAIC/TARC	Civil	E. CIKANEK	CI-009	T.CI.EMC.013	FS-GA-0011	D4 T
SAIC/TARC	Shaft	E. CIKANEK	SH-030	T.SH.EMC.014	FS-GA-0055	A5 T
SAIC/TARC	General	E. CIKANEK	GE-025	T.GE.EMC.015	GENERAL F&S	DRAWINGS T
SAIC/TARC	General	E. CIKANEK	GE-008	T.GE.EMC.016	GENERAL H&N	DRAWINGS T
SAIC/TARC	Shaft	E. CIKANEK	SH-051	T.SH.EMC.017	FS-GA-0059	C3-4 T
SAIC/TARC	Shaft	E. CIKANEK	SH-069	T.SH.EMC.018	FS-GA-0062	SECTION A-A & DETAIL 3 T
SAIC/TARC	Shaft	E. CIKANEK	SH-065	T.SH.EMC.019	FS-GA-0062	DETAILS 1 & 3 T
SAIC/TARC	Shaft	E. CIKANEK	SH-017	T.SH.EMC.020	FS-GA-0050	D7 T
SAIC/TARC	Mining	E. CIKANEK	MI-008	T.MI.EMC.021	FS-GA-0151	UDBR PLAN T
IC/TARC	Mining	E. CIKANEK	MI-052	T.MI.EMC.022	FS-GA-0165	B6 T
IC/TARC	Mining	E. CIKANEK	MI-053	T.MI.EMC.023	FS-GA-0165	C7 T
SAIC/TARC	Mining	E. CIKANEK	MI-064	T.MI.EMC.024	FS-GA-0166	SECTIONS A-A & B-B T
SAIC/TARC	Mining	E. CIKANEK	MI-075	T.MI.EMC.025	FS-GA-0194	A5, A6 T
SAIC/TARC	Mining	E. CIKANEK	MI-074	T.MI.EMC.026	FS-GA-0194	T
SAIC/TARC	Shaft	E. CIKANEK	SH-130	T.SH.EMC.027	FS-SP-0201	PAGE 1, SECTION 1.2.1 T
SAIC/TARC	Shaft	E. CIKANEK	SH-133	T.SH.EMC.028	FS-SP-0201	PAGE 2, SECTION 2.2 T
SAIC/TARC	Shaft	E. CIKANEK	SH-138	T.SH.EMC.029	FS-SP-0202	PAGE 1, SECTION 1.1 T
SAIC/TARC	Shaft	E. CIKANEK	SH-140	T.SH.EMC.030	FS-SP-0202	PAGE 3, PART 2 T
SAIC/TARC	Shaft	E. CIKANEK	SH-144	T.SH.EMC.031	FS-SP-0203	PAGE 1, SECTION 1.1 T
SAIC/TARC	Shaft	E. CIKANEK	SH-152	T.SH.EMC.032	FS-SP-0308	PAGE 1, SECTION 1.2.1 T
SAIC/TARC	Shaft	E. CIKANEK	SH-154	T.SH.EMC.033	FS-SP-0308	PAGE 5, SECTION 3.8 T
SAIC/TARC	Mining	E. CIKANEK	MI-085	T.MI.EMC.034	FS-SP-0204	PAGE 6 T
SAIC/TARC	Mining	E. CIKANEK	MI-114	T.MI.EMC.035	FS-SP-0205	PAGE 9, SECTION 3.6 T
SAIC/TARC	Mining	E. CIKANEK	MI-129	T.MI.EMC.036	FS-SP-0208	PAGE 1, SECTION 1.2.4 T
SAIC/TARC	Mining	E. CIKANEK	MI-139	T.MI.EMC.037	FS-SP-0303	PAGE 5, SECTION 3.8 T
SAIC/TARC	Mining	E. CIKANEK	MI-140	T.MI.EMC.038	FS-SP-0304	PAGE 1, SECTION 1.1 T
C/TARC	Mining	E. CIKANEK	MI-142	T.MI.EMC.039	FS-SP-1105	PAGE 3, PART 3 T
IC/TARC	Civil	E. CIKANEK	CI-193	T.CI.EMC.040	SECTION 02222	PAGE 4, H4 T
SAIC/TARC	Civil	E. CIKANEK	CI-181	T.CI.EMC.041	SECTION 02211	PAGE 3, PART 3 T

SAIC/TARC	Civil	E. CIKANEK	CI-188	T.CI.EMC.042	SECTION 02211	PAGE 3, 3.03B	T
SAIC/TARC	Civil	E. CIKANEK	CI-189	T.CI.EMC.043	SECTION 02222	PAGE 3, 2.01B	T
SAIC/TARC	Civil	E. CIKANEK	CI-195	T.CI.EMC.044	SECTION 02223	PAGE 1	T
SAIC/TARC	Civil	E. CIKANEK	CI-196	T.CI.EMC.045	SECTION 02223	PAGE 2, 1.02	T
SAIC/TARC	Civil	E. CIKANEK	CI-202	T.CI.EMC.046	SECTION 02223	PAGE 5, 3.06 A4	T
SAIC/TARC	Civil	E. CIKANEK	CI-203	T.CI.EMC.047	SECTION 02225	PAGE 2, 1.02	T
SAIC/TARC	Civil	E. CIKANEK	CI-212	T.CI.EMC.048	SECTION 02611	PAGE 2, 1.02	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
=====	=====	=====	=====	=====
E. CIKANEK	31	16	1	48

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
COE	Mechanical	E. JENSEN	ME-041	C.ME.EOJ.001	JS-025-6000-M6 B	T
COE	Mechanical	E. JENSEN	ME-042	C.ME.EOJ.002	JS-025-6000-M6 B	T
COE	Mechanical	E. JENSEN	ME-049	C.ME.EOJ.003	JS-025-6000-FP2 B	T
COE	Mechanical	E. JENSEN	ME-051	C.ME.EOJ.004	JS-025-6001-M2 B	T
COE	Mechanical	E. JENSEN	ME-052	C.ME.EOJ.005	JS-025-6001-FP2 B	T
COE	Mechanical	E. JENSEN	ME-056	C.ME.EOJ.006	JS-025-6002-M4 B	T
COE	Mechanical	E. JENSEN	ME-055	C.ME.EOJ.007	JS-025-6002-M4 B	T
COE	Architectural	E. JENSEN	AR-027	C.AR.EOJ.008	JS-025-6002-A1 A	T
COE	Architectural	E. JENSEN	AR-035	C.AR.EOJ.009	JS-025-6006-A1 B	T
COE	Mechanical	E. JENSEN	ME-064	C.ME.EOJ.010	JS-025-6006-M1 B	T
COE	Mechanical	E. JENSEN	ME-063	C.ME.EOJ.011	JS-025-6006-M1 B	T
COE	Mechanical	E. JENSEN	ME-065	C.ME.EOJ.012	JS-025-6006-M2 B	T
COE	Mechanical	E. JENSEN	ME-066	C.ME.EOJ.013	JS-025-6006-M2 B	T
COE	Mechanical	E. JENSEN	ME-072	C.ME.EOJ.014	JS-025-6006-FP1 B	T
COE	Mechanical	E. JENSEN	ME-079	C.ME.EOJ.015	JS-025-6007-M1 B	T
COE	Mechanical	E. JENSEN	ME-080	C.ME.EOJ.016	JS-025-6007-M1 B	T
COE	Architectural	E. JENSEN	AR-048	C.AR.EOJ.017	JS-025-6008-A1 A	T
COE	Mechanical	E. JENSEN	ME-081	C.ME.EOJ.018	JS-025-6008-M1 B	T
COE	Mechanical	E. JENSEN	ME-083	C.ME.EOJ.019	JS-025-6008-M2 B	T
COE	Mechanical	E. JENSEN	ME-086	C.ME.EOJ.020	JS-025-6008-FP1 B	T
COE	Electrical	E. JENSEN	EL-019	C.EL.EOJ.021	JS-025-6008-E1 B	T
COE	Architectural	E. JENSEN	AR-003	C.AR.EOJ.022	JS-025-ESF-A1 A	T
E	Mechanical	E. JENSEN	ME-088	C.ME.EOJ.023	JS-025-058-1-M1 B	T
JE	Mechanical	E. JENSEN	ME-092	C.ME.EOJ.024	JS-025-058-2-M1 B	T
COE	General	E. JENSEN	GE-049	C.GE.EOJ.025	GENERAL FP CALCULATIONS	T
COE	General	E. JENSEN	GE-050	C.GE.EOJ.026	GENERAL FP CALCULATIONS	T
COE	General	E. JENSEN	GE-044	C.GE.EOJ.027	GENERAL CALCULATIONS	T
COE	General	E. JENSEN	GE-048	C.GE.EOJ.028	GENERAL COOLING LOAD	T
COE	General	E. JENSEN	GE-045	C.GE.EOJ.029	GENERAL CALCULATIONS	T
COE	General	E. JENSEN	GE-047	C.GE.EOJ.030	GENERAL PLUMBING	T
COE	General	E. JENSEN	GE-046	C.GE.EOJ.031	GENERAL CALCULATIONS M-000	T
COE	General	E. JENSEN	GE-043	C.GE.EOJ.032	GENERAL CALCULATIONS M-0003	T
COE	General	E. JENSEN	GE-007	C.GE.EOJ.033	GENERAL CALCULATIONS M-0001	T
COE	General	E. JENSEN	GE-007	C.GE.EOJ.033	GENERAL DIVISION 15 SPECIFICATIONS	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
E. JENSEN	0	24	9	33

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
REECO	Mechanical	F. SPENIA	ME-067	R.ME.FAS.001	JS-025-6006-M2 B	T
REECO	Mechanical	F. SPENIA	ME-040	R.ME.FAS.002	JS-025-6000-M6 B	T
REECO	Architectural	F. SPENIA	AR-039	R.AR.FAS.003	JS-025-6008-A1 A	T
REECO	Piping & Instrum	F. SPENIA	PI-022	R.PI.FAS.004	FS-GA-0243	T
REECO	Shaft	F. SPENIA	SH-079	R.SH.FAS.005	FS-GA-0072	T
REECO	Civil	F. SPENIA	CI-029	R.CI.FAS.006	FS-GA-0015	0031, 0033 T
REECO	Shaft	F. SPENIA	SH-083	R.SH.FAS.007	FS-GA-0072	T
REECO	Civil	F. SPENIA	CI-066	R.CI.FAS.008	FS-GA-0031	0013 T
REECO	Piping & Instrum	F. SPENIA	PI-018	R.PI.FAS.009	FS-GA-0240	T
REECO	Shaft	F. SPENIA	SH-003	R.SH.FAS.010	FS-GA-0050	T
REECO	Shaft	F. SPENIA	SH-092	R.SH.FAS.011	FS-GA-0085	T
REECO	Architectural	F. SPENIA	AR-022	R.AR.FAS.012	JS-025-6001-A3 A	T
REECO	Civil	F. SPENIA	CI-014	R.CI.FAS.013	FS-GA-0012	0013, 0014, 0030, 0031, 0033 T
REECO	Civil	F. SPENIA	CI-016	R.CI.FAS.014	FS-GA-0013	T
REECO	Civil	F. SPENIA	CI-060	R.CI.FAS.015	FS-GA-0030	T
REECO	Civil	F. SPENIA	CI-020	R.CI.FAS.016	FS-GA-0014	T
REECO	Civil	F. SPENIA	CI-063	R.CI.FAS.017	FS-GA-0031	T
REECO	Civil	F. SPENIA	CI-069	R.CI.FAS.018	FS-GA-0033	T
REECO	Civil	F. SPENIA	CI-071	R.CI.FAS.019	FS-GA-0034	T
REECO	Mining	F. SPENIA	MI-070	R.MI.FAS.020	FS-GA-0180	T
ECO	Electrical	F. SPENIA	EL-018	R.EL.FAS.021	FS-GA-0212	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
F. SPENIA	17	4	0	21

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	Mechanical	I. COTTLE	ME-017	T.ME.IRC.001	JS-025-ESF-FP5 B - 11G	T
SAIC/TARC	Piping & Instrum	I. COTTLE	PI-001	T.PI.IRC.002	FS-GA-0220 THRU 0225	T
SAIC/TARC	Civil	I. COTTLE	CI-032	T.CI.IRC.003	FS-GA-0015 B5	T
SAIC/TARC	Civil	I. COTTLE	CI-011	T.CI.IRC.004	FS-GA-0011 D-C	T
SAIC/TARC	Shaft	I. COTTLE	SH-074	T.SH.IRC.005	FS-GA-0063	T
SAIC/TARC	Civil	I. COTTLE	CI-077	T.CI.IRC.006	FS-GA-0041 SECTION A-A	T
SAIC/TARC	Shaft	I. COTTLE	SH-047	T.SH.IRC.007	FS-GA-0058 DETAIL 1	T
SAIC/TARC	Shaft	I. COTTLE	SH-049	T.SH.IRC.008	FS-GA-0059 B-5, STEP 3	T
SAIC/TARC	Mining	I. COTTLE	MI-018	T.MI.IRC.009	FS-GA-0160	T
SAIC/TARC	Shaft	I. COTTLE	SH-159	T.SH.IRC.010	FS-SP-1414 1.3	T
SAIC/TARC	Shaft	I. COTTLE	SH-161	T.SH.IRC.011	FS-SP-1418 1.3	T
SAIC/TARC	Mining	I. COTTLE	MI-111	T.MI.IRC.012	FS-SP-0205 SECTION 3.5	T
SAIC/TARC	General	I. COTTLE	GE-039	T.GE.IRC.013	GENERAL F&S SPECIFICATION	T
SAIC/TARC	General	I. COTTLE	GE-042	T.GE.IRC.014	GENERAL F&S SPECIFICATION	T
SAIC/TARC	Mining	I. COTTLE	MI-093	T.MI.IRC.015	FS-SP-0205 SECTION 1.5	T
SAIC/TARC	General	I. COTTLE	GE-027	T.GE.IRC.016	GENERAL H&N SPECIFICATIONS	T
SAIC/TARC	Architectural/St	I. COTTLE	AS-004	T.AS.IRC.017	SECTION 03001 PLAIN AND REINFORCED CONCRETE	T
SAIC/TARC	General	I. COTTLE	GE-028	T.GE.IRC.018	GENERAL H&N DIVISION 1 SPECIFICATIONS	T
SAIC/TARC	Civil	I. COTTLE	CI-211	T.CI.IRC.019	SECTION 02611	T
SAIC/TARC	General	I. COTTLE	GE-008	T.GE.IRC.020	GENERAL	T
SAIC/TARC	Mining	I. COTTLE	MI-089	T.MI.IRC.021	FS-SP-0204 SECTION 3.13	T
SAIC/TARC	Mining	I. COTTLE	MI-083	T.MI.IRC.022	FS-SP-0204 SECTION 3.1.3	T
SAIC/TARC	Mining	I. COTTLE	MI-086	T.MI.IRC.023	FS-SP-0204 3.5 SURVEY WORK	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
I. COTTLE	17	5	1	23

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/QA	Shaft	J. JARDINE	SH-067	F.SH.JAJ.001	FS-GA-0062	R/B T
SAIC/QA	Shaft	J. JARDINE	SH-068	F.SH.JAJ.002	FS-GA-0062	R/B T
SAIC/QA	Shaft	J. JARDINE	SH-114	F.SH.JAJ.003	FS-GA-0102	R/B T
SAIC/QA	Civil	J. JARDINE	CI-049	F.CI.JAJ.004	FS-GA-0025	R/B THRU 0028 R/B T
SAIC/QA	Electrical	J. JARDINE	EL-002	F.EL.JAJ.005	FS-GA-0200	R/B, 0213 R/B T
SAIC/QA	Ventilation	J. JARDINE	VE-006	F.VE.JAJ.006	FS-GA-0227	R/B T
SAIC/QA	General	J. JARDINE	GE-008	F.GE.JAJ.007	GENERAL F&S	T
SAIC/QA	General	J. JARDINE	GE-009	F.GE.JAJ.008	GENERAL F&S	T
SAIC/QA	Mechanical	J. JARDINE	ME-002	F.ME.JAJ.009	FS-SP-0504	T
SAIC/QA	Mechanical	J. JARDINE	ME-001	F.ME.JAJ.010	FS-SP-0504	T
SAIC/QA	Mechanical	J. JARDINE	ME-007	F.ME.JAJ.011	FS-SP-0902	T
SAIC/QA	Mechanical	J. JARDINE	ME-004	F.ME.JAJ.012	FS-SP-0902	T
SAIC/QA	Mechanical	J. JARDINE	ME-005	F.ME.JAJ.013	FS-SP-0902	T
SAIC/QA	Mechanical	J. JARDINE	ME-006	F.ME.JAJ.014	FS-SP-0902	T
SAIC/QA	Mechanical	J. JARDINE	ME-003	F.ME.JAJ.015	FS-SP-0902	T
SAIC/QA	Mechanical	J. JARDINE	ME-008	F.ME.JAJ.016	FS-SP-0902	T
SAIC/QA	Mining	J. JARDINE	MI-143	F.MI.JAJ.017	FS-SP-1107	T
SAIC/QA	Shaft	J. JARDINE	SH-149	F.SH.JAJ.018	FS-SP-0301	T
SAIC/QA	Mining	J. JARDINE	MI-078	F.MI.JAJ.019	FS-SP-0204	PARA. 1.4.1 T
SAIC/QA	Mechanical	J. JARDINE	ME-009	F.ME.JAJ.020	FS-SP-0902	PARA. 1.4.1 T
SAIC/QA	Electrical	J. JARDINE	EL-036	F.EL.JAJ.021	FS-SP-1611	PARA. 1.4.1 T
SAIC/QA	Electrical	J. JARDINE	EL-024	F.EL.JAJ.022	FS-SP-1602	PARA. 1.3.4 T
SAIC/QA	General	J. JARDINE	GE-042	F.GE.JAJ.023	GENERAL	H&N DIVISION 15.A T
SAIC/QA	Architectural	J. JARDINE	AR-029	F.AR.JAJ.024	JS-025-6002-A1	.A T
SAIC/QA	Architectural/St	J. JARDINE	AS-006	F.AS.JAJ.025	SECTION 04000	.A PARA. 1.05 T
SAIC/QA	Electrical	J. JARDINE	EL-069	F.EL.JAJ.026	SECTION 16903	.A T
SAIC/QA	Civil	J. JARDINE	CI-016	F.CI.JAJ.027	JS-025-ESF-C4	.B T
SAIC/QA	General	J. JARDINE	GE-020	F.GE.JAJ.028	GENERAL	T
SAIC/QA	Architectural/St	J. JARDINE	AS-009	F.AS.JAJ.029	SECTION 05120	.A T
SAIC/QA	General	J. JARDINE	GE-010	F.GE.JAJ.030	GENERAL H&N	T
SAIC/QA	General	J. JARDINE	GE-005	F.GE.JAJ.031	GENERAL H&N	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
J. JARDINE	22	7	2	31

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
WESTON	General	J. MONTGOMERY	GE-024	K.GE.JEM.001	GENERAL	T
WESTON	Civil	J. MONTGOMERY	CI-039	K.CI.JEM.002	FS-GA-0025	T
WESTON	Ventilation	J. MONTGOMERY	VE-010	K.VE.JEM.003	FS-GA-0228	T
WESTON	Ventilation	J. MONTGOMERY	VE-007	K.VE.JEM.004	FS-GA-0228	T
WESTON	General	J. MONTGOMERY	GE-015	K.GE.JEM.005	GENERAL F&S	T
WESTON	Mining	J. MONTGOMERY	MI-020	K.MI.JEM.006	FS-GA-0160	T
WESTON	General	J. MONTGOMERY	GE-014	K.GE.JEM.007	GENERAL F&S	T
WESTON	General	J. MONTGOMERY	GE-016	K.GE.JEM.008	GENERAL F&S	T
WESTON	Mining	J. MONTGOMERY	MI-076	K.MI.JEM.009	FS-GA-0199	T
WESTON	Piping & Instrum	J. MONTGOMERY	PI-011	K.PI.JEM.010	FS-GA-0222	T
WESTON	Mining	J. MONTGOMERY	MI-050	K.MI.JEM.011	FS-GA-0164	T
WESTON	General	J. MONTGOMERY	GE-011	K.GE.JEM.012	GENERAL H&N	T
WESTON	General	J. MONTGOMERY	GE-013	K.GE.JEM.013	GENERAL F&S	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
J. MONTGOMERY	11	1	1	13

COMMENT TRACKING SYSTEM
 SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	Electrical	J. MCCONVILLE	EL-048	T.EL.JHM.001	JS-025-ESF-W10 B	T
SAIC/TARC	Mechanical	J. MCCONVILLE	ME-053	T.ME.JHM.002	JS-025-6002-M4	T
SAIC/TARC	Mechanical	J. MCCONVILLE	ME-013	T.ME.JHM.003	JS-025-ESF-FP4 B	T
SAIC/TARC	General	J. MCCONVILLE	GE-013	T.GE.JHM.004	GENERAL	T
SAIC/TARC	Mechanical	J. MCCONVILLE	ME-054	T.ME.JHM.005	JS-025-6002-M4	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
J. MCCONVILLE	0	4	1	5

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
REECO	Mechanical	J. BETTS	ME-001	R.ME.JLB.001	JS-025-ESF-FP1 B	T
REECO	Mechanical	J. BETTS	ME-027	R.ME.JLB.002	JS-025-ESF-FP9 B	T
REECO	Electrical	J. BETTS	EL-002	R.EL.JLB.003	JS-025-6000-E2 B	T
REECO	Electrical	J. BETTS	EL-007	R.EL.JLB.004	JS-025-6000-W1 B	T
REECO	Architectural	J. BETTS	AR-019	R.AR.JLB.005	JS-025-6001-A2 A	T
REECO	Architectural	J. BETTS	AR-017	R.AR.JLB.006	JS-025-6001-A2 A	T
REECO	Architectural	J. BETTS	AR-024	R.AR.JLB.007	JS-025-6002-A1 A	T
REECO	Architectural	J. BETTS	AR-032	R.AR.JLB.008	JS-025-6006-A1 B	T
REECO	Mechanical	J. BETTS	ME-077	R.ME.JLB.009	JS-025-6006-FP2 B	T
REECO	Architectural	J. BETTS	AR-046	R.AR.JLB.010	JS-025-6008-A1 A	T
REECO	Architectural	J. BETTS	AR-044	R.AR.JLB.011	JS-025-6008-A1 A	T
REECO	Civil	J. BETTS	CI-065	R.CI.JLB.012	FS-GA-0031	T
REECO	Shaft	J. BETTS	SH-124	R.SH.JLB.013	FS-GA-0113	T
REECO	General	J. BETTS	GE-027	R.GE.JLB.014	GENERAL	T
REECO	Mechanical	J. BETTS	ME-035	R.ME.JLB.015	JS-025-ESF-FP12 B	T
REECO	Mechanical	J. BETTS	ME-012	R.ME.JLB.016	JS-025-ESF-FP4 B	T
REECO	Architectural/St	J. BETTS	AS-014	R.AS.JLB.017	SECTION 07200 A, PART 1.03(A)	T
REECO	Architectural/St	J. BETTS	AS-018	R.AS.JLB.018	SECTION 07200 A, PARTS 2.02(C)&(I)	T
REECO	Architectural/St	J. BETTS	AS-021	R.AS.JLB.019	SECTION 07465 A, PART 2.02 (J)	T
REECO	Architectural/St	J. BETTS	AS-023	R.AS.JLB.020	SECTION 07900 A, PART 1.03	T
REECO	Architectural/St	J. BETTS	AS-024	R.AS.JLB.021	SECTION 07900 A, PART 2.01(I)	T
REECO	Architectural/St	J. BETTS	AS-025	R.AS.JLB.022	SECTION 08100 A, PART 1.03	T
REECO	Architectural/St	J. BETTS	AS-030	R.AS.JLB.023	SECTION 08100 A, PART 1.06(A)	T
REECO	Architectural/St	J. BETTS	AS-032	R.AS.JLB.024	SECTION 08100 A, PART 2.01(A)&(B)	T
REECO	Architectural/St	J. BETTS	AS-037	R.AS.JLB.025	SECTION 08500 A, PART 1.03	T
REECO	Architectural/St	J. BETTS	AS-039	R.AS.JLB.026	SECTION 08500 A, PARTS 2.01(A)&(B)	T
REECO	Architectural/St	J. BETTS	AS-036	R.AS.JLB.027	SECTION 08500 A	T
REECO	Architectural/St	J. BETTS	AS-041	R.AS.JLB.028	SECTION 08700 A, PART 1.03	T
REECO	Architectural/St	J. BETTS	AS-042	R.AS.JLB.029	SECTION 08700 A, PART 2.06(A)	T
REECO	Architectural/St	J. BETTS	AS-044	R.AS.JLB.030	SECTION 08800 A	T
REECO	Architectural/St	J. BETTS	AS-047	R.AS.JLB.031	SECTION 09260 A, PART 1.03	T
REECO	Architectural/St	J. BETTS	AS-046	R.AS.JLB.032	SECTION 09260 A, PART 1.03(A)	T
REECO	Architectural/St	J. BETTS	AS-052	R.AS.JLB.033	SECTION 09260 A, PART 2.02(E)(2)	T
REECO	Architectural/St	J. BETTS	AS-057	R.AS.JLB.034	SECTION 09686 A, PART 1.03	T
REECO	Architectural/St	J. BETTS	AS-060	R.AS.JLB.035	SECTION 09686 A, PART 1.07	T
REECO	Architectural/St	J. BETTS	AS-062	R.AS.JLB.036	SECTION 09686 A, PART 2.02(F)(6)	T
REECO	General	J. BETTS	GE-040	R.GE.JLB.037	GENERAL SPECIFICATIONS	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
J. BETTS ¹	2	33	2	37

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	General	J. DAVENPORT	GE-014	T.GE.JMD.001	GENERAL	T
SAIC/TARC	Architectural	J. DAVENPORT	AR-031	T.AR.JMD.002	JS-025-6006-A1 B	T
SAIC/TARC	Architectural	J. DAVENPORT	AR-049	T.AR.JMD.003	JS-025-058-1-A1 A	T
SAIC/TARC	Shaft	J. DAVENPORT	SH-070	T.SH.JMD.004	FS-GA-0062 TITLE: ES-1 SHAFT LINER SECTIONS & DETAILS	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
J. DAVENPORT	1	2	1	4

COMMENT TRACKING SYSTEM
 SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
MSHA	General	J. WIDOWS	GE-019	M.GE.JW.001	GENERAL	T
MSHA	Civil	J. WIDOWS	CI-004	M.CI.JW.002	FS-GA-0011	T
MSHA	Civil	J. WIDOWS	CI-075	M.CI.JW.003	FS-GA-0040	T
MSHA	Ventilation	J. WIDOWS	VE-005	M.VE.JW.004	FS-GA-0227	T
MSHA	General	J. WIDOWS	GE-035	M.GE.JW.005	GENERAL	T
MSHA	General	J. WIDOWS	GE-036	M.GE.JW.006	GENERAL	T
MSHA	General	J. WIDOWS	GE-037	M.GE.JW.007	GENERAL	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
J. WIDOWS	3	0	4	7

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
REECO	Shaft	L. CREVELT	SH-132	R.SH.LGC.001	FS-SP-0201	2.2, PAGE 2 T
REECO	Shaft	L. CREVELT	SH-134	R.SH.LGC.002	FS-SP-0201	3.1.1,3.1.2 T
REECO	General	L. CREVELT	GE-041	R.GE.LGC.003	GENERAL	PP.2 & 3 F&S TECHNICAL T
REECO	Shaft	L. CREVELT	SH-139	R.SH.LGC.004	FS-SP-0202	1.2.3, PAGE 1 T
REECO	Shaft	L. CREVELT	SH-141	R.SH.LGC.005	FS-SP-0202	3.1,3.2,3.3, PP T
REECO	Shaft	L. CREVELT	SH-145	R.SH.LGC.006	FS-SP-0203	1.2.3 PAGE 1 T
REECO	Shaft	L. CREVELT	SH-147	R.SH.LGC.007	FS-SP-0203	3.3, 3.4, AND T
REECO	Shaft	L. CREVELT	SH-151	R.SH.LGC.008	FS-SP-0301	3.5 F&S T
REECO	Shaft	L. CREVELT	SH-157	R.SH.LGC.009	FS-SP-1409	1.3 PAGE 2 T
REECO	Mining	L. CREVELT	MI-084	R.MI.LGC.010	FS-SP-0204	3.5 PAGE 6 T
REECO	Mining	L. CREVELT	MI-090	R.MI.LGC.011	FS-SP-0205	1.2 PAGE 1 T
REECO	Mining	L. CREVELT	MI-091	R.MI.LGC.012	FS-SP-0205	1.3.3 PAGE 1 T
REECO	Mining	L. CREVELT	MI-092	R.MI.LGC.013	FS-SP-0205	1.5 PAGE 2 T
REECO	Mining	L. CREVELT	MI-094	R.MI.LGC.014	FS-SP-0205	1.6 PAGE 3 T
REECO	Mining	L. CREVELT	MI-096	R.MI.LGC.015	FS-SP-0205	1.8, PAGE 4 T
REECO	Mining	L. CREVELT	MI-098	R.MI.LGC.016	FS-SP-0205	2.1.1, PAGE 5 T
REECO	Mining	L. CREVELT	MI-099	R.MI.LGC.017	FS-SP-0205	2.1.2 T
REECO	Mining	L. CREVELT	MI-107	R.MI.LGC.018	FS-SP-0205	3.5, PAGE 7 T
REECO	Mining	L. CREVELT	MI-109	R.MI.LGC.019	FS-SP-0205	3.5.2, PAGE 8 T
REECO	Mining	L. CREVELT	MI-113	R.MI.LGC.020	FS-SP-0205	3.6, PAGE 9 T
REECO	Mining	L. CREVELT	MI-120	R.MI.LGC.021	FS-SP-0205	3.11, PAGE 9 T
REECO	Mechanical	L. CREVELT	ME-010	R.ME.LGC.022	FS-SP-1500	1.4 SUBMITTALS, T
REECO	Electrical	L. CREVELT	EL-020	R.EL.LGC.023	FS-SP-1600	PAGE 1 1.4 SUBMITTALS T
REECO	Electrical	L. CREVELT	EL-022	R.EL.LGC.024	FS-SP-1602	- 1604 PAGE 4, T
REECO	Electrical	L. CREVELT	EL-026	R.EL.LGC.025	FS-SP-1603	FABRICATION 1607,1609,1611- T
REECO	Electrical	L. CREVELT	EL-023	R.EL.LGC.026	FS-SP-1602	1619 1619, 1.2.2 T
REECO	General	L. CREVELT	GE-029	R.GE.LGC.027	SECTION 01005	2.02A T
REECO	General	L. CREVELT	GE-040	R.GE.LGC.028	SECTION 01720	302 B T
REECO	Architectural/St	L. CREVELT	AS-007	R.AS.LGC.029	SECTION 05120	05210.A T
REECO	Architectural/St	L. CREVELT	AS-010	R.AS.LGC.030	SECTION 05300	T
REECO	Architectural/St	L. CREVELT	AS-011	R.AS.LGC.031	SECTION 05400	3.01 INSPECTION T
REECO	Architectural/St	L. CREVELT	AS-012	R.AS.LGC.032	SECTION 07175	3.01,3.02,3.03, T
REECO	Architectural/St	L. CREVELT	AS-016	R.AS.LGC.033	SECTION 07200	P.4 PAGE 3, 1.05 T
REECO	Architectural/St	L. CREVELT	AS-020	R.AS.LGC.034	SECTION 07465	2.01, PAGE 3 T
REECO	Architectural/St	L. CREVELT	AS-022	R.AS.LGC.035	SECTION 07631	AND 07900.A T
REECO	Architectural/St	L. CREVELT	AS-031	R.AS.LGC.036	SECTION 08100	3.01 2.01 T
REECO	General	L. CREVELT	GE-041	R.GE.LGC.037	GENERAL H&N	SECTION DIV. 15 T
REECO	General	L. CREVELT	GE-044	R.GE.LGC.038	GENERAL H&N	SECTION DIV. 16 T
REECO	Mining	L. CREVELT	MI-122	R.MI.LGC.039	FS-SP-0205	DATA T
REECO	Mining	L. CREVELT	MI-123	R.MI.LGC.040	FS-SP-0205	REQUIREMENT LIST DATA T
REECO	Mining	L. CREVELT	MI-123	R.MI.LGC.040	FS-SP-0205	REQUIREMENTS LIST T

REECO	Mining	L. CREVELT	MI-124	R.MI.LGC.041	FS-SP-0205	DATA REQUIREMENTS LIST	T
EECO	Architectural/St	L. CREVELT	AS-008	R.AS.LGC.042	SECTION 05120	AND 05210.A	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
=====	=====	=====	=====	=====
L. CREVELT	28	13	1	42

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
REECO	Electrical	L. FLORES	EL-004	R.EL.LJF.001	FS-GA-0200 REV B B6	T
REECO	Electrical	L. FLORES	EL-008	R.EL.LJF.002	FS-GA-0201 REV B 7B AND 6B	T
REECO	Electrical	L. FLORES	EL-001	R.EL.LJF.003	FS-GA-0200 B D7	T
REECO	Electrical	L. FLORES	EL-007	R.EL.LJF.004	FS-GA-0201 B C5	T
REECO	Electrical	L. FLORES	EL-034	R.EL.LJF.005	JS-025-ESF-E5 B	T
REECO	Civil	L. FLORES	CI-166	R.CI.LJF.006	JS-025-ESF-C44 B C3	T
REECO	Electrical	L. FLORES	EL-060	R.EL.LJF.007	JS-025-ESF-W5 B	T
REECO	Electrical	L. FLORES	EL-039	R.EL.LJF.008	JS-025-ESF-E6 B	T
REECO	Electrical	L. FLORES	EL-005	R.EL.LJF.009	JS-025-6000-W1 B	T
REECO	Electrical	L. FLORES	EL-003	R.EL.LJF.010	JS-025-6000-E2 B C11	T
REECO	Electrical	L. FLORES	EL-014	R.EL.LJF.011	FS-GA-0204 REV B C4	T
REECO	Electrical	L. FLORES	EL-003	R.EL.LJF.012	FS-GA-0200 REV B B4 & B7	T
REECO	Electrical	L. FLORES	EL-004	R.EL.LJF.013	JS-025-6000-E2 B E8	T
REECO	Architectural	L. FLORES	AR-026	R.AR.LJF.014	JS-025-6002-A1 A	T
REECO	Electrical	L. FLORES	EL-012	R.EL.LJF.015	JS-025-6006-E1 B F7	T
REECO	Electrical	L. FLORES	EL-044	R.EL.LJF.016	JS-025-ESF-E6 B D7	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
L. FLORES	6	10	0	16

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
WMPO	Shaft	L. OWENS	SH-105	J.SH.LJO.001	FS-GA-0100	T
WMPO	Shaft	L. OWENS	SH-021	J.SH.LJO.002	FS-GA-0050	T
WMPO	Shaft	L. OWENS	SH-018	J.SH.LJO.003	FS-GA-0050	T
WMPO	Shaft	L. OWENS	SH-020	J.SH.LJO.004	FS-GA-0050	T
WMPO	Civil	L. OWENS	CI-033	J.CI.LJO.005	FS-GA-0015	T
WMPO	Civil	L. OWENS	CI-026	J.CI.LJO.006	FS-GA-0015	T
WMPO	Civil	L. OWENS	CI-012	J.CI.LJO.007	FS-GA-0012	T
WMPO	Civil	L. OWENS	CI-041	J.CI.LJO.008	FS-GA-0025	T
WMPO	Civil	L. OWENS	CI-023	J.CI.LJO.009	FS-GA-0014	T
WMPO	Shaft	L. OWENS	SH-080	J.SH.LJO.010	FS-GA-0072	T
WMPO	Shaft	L. OWENS	SH-094	J.SH.LJO.011	FS-GA-0085	T
WMPO	Shaft	L. OWENS	SH-075	J.SH.LJO.012	FS-GA-0063	T
WMPO	Mining	L. OWENS	MI-005	J.MI.LJO.013	FS-GA-0150	T
WMPO	Shaft	L. OWENS	SH-119	J.SH.LJO.014	FS-GA-0113	T
WMPO	Shaft	L. OWENS	SH-115	J.SH.LJO.015	FS-GA-0110	T
WMPO	Mining	L. OWENS	MI-026	J.MI.LJO.016	FS-GA-0160	T
WMPO	Shaft	L. OWENS	SH-057	J.SH.LJO.017	FS-GA-0062	T
WMPO	Civil	L. OWENS	CI-035	J.CI.LJO.018	FS-GA-0016	T
WMPO	Electrical	L. OWENS	EL-032	J.EL.LJO.019	JS-025-ESF-E4	B
WMPO	Electrical	L. OWENS	EL-028	J.EL.LJO.020	JS-025-ESF-E3	A
WMPO	Electrical	L. OWENS	EL-035	J.EL.LJO.021	JS-025-ESF-E5	B
WMPO	Shaft	L. OWENS	SH-106	J.SH.LJO.022	FS-GA-0100	T
WMPO	Shaft	L. OWENS	SH-107	J.SH.LJO.023	FS-GA-0100	T
WMPO	Shaft	L. OWENS	SH-108	J.SH.LJO.024	FS-GA-0100	T
WMPO	Shaft	L. OWENS	SH-008	J.SH.LJO.025	FS-GA-0050	T
WMPO	Shaft	L. OWENS	SH-011	J.SH.LJO.026	FS-GA-0050	T
WMPO	Shaft	L. OWENS	SH-010	J.SH.LJO.027	FS-GA-0050	T
WMPO	Shaft	L. OWENS	SH-007	J.SH.LJO.028	FS-GA-0050	T
WMPO	Shaft	L. OWENS	SH-009	J.SH.LJO.029	FS-GA-0050	T
WMPO	Shaft	L. OWENS	SH-002	J.SH.LJO.030	FS-GA-0050	T
WMPO	Shaft	L. OWENS	SH-014	J.SH.LJO.031	FS-GA-0050	T
WMPO	Shaft	L. OWENS	SH-013	J.SH.LJO.032	FS-GA-0050	T
WMPO	Shaft	L. OWENS	SH-016	J.SH.LJO.033	FS-GA-0050	T
WMPO	Civil	L. OWENS	CI-027	J.CI.LJO.034	FS-GA-0015	T
WMPO	Civil	L. OWENS	CI-028	J.CI.LJO.035	FS-GA-0015	T
WMPO	Civil	L. OWENS	CI-022	J.CI.LJO.036	FS-GA-0014	T
WMPO	Shaft	L. OWENS	SH-081	J.SH.LJO.037	FS-GA-0072	T
WMPO	Shaft	L. OWENS	SH-095	J.SH.LJO.038	FS-GA-0085	T
WMPO	Mining	L. OWENS	MI-006	J.MI.LJO.039	FS-GA-0150	T
WMPO	Shaft	L. OWENS	SH-120	J.SH.LJO.040	FS-GA-0113	T
WMPO	Mining	L. OWENS	MI-027	J.MI.LJO.041	FS-GA-0160	T
WMPO	Mining	L. OWENS	MI-028	J.MI.LJO.042	FS-GA-0160	T
WMPO	Mining	L. OWENS	MI-025	J.MI.LJO.043	FS-GA-0160	T
WMPO	Shaft	L. OWENS	SH-058	J.SH.LJO.044	FS-GA-0062	T
WMPO	Civil	L. OWENS	CI-037	J.CI.LJO.045	FS-GA-0016	T
WMPO	Electrical	L. OWENS	EL-029	J.EL.LJO.046	JS-025-ESF-E4	T
WMPO	Electrical	L. OWENS	EL-030	J.EL.LJO.047	JS-025-ESF-E4	T
WMPO	Electrical	L. OWENS	EL-031	J.EL.LJO.048	JS-025-ESF-E4	T
WMPO	Shaft	L. OWENS	SH-085	J.SH.LJO.049	FS-GA-0072	T
WMPO	Civil	L. OWENS	CI-057	J.CI.LJO.050	FS-GA-0027	T
WMPO	Civil	L. OWENS	CI-051	J.CI.LJO.051	FS-GA-0026	T
WMPO	Civil	L. OWENS	CI-053	J.CI.LJO.052	FS-GA-0026	T
WMPO	General	L. OWENS	GE-006	J.GE.LJO.053	GENERAL F&S	T

VIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
L. OWENS	47	6	0	53

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
REECO	Electrical	M. FOX	EL-041	R.EL.MAF.001	JS-025-ESF-E7 A	T
REECO	Electrical	M. FOX	EL-040	R.EL.MAF.002	JS-025-ESF-E6 B	T
REECO	Electrical	M. FOX	EL-042	R.EL.MAF.003	JS-025-ESF-E8 A	T
REECO	Electrical	M. FOX	EL-043	R.EL.MAF.004	JS-025-ESF-E9 A	T
REECO	Mechanical	M. FOX	ME-003	R.ME.MAF.005	JS-025-ESF-FP1 B THRU FP4.B	T
REECO	Mechanical	M. FOX	ME-018	R.ME.MAF.006	JS-025-ESF-FP5 B THRU FP13 B	T
REECO	Civil	M. FOX	CI-149	R.CI.MAF.007	JS-025-ESF-C43 B	T
REECO	Civil	M. FOX	CI-167	R.CI.MAF.008	JS-025-ESF-C44	T
REECO	Electrical	M. FOX	EL-021	R.EL.MAF.009	JS-025-ESF-E2 A	T
REECO	General	M. FOX	GE-006	R.GE.MAF.010	GENERAL H&N	T
REECO	General	M. FOX	GE-010	R.GE.MAF.011	GENERAL F&S TYPICAL DRAWING	T
REECO	Shaft	M. FOX	SH-129	R.SH.MAF.012	FS-SP-0201	T
REECO	Shaft	M. FOX	SH-150	R.SH.MAF.013	FS-SP-0301	T
REECO	General	M. FOX	GE-011	R.GE.MAF.014	GENERAL F&S SPECIFICATIONS QA SECTION	T
REECO	General	M. FOX	GE-007	R.GE.MAF.015	GENERAL H&N	T
REECO	General	M. FOX	GE-012	R.GE.MAF.016	GENERAL F&S TYPICAL	T
REECO	Mechanical	M. FOX	ME-020	R.ME.MAF.017	FS-SP-1510	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
I. FOX	6	11	0	17

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	Civil	M. BRAKE	CI-175	T.CI.MCB.001	SECTION 02110 1.06.A	T
SAIC/TARC	Civil	M. BRAKE	CI-184	T.CI.MCB.002	SECTION 02211 3.01 E	T
SAIC/TARC	Civil	M. BRAKE	CI-178	T.CI.MCB.003	SECTION 02202 1.04.A	T
SAIC/TARC	Civil	M. BRAKE	CI-190	T.CI.MCB.004	SECTION 02222 3.01.D	T
SAIC/TARC	Civil	M. BRAKE	CI-191	T.CI.MCB.005	SECTION 02222 3.02.B	T
SAIC/TARC	Civil	M. BRAKE	CI-199	T.CI.MCB.006	SECTION 02223 3.01.D	T
SAIC/TARC	Civil	M. BRAKE	CI-201	T.CI.MCB.007	SECTION 02223 3.05.A	T
SAIC/TARC	Civil	M. BRAKE	CI-207	T.CI.MCB.008	SECTION 02225 3.07.A	T
SAIC/TARC	Civil	M. BRAKE	CI-187	T.CI.MCB.009	SECTION 02211 3.02.C	T
SAIC/TARC	Civil	M. BRAKE	CI-205	T.CI.MCB.010	SECTION 02225 3.01.C	T
SAIC/TARC	Civil	M. BRAKE	CI-220	T.CI.MCB.011	SECTION 02720 3.02.A	T
SAIC/TARC	Civil	M. BRAKE	CI-225	T.CI.MCB.012	SECTION 02730 3.13.B.4	T
SAIC/TARC	Architectural/St	M. BRAKE	AS-002	T.AS.MCB.013	SECTION 03001 1.04.A	T
SAIC/TARC	Architectural/St	M. BRAKE	AS-003	T.AS.MCB.014	SECTION 03001 3.04.B	T
SAIC/TARC	General	M. BRAKE	GE-033	T.GE.MCB.015	SECTION 01300 3	T
SAIC/TARC	Architectural/St	M. BRAKE	AS-005	T.AS.MCB.016	SECTION 04000 1.04.A	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
M. BRAKE	0	16	0	16

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION	
USGS	General	M. WHITFIELD	GE-001	G.GE.MSW.001	GENERAL F&S	T	
USGS	General	M. WHITFIELD	GE-026	G.GE.MSW.002	FS-GA-0003	GRID B-1	T
USGS	Mining	M. WHITFIELD	MI-046	G.MI.MSW.003	FS-GA-0163	GRID A-5, A-7	T
USGS	General	M. WHITFIELD	GE-027	G.GE.MSW.004	FS-GA-0003	GRID B-3	T
USGS	Mechanical	M. WHITFIELD	ME-021	G.ME.MSW.005	JS-025-ESF-FP8	.B GRID D-7	T
USGS	Mechanical	M. WHITFIELD	ME-031	G.ME.MSW.006	JS-025-ESF-FP12	.B GRID C,D-6,7	T
USGS	General	M. WHITFIELD	GE-024	G.GE.MSW.007	FS-GA-0001	GRID C,D-6,7	T
USGS	Shaft	M. WHITFIELD	SH-040	G.SH.MSW.008	FS-GA-0057	GRID C-5,6	T
USGS	Electrical	M. WHITFIELD	EL-052	G.EL.MSW.009	JS-025-ESF-W14	.B GRID C-7	T
USGS	Mining	M. WHITFIELD	MI-087	G.MI.MSW.010	FS-SP-0204	PAGE 5, 3.3.3	T
USGS	Mining	M. WHITFIELD	MI-095	G.MI.MSW.011	FS-SP-0205	PAGE 5 1.6	T
USGS	Mining	M. WHITFIELD	MI-125	G.MI.MSW.012	FS-SP-0205	SHEET 15	T
USGS	Shaft	M. WHITFIELD	SH-146	G.SH.MSW.013	FS-SP-0203	3.3.1 PAGE 3	T
USGS	Civil	M. WHITFIELD	CI-185	G.CI.MSW.014	SECTION 02211	3.02 PAGE 3	T
USGS	Mechanical	M. WHITFIELD	ME-011	G.ME.MSW.015	FS-SP-1501	1.3.2 PAGE 2	T
USGS	Mechanical	M. WHITFIELD	ME-012	G.ME.MSW.016	FS-SP-1501	2.1.1 PAGE 3	T
USGS	Mechanical	M. WHITFIELD	ME-022	G.ME.MSW.017	FS-SP-1511	2.1 PAGE 1	T
USGS	Mechanical	M. WHITFIELD	ME-025	G.ME.MSW.018	FS-SP-1513	2.1 PAGE 1	T
USGS	Mechanical	M. WHITFIELD	ME-027	G.ME.MSW.019	FS-SP-1514	2.1 PAGE 1	T
USGS	Mechanical	M. WHITFIELD	ME-029	G.ME.MSW.020	FS-SP-1515	2.2 PAGE 1	T

VIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
M. WHITFIELD	16	4	0	20

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
REECO	Civil	O. HAWORTH	CI-228	R.CI.OLH.001	SECTION 02731 A, 1.04, PAGE 2	T
REECO	Mechanical	O. HAWORTH	ME-004	R.ME.OLH.002	JS-025-ESF-FP3 B	T
REECO	Civil	O. HAWORTH	CI-084	R.CI.OLH.003	JS-025-ESF-C37 B	T
REECO	Civil	O. HAWORTH	CI-227	R.CI.OLH.004	SECTION 02731 A, 1.01 PAGE 2, 3.05 PAGE 5	T
REECO	Civil	O. HAWORTH	CI-229	R.CI.OLH.005	SECTION 02731 A, PART 3	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
O. HAWORTH	0	5	0	5

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
NVO/SHD	General	P. PHILLIPS	GE-036	N.GE.PEP.001	SECTION 01400	T
NVO/SHD	General	P. PHILLIPS	GE-032	N.GE.PEP.002	SECTION 01300	T
NVO/SHD	Civil	P. PHILLIPS	CI-198	N.CI.PEP.003	SECTION 02223	T
NVO/SHD	Civil	P. PHILLIPS	CI-206	N.CI.PEP.004	SECTION 02225	T
NVO/SHD	Civil	P. PHILLIPS	CI-209	N.CI.PEP.005	SECTION 02556	T
NVO/SHD	Civil	P. PHILLIPS	CI-223	N.CI.PEP.006	SECTION 02730	T
NVO/SHD	Civil	P. PHILLIPS	CI-232	N.CI.PEP.007	SECTION 02831	T
NVO/SHD	Civil	P. PHILLIPS	CI-236	N.CI.PEP.008	SECTION 02990	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-013	N.AS.PEP.009	SECTION 07200	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-026	N.AS.PEP.010	SECTION 08100	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-033	N.AS.PEP.011	SECTION 08330	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-038	N.AS.PEP.012	SECTION 08500	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-043	N.AS.PEP.013	SECTION 08700	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-045	N.AS.PEP.014	SECTION 09111	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-051	N.AS.PEP.015	SECTION 09260	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-054	N.AS.PEP.016	SECTION 09511	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-056	N.AS.PEP.017	SECTION 09650	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-058	N.AS.PEP.018	SECTION 09686	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-064	N.AS.PEP.019	SECTION 10270	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-065	N.AS.PEP.020	SECTION 13121	T
NVO/SHD	Civil	P. PHILLIPS	CI-171	N.CI.PEP.021	JS-025-ESF-C46	T
O/SHD	General	P. PHILLIPS	GE-014	N.GE.PEP.022	JS-025-ESF-T2	T
O/SHD	General	P. PHILLIPS	GE-022	N.GE.PEP.023	JS-025-ESF-T3	T
NVO/SHD	General	P. PHILLIPS	GE-023	N.GE.PEP.024	JS-025-ESF-T4	T
NVO/SHD	General	P. PHILLIPS	GE-025	N.GE.PEP.025	JS-025-ESF-T5	T
NVO/SHD	Civil	P. PHILLIPS	CI-026	N.CI.PEP.026	JS-025-ESF-C11	T
NVO/SHD	Civil	P. PHILLIPS	CI-077	N.CI.PEP.027	JS-025-ESF-C31	T
NVO/SHD	Civil	P. PHILLIPS	CI-154	N.CI.PEP.028	JS-025-ESF-C44	T
NVO/SHD	Architectural	P. PHILLIPS	AR-001	N.AR.PEP.029	JS-025-ESF-A1	T
NVO/SHD	Electrical	P. PHILLIPS	EL-027	N.EL.PEP.030	JS-025-ESF-E3	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-002	N.ME.PEP.031	JS-025-ESF-FP1	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-014	N.ME.PEP.032	JS-025-ESF-FP4	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-015	N.ME.PEP.033	JS-025-ESF-FP5	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-020	N.ME.PEP.034	JS-025-ESF-FP6	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-025	N.ME.PEP.035	JS-025-ESF-FP8	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-028	N.ME.PEP.036	JS-025-ESF-FP9	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-030	N.ME.PEP.037	JS-025-ESF-FP11	T
NVO/SHD	Electrical	P. PHILLIPS	EL-055	N.EL.PEP.038	JS-025-ESF-W3	T
NVO/SHD	Electrical	P. PHILLIPS	EL-059	N.EL.PEP.039	JS-025-ESF-W5	T
NVO/SHD	Electrical	P. PHILLIPS	EL-051	N.EL.PEP.040	JS-025-ESF-W12	T
NVO/SHD	Architectural	P. PHILLIPS	AR-006	N.AR.PEP.041	JS-025-6000-A1	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-044	N.ME.PEP.042	JS-025-6000-FP1	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-046	N.ME.PEP.043	JS-025-6000-FP2	T
NVO/SHD	Electrical	P. PHILLIPS	EL-001	N.EL.PEP.044	JS-025-6000-E2	T
NVO/SHD	Architectural	P. PHILLIPS	AR-011	N.AR.PEP.045	JS-025-6001-A1	T
NVO/SHD	Architectural	P. PHILLIPS	AR-023	N.AR.PEP.046	JS-025-6001-A3	T
NVO/SHD	Architectural	P. PHILLIPS	AR-025	N.AR.PEP.047	JS-025-6002-A1	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-059	N.ME.PEP.048	JS-025-6002-FP1	T
NVO/SHD	Architectural	P. PHILLIPS	AR-033	N.AR.PEP.049	JS-025-6006-A1	T
O/SHD	Mechanical	P. PHILLIPS	ME-068	N.ME.PEP.050	JS-025-6006-FP1	T
O/SHD	Mechanical	P. PHILLIPS	ME-073	N.ME.PEP.051	JS-025-6006-FP2	T
NVO/SHD	Architectural	P. PHILLIPS	AR-038	N.AR.PEP.052	JS-025-6007-A1	T

NVO/SHD	Electrical	P. PHILLIPS	EL-016	N.EL.PEP.053	JS-025-6007-E1	.B	T
NVO/SHD	Architectural	P. PHILLIPS	AR-045	N.AR.PEP.054	JS-025-6008-A1	.A	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-084	N.ME.PEP.055	JS-025-6008-FP1	.B	T
VO/SHD	Mechanical	P. PHILLIPS	ME-089	N.ME.PEP.056	JS-025-058-1FP1	.B ALL TRAILERS	T
NVO/SHD	Civil	P. PHILLIPS	CI-056	N.CI.PEP.057	FS-GA-0027		T
NVO/SHD	Piping & Instrum	P. PHILLIPS	PI-013	N.PI.PEP.058	FS-GA-0230		T
NVO/SHD	General	P. PHILLIPS	GE-026	N.GE.PEP.059	GENERAL		T
NVO/SHD	Civil	P. PHILLIPS	CI-221	N.CI.PEP.060	SECTION 02730		T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-015	N.AS.PEP.061	SECTION 07200	1.05	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-017	N.AS.PEP.062	SECTION 07200	2.02	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-019	N.AS.PEP.063	SECTION 07200	3.02	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-027	N.AS.PEP.064	SECTION 08100	1.03	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-028	N.AS.PEP.065	SECTION 08100	1.03	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-029	N.AS.PEP.066	SECTION 08100	1.0584	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-034	N.AS.PEP.067	SECTION 08100	2.03A	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-035	N.AS.PEP.068	SECTION 08330	2.03C5	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-040	N.AS.PEP.069	SECTION 08500	2.03	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-048	N.AS.PEP.070	SECTION 09260	1.03	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-049	N.AS.PEP.071	SECTION 09260	1.03G	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-050	N.AS.PEP.072	SECTION 09260	1.06	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-053	N.AS.PEP.073	SECTION 09260	2.02	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-055	N.AS.PEP.074	SECTION 09511	1.06	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-059	N.AS.PEP.075	SECTION 09686	1.04D	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-061	N.AS.PEP.076	SECTION 09686	1.07	T
NVO/SHD	Architectural/St	P. PHILLIPS	AS-063	N.AS.PEP.077	SECTION 09686	2.02F6	T
NVO/SHD	General	P. PHILLIPS	GE-015	N.GE.PEP.078	JS-025-ESF-T3		T
NVO/SHD	General	P. PHILLIPS	GE-016	N.GE.PEP.079	JS-025-ESF-T3		T
NVO/SHD	General	P. PHILLIPS	GE-017	N.GE.PEP.080	JS-025-ESF-T3		T
NVO/SHD	General	P. PHILLIPS	GE-018	N.GE.PEP.081	JS-025-ESF-T3		T
NVO/SHD	General	P. PHILLIPS	GE-019	N.GE.PEP.082	JS-025-ESF-T3		T
NVO/SHD	General	P. PHILLIPS	GE-020	N.GE.PEP.083	JS-025-ESF-T3		T
O/SHD	General	P. PHILLIPS	GE-021	N.GE.PEP.084	JS-025-ESF-T3		T
VO/SHD	General	P. PHILLIPS	GE-026	N.GE.PEP.085	JS-025-ESF-T5	.A	T
NVO/SHD	Civil	P. PHILLIPS	CI-155	N.CI.PEP.086	JS-025-ESF-C44	.B	T
NVO/SHD	Civil	P. PHILLIPS	CI-150	N.CI.PEP.087	JS-025-ESF-C44		T
NVO/SHD	Civil	P. PHILLIPS	CI-152	N.CI.PEP.088	JS-025-ESF-C44		T
NVO/SHD	Civil	P. PHILLIPS	CI-151	N.CI.PEP.089	JS-025-ESF-C44		T
NVO/SHD	Mechanical	P. PHILLIPS	ME-026	N.ME.PEP.090	JS-025-ESF-FP8	.B	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-045	N.ME.PEP.091	JS-025-6000-FP1	.B	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-047	N.ME.PEP.092	JS-025-6000-FP2	.B AND OTHERS	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-048	N.ME.PEP.093	JS-025-6000-FP2	.B AND OTHERS	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-058	N.ME.PEP.094	JS-025-6002-FP1	.B	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-071	N.ME.PEP.095	JS-025-6006-FP1	.B	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-074	N.ME.PEP.096	JS-025-6006-FP2	.B	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-076	N.ME.PEP.097	JS-025-6006-FP2	.B	T
NVO/SHD	Architectural	P. PHILLIPS	AR-047	N.AR.PEP.098	JS-025-6008-A1	.A	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-087	N.ME.PEP.099	JS-025-6008-FP1	.B	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-090	N.ME.PEP.100	JS-025-058-1FP1	.B ALL TRAILERS	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-091	N.ME.PEP.101	JS-025-058-1FP1	.B ALL TRAILERS	T
NVO/SHD	General	P. PHILLIPS	GE-043	N.GE.PEP.102	GENERAL F&S		T
NVO/SHD	General	P. PHILLIPS	GE-040	N.GE.PEP.103	GENERAL F&S		T
NVO/SHD	Mechanical	P. PHILLIPS	ME-094	N.ME.PEP.104	SECTION 15140	H&N 2.01	T
NVO/SHD	Mechanical	P. PHILLIPS	ME-095	N.ME.PEP.105	SECTION 15300		T
NVO/SHD	Mechanical	P. PHILLIPS	ME-096	N.ME.PEP.106	SECTION 15365		T
NVO/SHD	Mechanical	P. PHILLIPS	ME-098	N.ME.PEP.107	SECTION 15365		T
NVO/SHD	Mechanical	P. PHILLIPS	ME-097	N.ME.PEP.108	SECTION 15365		T
NVO/SHD	General	P. PHILLIPS	GE-045	N.GE.PEP.109	GENERAL H&N	ELECTRICAL	T
NVO/SHD	General	P. PHILLIPS	GE-028	N.GE.PEP.110	GENERAL		T
NVO/SHD	General	P. PHILLIPS	GE-029	N.GE.PEP.111	GENERAL		T
1/SHD	General	P. PHILLIPS	GE-030	N.GE.PEP.112	GENERAL		T
O/SHD	Electrical	P. PHILLIPS	EL-067	N.EL.PEP.113	SECTION 16721		T
VO/SHD	Electrical	P. PHILLIPS	EL-068	N.EL.PEP.114	SECTION 16721	3.05	T

NVO/SHD	General	P. PHILLIPS	GE-031	N.GE.PEP.115	GENERAL	
NVO/SHD	General	P. PHILLIPS	GE-032	N.GE.PEP.116	GENERAL	T
NVO/SHD	General	P. PHILLIPS	GE-033	N.GE.PEP.117	GENERAL	T
VO/SHD	General	P. PHILLIPS	GE-034	N.GE.PEP.118	GENERAL	T
IO/SHD	General	P. PHILLIPS	GE-041	N.GE.PEP.119	GENERAL F&S	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
P. PHILLIPS	5	106	8	119

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	General	P. KARNOSKI	GE-004	T.GE.PJK.001	GENERAL H&N	T
SAIC/TARC	Civil	P. KARNOSKI	CI-038	T.CI.PJK.002	FS-GA-0016	0025, 0033, & 0171
SAIC/TARC	General	P. KARNOSKI	GE-007	T.GE.PJK.003	GENERAL F&S	ALL F&S DRAWINGS
SAIC/TARC	Civil	P. KARNOSKI	CI-012	T.CI.PJK.004	JS-025-ESF-C3	B G-3
SAIC/TARC	Civil	P. KARNOSKI	CI-058	T.CI.PJK.005	JS-025-ESF-C20	.B
SAIC/TARC	Civil	P. KARNOSKI	CI-067	T.CI.PJK.006	JS-025-ESF-C24	.B
SAIC/TARC	Civil	P. KARNOSKI	CI-078	T.CI.PJK.007	JS-025-ESF-C31	.B
SAIC/TARC	Electrical	P. KARNOSKI	EL-022	T.EL.PJK.008	JS-025-ESF-E2	A H-3
SAIC/TARC	Electrical	P. KARNOSKI	EL-023	T.EL.PJK.009	JS-025-ESF-E3	A H-3
SAIC/TARC	Electrical	P. KARNOSKI	EL-024	T.EL.PJK.010	JS-025-ESF-E4	B D-3
SAIC/TARC	Electrical	P. KARNOSKI	EL-025	T.EL.PJK.011	JS-025-ESF-E5	E6.B,E7.B,E8.A, E9.A
SAIC/TARC	Architectural	P. KARNOSKI	AR-050	T.AR.PJK.012	JS-025-058-2-A1	.A H-3
SAIC/TARC	Mechanical	P. KARNOSKI	ME-018	T.ME.PJK.013	FS-SP-1509	SECTION 1.4.1
SAIC/TARC	Mechanical	P. KARNOSKI	ME-023	T.ME.PJK.014	FS-SP-1511	SECTION 1.4.1
SAIC/TARC	Mechanical	P. KARNOSKI	ME-024	T.ME.PJK.015	FS-SP-1512	SECTION 1.4.1
SAIC/TARC	Mechanical	P. KARNOSKI	ME-021	T.ME.PJK.016	FS-SP-1510	SECTION 1.4.1
SAIC/TARC	Mechanical	P. KARNOSKI	ME-019	T.ME.PJK.017	FS-SP-1510	SECTION 1.4.1
SAIC/TARC	Mechanical	P. KARNOSKI	ME-013	T.ME.PJK.018	FS-SP-1501	SECTION 1.4.1
SAIC/TARC	Mechanical	P. KARNOSKI	ME-015	T.ME.PJK.019	FS-SP-1507	SECTION 1.4.1
IC/TARC	Mechanical	P. KARNOSKI	ME-026	T.ME.PJK.020	FS-SP-1513	SECTION 1.4.1
IC/TARC	Mechanical	P. KARNOSKI	ME-028	T.ME.PJK.021	FS-SP-1514	1515, 1516 SECT.1.4.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-028	T.EL.PJK.022	FS-SP-1605	SECTION 1.4.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-029	T.EL.PJK.023	FS-SP-1605	SECTION 3.2.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-030	T.EL.PJK.024	FS-SP-1606	
SAIC/TARC	Electrical	P. KARNOSKI	EL-031	T.EL.PJK.025	FS-SP-1607	
SAIC/TARC	Electrical	P. KARNOSKI	EL-021	T.EL.PJK.026	FS-SP-1602	
SAIC/TARC	Mechanical	P. KARNOSKI	ME-030	T.ME.PJK.027	FS-SP-1517	
SAIC/TARC	Mechanical	P. KARNOSKI	ME-031	T.ME.PJK.028	FS-SP-1518	
SAIC/TARC	Mechanical	P. KARNOSKI	ME-032	T.ME.PJK.029	FS-SP-1519	
SAIC/TARC	Electrical	P. KARNOSKI	EL-025	T.EL.PJK.030	FS-SP-1603	
SAIC/TARC	Electrical	P. KARNOSKI	EL-027	T.EL.PJK.031	FS-SP-1604	
SAIC/TARC	Electrical	P. KARNOSKI	EL-032	T.EL.PJK.032	FS-SP-1609	1.4.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-033	T.EL.PJK.033	FS-SP-1609	3.2.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-034	T.EL.PJK.034	FS-SP-1611	1.4.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-035	T.EL.PJK.035	FS-SP-1611	3.2.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-037	T.EL.PJK.036	FS-SP-1612	1.4.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-038	T.EL.PJK.037	FS-SP-1612	3.2.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-039	T.EL.PJK.038	FS-SP-1613	1.4.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-040	T.EL.PJK.039	FS-SP-1613	3.2.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-041	T.EL.PJK.040	FS-SP-1614	1.4.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-042	T.EL.PJK.041	FS-SP-1614	3.2.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-043	T.EL.PJK.042	FS-SP-1615	1.4.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-044	T.EL.PJK.043	FS-SP-1615	3.2.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-045	T.EL.PJK.044	FS-SP-1616	1.4.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-046	T.EL.PJK.045	FS-SP-1616	3.2.1
SAIC/TARC	Electrical	P. KARNOSKI	EL-047	T.EL.PJK.046	FS-SP-1617	1.4.1
IC/TARC	Electrical	P. KARNOSKI	EL-048	T.EL.PJK.047	FS-SP-1617	3.2.1
IC/TARC	Electrical	P. KARNOSKI	EL-049	T.EL.PJK.048	FS-SP-1618	1.4.1
IC/TARC	Electrical	P. KARNOSKI	EL-050	T.EL.PJK.049	FS-SP-1618	3.2.1

SAIC/TARC	Electrical	P. KARNOSKI	EL-051	T.EL.PJK.050	FS-SP-1619	1.4.1	T
SAIC/TARC	Electrical	P. KARNOSKI	EL-052	T.EL.PJK.051	FS-SP-1619	3.2.1	T
SAIC/TARC	Electrical	P. KARNOSKI	EL-053	T.EL.PJK.052	FS-SP-1619	3.2.1	T
SAIC/TARC	Mechanical	P. KARNOSKI	ME-093	T.ME.PJK.053	SECTION 15140	.A 1.05	T
SAIC/TARC	Electrical	P. KARNOSKI	EL-065	T.EL.PJK.054	SECTION 16010	1.05	T
SAIC/TARC	General	P. KARNOSKI	EL-066	T.EL.PJK.055	SECTION 16440	1.05	T
SAIC/TARC	General	P. KARNOSKI	GE-030	T.GE.PJK.056	SECTION 01005	.A	T
SAIC/TARC	General	P. KARNOSKI	GE-031	T.GE.PJK.057	SECTION 01050	.A	T
SAIC/TARC	General	P. KARNOSKI	GE-034	T.GE.PJK.058	SECTION 01300	.A	T
SAIC/TARC	General	P. KARNOSKI	GE-035	T.GE.PJK.059	SECTION 01400	.A	T
SAIC/TARC	General	P. KARNOSKI	GE-037	T.GE.PJK.060	SECTION 01410	.A 1.05	T
SAIC/TARC	General	P. KARNOSKI	GE-038	T.GE.PJK.061	SECTION 01600	1.05	T
SAIC/TARC	General	P. KARNOSKI	GE-039	T.GE.PJK.062	SECTION 01720	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-174	T.CI.PJK.063	SECTION 02110	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-177	T.CI.PJK.064	SECTION 02202	.A	T
SAIC/TARC	Civil	P. KARNOSKI	CI-180	T.CI.PJK.065	SECTION 02211	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-194	T.CI.PJK.066	SECTION 02222	.A	T
SAIC/TARC	Civil	P. KARNOSKI	CI-197	T.CI.PJK.067	SECTION 02223	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-204	T.CI.PJK.068	SECTION 02225	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-208	T.CI.PJK.069	SECTION 02500	.A	T
SAIC/TARC	Civil	P. KARNOSKI	CI-210	T.CI.PJK.070	SECTION 02556	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-213	T.CI.PJK.071	SECTION 02611	.A	T
SAIC/TARC	Civil	P. KARNOSKI	CI-214	T.CI.PJK.072	SECTION 02612	.A	T
SAIC/TARC	Civil	P. KARNOSKI	CI-215	T.CI.PJK.073	SECTION 02613	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-216	T.CI.PJK.074	SECTION 02614	.A	T
SAIC/TARC	Civil	P. KARNOSKI	CI-217	T.CI.PJK.075	SECTION 02615	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-222	T.CI.PJK.076	SECTION 02730	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-226	T.CI.PJK.077	SECTION 02731	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-233	T.CI.PJK.078	SECTION 02831	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-231	T.CI.PJK.079	SECTION 02740	.A 1.05	T
SAIC/TARC	Civil	P. KARNOSKI	CI-237	T.CI.PJK.080	SECTION 02990	.A 1.05	T
SAIC/TARC	Architectural/St	P. KARNOSKI	AS-001	T.AS.PJK.081	SECTION 03001	.1, 05120.A,05210.A ,13121.A	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
P. KARNOSKI	42	39	0	81

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
MSHA	Civil	P. TALLEY	CI-067	M.CI.PT.001	FS-GA-0031	A-A T
MSHA	Civil	P. TALLEY	CI-019	M.CI.PT.002	FS-GA-0013	A-A T
MSHA	Civil	P. TALLEY	CI-013	M.CI.PT.003	FS-GA-0012	C-C T
MSHA	Architectural	P. TALLEY	AR-030	M.AR.PT.004	JS-025-6002-A2	A T
MSHA	Shaft	P. TALLEY	SH-084	M.SH.PT.005	FS-GA-0072	T
MSHA	Civil	P. TALLEY	CI-030	M.CI.PT.006	FS-GA-0015	AND 0031 AND 0032 T
MSHA	Shaft	P. TALLEY	SH-036	M.SH.PT.007	FS-GA-0057	T
MSHA	Civil	P. TALLEY	CI-034	M.CI.PT.008	FS-GA-0016	T
MSHA	Civil	P. TALLEY	CI-017	M.CI.PT.009	FS-GA-0013	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
P. TALLEY	8	1	0	9

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
B OF M	Mining	R. DICK	MI-097	B.MI.RAD.001	FS-SP-0205 2.1.1	T
B OF M	Mining	R. DICK	MI-100	B.MI.RAD.002	FS-SP-0205 2.1.2	T
B OF M	Mining	R. DICK	MI-101	B.MI.RAD.003	FS-SP-0205 2.2.1	T
B OF M	Mining	R. DICK	MI-102	B.MI.RAD.004	FS-SP-0205 2.2.2	T
B OF M	Mining	R. DICK	MI-103	B.MI.RAD.005	FS-SP-0205 3.1	T
B OF M	Mining	R. DICK	MI-104	B.MI.RAD.006	FS-SP-0205 3.1	T
B OF M	Mining	R. DICK	MI-105	B.MI.RAD.007	FS-SP-0205 3.2	T
B OF M	Mining	R. DICK	MI-106	B.MI.RAD.008	FS-SP-0205 3.4	T
B OF M	Mining	R. DICK	MI-108	B.MI.RAD.009	FS-SP-0205 3.5.1.A.1	T
B OF M	Mining	R. DICK	MI-110	B.MI.RAD.010	FS-SP-0205 3.5.5	T
B OF M	Mining	R. DICK	MI-112	B.MI.RAD.011	FS-SP-0205 3.6	T
B OF M	Mining	R. DICK	MI-118	B.MI.RAD.012	FS-SP-0205 3.10.2.1	T
B OF M	Mining	R. DICK	MI-119	B.MI.RAD.013	FS-SP-0205 3.10.2.2	T
B OF M	Mining	R. DICK	MI-121	B.MI.RAD.014	FS-SP-0205 3.11.1	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
R. DICK	14	0	0	14

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
WMPO	Shaft	R. EDWARDS	SH-062	J.SH.RDE.001	FS-GA-0062 DETAIL 1	T
WMPO	Electrical	R. EDWARDS	EL-006	J.EL.RDE.002	FS-GA-0201	T
WMPO	Architectural	R. EDWARDS	AR-036	J.AR.RDE.003	JS-025-6006-A2 A	T
WMPO	Mechanical	R. EDWARDS	ME-010	J.ME.RDE.004	JS-025-ESF-FP3 B	T
WMPO	Mechanical	R. EDWARDS	ME-070	J.ME.RDE.005	JS-025-6006-FP1 3	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
R. EDWARDS	2	3	0	5

COMMENT TRACKING SYSTEM
 SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SNL	Mechanical	R. STINEBAUGH	ME-008	S.ME.RES.001	JS-025-ESF-FP3 .B	T
SNL	Mining	R. STINEBAUGH	MI-081	S.MI.RES.002	FS-SP-0204 PG.3,PAR. 3.1.3	T
SNL	Mining	R. STINEBAUGH	MI-117	S.MI.RES.003	FS-SP-0205 SEC.3.10.2.1	T
SNL	Mining	R. STINEBAUGH	MI-021	S.MI.RES.004	FS-GA-0160 PAR. 3 (FLEXIBILITY)	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
R. STINEBAUGH	3	1	0	4

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
B OF M	Mining	L. MUNDELL	MI-128	B.MI.RLM.001	FS-SP-0208	1-3 T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
L. MUNDELL	1	0	0	1

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	General	R. TOME'	GE-015	T.GE.RLT.001	GENERAL	T
SAIC/TARC	Piping & Instrum	R. TOME'	PI-014	T.PI.RLT.002	FS-GA-0230	ZONES D-4 AND D-7
SAIC/TARC	Civil	R. TOME'	CI-142	T.CI.RLT.003	JS-025-ESF-C43	AND C44
SAIC/TARC	Architectural	R. TOME'	AR-020	T.AR.RLT.004	JS-025-6001-A2	AND A3
SAIC/TARC	Mechanical	R. TOME'	ME-061	T.ME.RLT.005	JS-025-6006-M1	
SAIC/TARC	Civil	R. TOME'	CI-001	T.CI.RLT.006	FS-GA-0011	
SAIC/TARC	Civil	R. TOME'	CI-046	T.CI.RLT.007	FS-GA-0025	PLAN, ZONES A5 & A6
SAIC/TARC	Civil	R. TOME'	CI-040	T.CI.RLT.008	FS-GA-0025	
SAIC/TARC	Civil	R. TOME'	CI-048	T.CI.RLT.009	FS-GA-0025	PLAN AND SECTION C-C
SAIC/TARC	Shaft	R. TOME'	SH-101	T.SH.RLT.010	FS-GA-0091	SECTION A-A
SAIC/TARC	Shaft	R. TOME'	SH-111	T.SH.RLT.011	FS-GA-0100	SECTION A-A
SAIC/TARC	Mechanical	R. TOME'	ME-014	T.ME.RLT.012	FS-SP-1507	SPECIFICATION
SAIC/TARC	Mechanical	R. TOME'	ME-017	T.ME.RLT.013	FS-SP-1509	SPECIFICATION
SAIC/TARC	General	R. TOME'	GE-012	T.GE.RLT.014	GENERAL H&N	
SAIC/TARC	Piping & Instrum	R. TOME'	PI-021	T.PI.RLT.015	FS-GA-0240	ZONES C-3 AND C-7

VIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
R. TOME'	10	4	1	15

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION	
MSHA	Mining	R. BRELAND	MI-031	M.MI.RMB.001	FS-GA-0160	ZONE H10, JS-025-ESF-FP3.B ZONE D-5	T
MSHA	Mining	R. BRELAND	MI-029	M.MI.RMB.002	FS-GA-0160	JS-025-ESF-FP3.B	T
MSHA	Shaft	R. BRELAND	SH-063	M.SH.RMB.003	FS-GA-0062	FS-GA-0102	T
MSHA	Shaft	R. BRELAND	SH-064	M.SH.RMB.004	FS-GA-0062	FS-GA-0102	T
MSHA	Mining	R. BRELAND	MI-030	M.MI.RMB.005	FS-GA-0160	JS-025-ESF-FP3.B	T
MSHA	Shaft	R. BRELAND	SH-082	M.SH.RMB.006	FS-GA-0072		T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
R. BRELAND	6	0	0	6

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
REECO	Civil	R. ROMMEL	CI-086	R.CI.RRR.001	JS-025-ESF-C37	B-ZONE A/B-8/9 T
REECO	Architectural	R. ROMMEL	AR-002	R.AR.RRR.002	JS-025-ESF-A1	A - DETAILS 19 & 20 T
REECO	Architectural	R. ROMMEL	AR-004	R.AR.RRR.003	JS-025-6000-A1	B - FLOOR PLAN T
REECO	Architectural	R. ROMMEL	AR-012	R.AR.RRR.004	JS-025-6001-A1	B T
REECO	Architectural	R. ROMMEL	AR-018	R.AR.RRR.005	JS-025-6001-A2	A T
REECO	Civil	R. ROMMEL	CI-021	R.CI.RRR.006	FS-GA-0014	SECTION C-C T
REECO	Civil	R. ROMMEL	CI-072	R.CI.RRR.007	FS-GA-0034	T
REECO	Civil	R. ROMMEL	CI-079	R.CI.RRR.008	FS-GA-0045	T
REECO	Shaft	R. ROMMEL	SH-006	R.SH.RRR.009	FS-GA-0050	T
REECO	Shaft	R. ROMMEL	SH-041	R.SH.RRR.010	FS-GA-0058	T
REECO	Mining	R. ROMMEL	MI-002	R.MI.RRR.011	FS-GA-0150	T
REECO	Mining	R. ROMMEL	MI-003	R.MI.RRR.012	FS-GA-0150	T
REECO	Mining	R. ROMMEL	MI-017	R.MI.RRR.013	FS-GA-0160	T
REECO	Mining	R. ROMMEL	MI-037	R.MI.RRR.014	FS-GA-0162	T
REECO	Electrical	R. ROMMEL	EL-010	R.EL.RRR.015	FS-GA-0204	T
REECO	Architectural	R. ROMMEL	AR-014	R.AR.RRR.016	JS-025-6001-A2	A T
REECO	Civil	R. ROMMEL	CI-112	R.CI.RRR.017	JS-025-ESF-C40	B ZONE B-8 T
REECO	Civil	R. ROMMEL	CI-116	R.CI.RRR.018	JS-025-ESF-C40	B ZONE D-2&3 T
REECO	Mechanical	R. ROMMEL	ME-005	R.ME.RRR.019	JS-025-ESF-FP3	12.B ZONE E-10 T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
R. ROMMEL	10	9	0	19

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
WMPO	General	R. WATERS	GE-003	J.GE.RSW.001	GENERAL H&N	T
WMPO	General	R. WATERS	GE-001	J.GE.RSW.002	GENERAL H&N	T
WMPO	General	R. WATERS	GE-002	J.GE.RSW.003	GENERAL F&S	T
WMPO	Civil	R. WATERS	CI-009	J.CI.RSW.004	JS-025-ESF-C3 B6 H&N	T
WMPO	Electrical	R. WATERS	EL-047	J.EL.RSW.005	JS-025-ESF-E7 H&N	T
WMPO	Mechanical	R. WATERS	ME-034	J.ME.RSW.006	JS-025-ESF-FP12 .B AREA 9E	T
WMPO	Mechanical	R. WATERS	ME-033	J.ME.RSW.007	JS-025-ESF-FP12 .B AREA 8E	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
R. WATERS	1	6	0	7

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
USGS	General	R. CRAIG	GE-009	G.GE.RWC.001	GENERAL	T
USGS	General	R. CRAIG	GE-037	G.GE.RWC.002	FS-GA-0006	5C
USGS	Shaft	R. CRAIG	SH-039	G.SH.RWC.003	FS-GA-0057	2B
USGS	Mining	R. CRAIG	MI-033	G.MI.RWC.004	FS-GA-0161	T
USGS	Mining	R. CRAIG	MI-044	G.MI.RWC.005	FS-GA-0163	A5
USGS	Mining	R. CRAIG	MI-045	G.MI.RWC.006	FS-GA-0163	A7
USGS	Civil	R. CRAIG	CI-169	G.CI.RWC.007	JS-025-ESF-C45	C, D8, D9
USGS	General	R. CRAIG	GE-036	G.GE.RWC.008	FS-GA-0006	B4
USGS	Shaft	R. CRAIG	SH-022	G.SH.RWC.009	FS-GA-0050	C/D 4-5
USGS	Shaft	R. CRAIG	SH-045	G.SH.RWC.010	FS-GA-0058	C4
USGS	Mining	R. CRAIG	MI-024	G.MI.RWC.011	FS-GA-0160	B6
USGS	Mining	R. CRAIG	MI-034	G.MI.RWC.012	FS-GA-0161	B7
USGS	Mechanical	R. CRAIG	ME-007	G.ME.RWC.013	JS-025-ESF-FP3	B, C8
USGS	Mechanical	R. CRAIG	ME-022	G.ME.RWC.014	JS-025-ESF-FP8	B, C8, D7
USGS	Mechanical	R. CRAIG	ME-032	G.ME.RWC.015	JS-025-ESF-FP12	B, C8, D7
USGS	Electrical	R. CRAIG	EL-054	G.EL.RWC.016	JS-025-ESF-W15	B, D7

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
R. CRAIG	10	5	1	16

COMMENT TRACKING SYSTEM
 SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
NTOS	Civil	S. THOMAS	CI-050	E.CI.SAT.001	FS-GA-0025 RV.B, FS-GA-0040 RV.B, FS-GA-0050, RV.B	T
NTOS	Ventilation	S. THOMAS	VE-003	E.VE.SAT.002	FS-GA-0225 RV.B	T
NTOS	Ventilation	S. THOMAS	VE-011	E.VE.SAT.003	FS-GA-0228 RV.B	T
NTOS	Piping & Instrum	S. THOMAS	PI-020	E.PI.SAT.004	FS-GA-0240 RV.B	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
S. THOMAS	4	0	0	4

09/26/88
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 09/26/88

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	General	S. SMITH	GE-010	T.GE.SCS.001	GENERAL	T
SAIC/TARC	Civil	S. SMITH	CI-005	T.CI.SCS.002	FS-GA-0011 5B	T
SAIC/TARC	Civil	S. SMITH	CI-045	T.CI.SCS.003	FS-GA-0025 3C, 3B	T
SAIC/TARC	Shaft	S. SMITH	SH-123	T.SH.SCS.004	FS-GA-0113 7C	T
SAIC/TARC	Civil	S. SMITH	CI-002	T.CI.SCS.005	JS-025-ESF-C1 A, 6B	T
SAIC/TARC	Civil	S. SMITH	CI-035	T.CI.SCS.006	JS-025-ESF-C16 B, 8C	T
SAIC/TARC	Civil	S. SMITH	CI-066	T.CI.SCS.007	JS-025-ESF-C24 B	T
SAIC/TARC	Civil	S. SMITH	CI-079	T.CI.SCS.008	JS-025-ESF-C36 B, 2E	T
SAIC/TARC	Civil	S. SMITH	CI-085	T.CI.SCS.009	JS-025-ESF-C37 B, 11C	T
SAIC/TARC	Civil	S. SMITH	CI-087	T.CI.SCS.010	JS-025-ESF-C37 B	T
SAIC/TARC	Civil	S. SMITH	CI-103	T.CI.SCS.011	JS-025-ESF-C39 B, 11C	T
SAIC/TARC	Civil	S. SMITH	CI-115	T.CI.SCS.012	JS-025-ESF-C40 B, 7E, 6F, AND 4G	T
SAIC/TARC	Civil	S. SMITH	CI-168	T.CI.SCS.013	JS-025-ESF-C45 B	T
SAIC/TARC	Mechanical	S. SMITH	ME-009	T.ME.SCS.014	JS-025-ESF-FP3 B	T
SAIC/TARC	Mechanical	S. SMITH	ME-011	T.ME.SCS.015	JS-025-ESF-FP4 B	T
SAIC/TARC	Mechanical	S. SMITH	ME-019	T.ME.SCS.016	JS-025-ESF-FP6 B	T
SAIC/TARC	Mechanical	S. SMITH	ME-024	T.ME.SCS.017	JS-025-ESF-FP8 B	T
SAIC/TARC	Mechanical	S. SMITH	ME-029	T.ME.SCS.018	JS-025-ESF-FP9 B	T
SAIC/TARC	Mechanical	S. SMITH	ME-036	T.ME.SCS.019	JS-025-ESF-FP13 B	T
SAIC/TARC	Electrical	S. SMITH	EL-057	T.EL.SCS.020	JS-025-ESF-W3 B	T
SAIC/TARC	Electrical	S. SMITH	EL-063	T.EL.SCS.021	JS-025-ESF-W8 B	T
SAIC/TARC	Electrical	S. SMITH	EL-064	T.EL.SCS.022	JS-025-ESF-W9 B, 9C	T
SAIC/TARC	Electrical	S. SMITH	EL-006	T.EL.SCS.023	JS-025-6000-W1 B	T
SAIC/TARC	Architectural	S. SMITH	AR-010	T.AR.SCS.024	JS-025-6001-A1 B	T
SAIC/TARC	Architectural	S. SMITH	AR-016	T.AR.SCS.025	JS-025-6001-A2 A	T
SAIC/TARC	Electrical	S. SMITH	EL-008	T.EL.SCS.026	JS-025-6001-W1 B	T
SAIC/TARC	Electrical	S. SMITH	EL-009	T.EL.SCS.027	JS-025-6001-W1 B	T
SAIC/TARC	Electrical	S. SMITH	EL-010	T.EL.SCS.028	JS-025-6004-E1 B	T
SAIC/TARC	Mechanical	S. SMITH	ME-062	T.ME.SCS.029	JS-025-6006-M1 B, 9F, 10F	T
SAIC/TARC	Mechanical	S. SMITH	ME-075	T.ME.SCS.030	JS-025-6006-FP2 B	T
SAIC/TARC	Electrical	S. SMITH	EL-014	T.EL.SCS.031	JS-025-6006-W1 B	T
SAIC/TARC	Electrical	S. SMITH	EL-017	T.EL.SCS.032	JS-025-6007-W1 B	T
SAIC/TARC	Architectural	S. SMITH	AR-043	T.AR.SCS.033	JS-025-6008-A1 A	T
SAIC/TARC	Mechanical	S. SMITH	ME-085	T.ME.SCS.034	JS-025-6008-FP1 B	T
SAIC/TARC	Electrical	S. SMITH	EL-020	T.EL.SCS.035	JS-025-6008-W1 B, 8E	T
SAIC/TARC	General	S. SMITH	GE-031	T.GE.SCS.036	FS-GA-0003	T
SAIC/TARC	General	S. SMITH	GE-033	T.GE.SCS.037	FS-GA-0004 4C	T
SAIC/TARC	General	S. SMITH	GE-034	T.GE.SCS.038	FS-GA-0005	T
SAIC/TARC	General	S. SMITH	GE-035	T.GE.SCS.039	FS-GA-0005	T
SAIC/TARC	Civil	S. SMITH	CI-006	T.CI.SCS.040	FS-GA-0011 5B	T
SAIC/TARC	Civil	S. SMITH	CI-010	T.CI.SCS.041	FS-GA-0011 8C	T
SAIC/TARC	Civil	S. SMITH	CI-008	T.CI.SCS.042	FS-GA-0011 7C	T
SAIC/TARC	Civil	S. SMITH	CI-007	T.CI.SCS.043	FS-GA-0011 5C, 4C	T
SAIC/TARC	Civil	S. SMITH	CI-031	T.CI.SCS.044	FS-GA-0015 4B	T
SAIC/TARC	Civil	S. SMITH	CI-044	T.CI.SCS.045	FS-GA-0025 3C	T
SAIC/TARC	Civil	S. SMITH	CI-042	T.CI.SCS.046	FS-GA-0025 1B	T
SAIC/TARC	Civil	S. SMITH	CI-054	T.CI.SCS.047	FS-GA-0026 6C	T
SAIC/TARC	Civil	S. SMITH	CI-058	T.CI.SCS.048	FS-GA-0027 6B	T
SAIC/TARC	Civil	S. SMITH	CI-059	T.CI.SCS.049	FS-GA-0028 7C, 6C	T
SAIC/TARC	Civil	S. SMITH	CI-061	T.CI.SCS.050	FS-GA-0030 6C	T
SAIC/TARC	Civil	S. SMITH	CI-074	T.CI.SCS.051	FS-GA-0040 7B	T
SAIC/TARC	Shaft	S. SMITH	SH-004	T.SH.SCS.052	FS-GA-0050 6D, 6B	T

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
LOS ALAMOS	Electrical	S. FRANCIS	EL-018	A.EL.SDF.001	JS-025-6007-W1 GRID G-6 TO G-11	T
LOS ALAMOS	General	S. FRANCIS	GE-024	A.GE.SDF.002	JS-025-ESF-T4 A	T
LOS ALAMOS	General	S. FRANCIS	GE-032	A.GE.SDF.003	FS-GA-0004 B	T
LOS ALAMOS	Civil	S. FRANCIS	CI-006	A.CI.SDF.004	JS-025-ESF-C3 B GRID E-9	T
LOS ALAMOS	Shaft	S. FRANCIS	SH-023	A.SH.SDF.005	FS-GA-0050 REV B	T
LOS ALAMOS	Shaft	S. FRANCIS	SH-048	A.SH.SDF.006	FS-GA-0058 REV B	T
LOS ALAMOS	Civil	S. FRANCIS	CI-052	A.CI.SDF.007	FS-GA-0026 REV B	T
LOS ALAMOS	Civil	S. FRANCIS	CI-055	A.CI.SDF.008	FS-GA-0026 REV B GRID C-7	T
LOS ALAMOS	Shaft	S. FRANCIS	SH-052	A.SH.SDF.009	FS-GA-0059 REV B	T
LOS ALAMOS	Shaft	S. FRANCIS	SH-096	A.SH.SDF.010	FS-GA-0085 REV B GRID C-1 C-7	T
LOS ALAMOS	Shaft	S. FRANCIS	SH-098	A.SH.SDF.011	FS-GA-0085 REV B GRID C-4	T
LOS ALAMOS	Shaft	S. FRANCIS	SH-127	A.SH.SDF.012	FS-GA-0113 REV B GRID B-1	T
LOS ALAMOS	Mining	S. FRANCIS	MI-062	A.MI.SDF.013	FS-GA-0166 REV B GRID 7-A	T
LOS ALAMOS	Mining	S. FRANCIS	MI-136	A.MI.SDF.014	FS-SP-0213 PART 1.3 2ND BULLET	T
LOS ALAMOS	Mining	S. FRANCIS	MI-137	A.MI.SDF.015	FS-SP-0214 PART 1.3 2ND BULLET	T
LOS ALAMOS	Shaft	S. FRANCIS	SH-135	A.SH.SDF.016	FS-SP-0201 PART 3.1.4 ADD THIS BULLET	T
LOS ALAMOS	Shaft	S. FRANCIS	SH-142	A.SH.SDF.017	FS-SP-0202 PART 3.5 ADD THIS BULLET,	T
LOS ALAMOS	Shaft	S. FRANCIS	SH-153	A.SH.SDF.018	FS-SP-0308 PART 3.6.1 PART 3	T
LOS ALAMOS	Shaft	S. FRANCIS	SH-131	A.SH.SDF.019	FS-SP-0201 PART 2.1	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
S. FRANCIS	16	3	0	19

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	General	S. PHILLIPS	GE-003	T.GE.SWP.001	GENERAL	T
SAIC/TARC	Architectural	S. PHILLIPS	AR-008	T.AR.SWP.002	JS-025-6000-A1	CONTINUED
SAIC/TARC	General	S. PHILLIPS	GE-002	T.GE.SWP.003	GENERAL H&N	CONTINUED
SAIC/TARC	Civil	S. PHILLIPS	CI-153	T.CI.SWP.004	JS-025-ESF-C44	CONTINUED
SAIC/TARC	Piping & Instrum	S. PHILLIPS	PI-008	T.PI.SWP.005	FS-GA-0222	CONTINUED
SAIC/TARC	Mechanical	S. PHILLIPS	ME-037	T.ME.SWP.006	JS-025-6000-M4	CONTINUED
SAIC/TARC	Mechanical	S. PHILLIPS	ME-038	T.ME.SWP.007	JS-025-6000-M4	CONTINUED
SAIC/TARC	Mechanical	S. PHILLIPS	ME-039	T.ME.SWP.008	JS-025-6000-M5	CONTINUED
SAIC/TARC	Mechanical	S. PHILLIPS	ME-078	T.ME.SWP.009	JS-025-6007-M1	CONTINUED
SAIC/TARC	Mechanical	S. PHILLIPS	ME-043	T.ME.SWP.010	JS-025-6000-M7	CONTINUED
SAIC/TARC	Mechanical	S. PHILLIPS	ME-050	T.ME.SWP.011	JS-025-6001-M2	T
SAIC/TARC	Mechanical	S. PHILLIPS	ME-060	T.ME.SWP.012	JS-025-6006-M1	CONTINUED
SAIC/TARC	General	S. PHILLIPS	GE-003	T.GE.SWP.013	GENERAL F&S	CONTINUED
SAIC/TARC	General	S. PHILLIPS	GE-004	T.GE.SWP.014	GENERAL F&S	CONTINUED
SAIC/TARC	Mining	S. PHILLIPS	MI-049	T.MI.SWP.015	FS-GA-0164	CONTINUED
SAIC/TARC	Shaft	S. PHILLIPS	SH-125	T.SH.SWP.016	FS-GA-0113	T
SAIC/TARC	Shaft	S. PHILLIPS	SH-077	T.SH.SWP.017	FS-GA-0072	CONTINUED
SAIC/TARC	Mining	S. PHILLIPS	MI-069	T.MI.SWP.018	FS-GA-0172	CONTINUED
SAIC/TARC	Electrical	S. PHILLIPS	EL-013	T.EL.SWP.019	FS-GA-0204	T
SAIC/TARC	Electrical	S. PHILLIPS	EL-015	T.EL.SWP.020	FS-GA-0206	CONTINUED
SAIC/TARC	Shaft	S. PHILLIPS	SH-005	T.SH.SWP.021	FS-GA-0050	T
SAIC/TARC	Shaft	S. PHILLIPS	SH-078	T.SH.SWP.022	FS-GA-0072	CONTINUED
IC/TARC	Civil	S. PHILLIPS	CI-078	T.CI.SWP.023	FS-GA-0043	T
IC/TARC	Piping & Instrum	S. PHILLIPS	PI-009	T.PI.SWP.024	FS-GA-0222	CONTINUED
SAIC/TARC	Piping & Instrum	S. PHILLIPS	PI-019	T.PI.SWP.025	FS-GA-0240	CONTINUED
SAIC/TARC	Architectural	S. PHILLIPS	AR-009	T.AR.SWP.026	JS-025-6001-A1	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
S. PHILLIPS	14	11	1	26

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

REVISIONS
DATE

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SNL	General	T. BLEJWAS	GE-051	S.GE.TEB.001	GENERAL	T
SNL	General	T. BLEJWAS	GE-021	S.GE.TEB.002	GENERAL	T
SNL	General	T. BLEJWAS	GE-022	S.GE.TEB.003	GENERAL	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
T. BLEJWAS	0	0	3	3

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
SAIC/TARC	Civil	T. PYSTO	CI-170	T.CI.THP.001	JS-025-ESF-C46	T
SAIC/TARC	Civil	T. PYSTO	CI-120	T.CI.THP.002	JS-025-ESF-C41	T
SAIC/TARC	Civil	T. PYSTO	CI-117	T.CI.THP.003	JS-025-ESF-C41	T
SAIC/TARC	Civil	T. PYSTO	CI-118	T.CI.THP.004	JS-025-ESF-C41	T
SAIC/TARC	Civil	T. PYSTO	CI-119	T.CI.THP.005	JS-025-ESF-C41	T
SAIC/TARC	Electrical	T. PYSTO	EL-058	T.EL.THP.006	JS-025-ESF-C41	T
SAIC/TARC	Civil	T. PYSTO	CI-173	T.CI.THP.007	SECTION 02110	T
SAIC/TARC	Civil	T. PYSTO	CI-183	T.CI.THP.008	SECTION 02211	T
SAIC/TARC	Civil	T. PYSTO	CI-186	T.CI.THP.009	SECTION 02211	T
SAIC/TARC	Civil	T. PYSTO	CI-219	T.CI.THP.010	SECTION 02615	T
SAIC/TARC	Civil	T. PYSTO	CI-230	T.CI.THP.011	SECTION 02731	T
SAIC/TARC	Civil	T. PYSTO	CI-192	T.CI.THP.012	SECTION 02222	T
SAIC/TARC	Civil	T. PYSTO	CI-200	T.CI.THP.013	SECTION 02223	T
SAIC/TARC	Civil	T. PYSTO	CI-235	T.CI.THP.014	SECTION 02831	T
SAIC/TARC	Civil	T. PYSTO	CI-234	T.CI.THP.015	SECTION 02831	T
SAIC/TARC	Shaft	T. PYSTO	SH-143	T.SH.THP.016	FS-SP-0202	T
SAIC/TARC	Shaft	T. PYSTO	SH-136	T.SH.THP.017	FS-SP-0201	T
SAIC/TARC	Shaft	T. PYSTO	SH-148	T.SH.THP.018	FS-SP-0203	T
SAIC/TARC	Mining	T. PYSTO	MI-141	T.MI.THP.019	FS-SP-1103	T
SAIC/TARC	Civil	T. PYSTO	CI-036	T.CI.THP.020	JS-025-ESF-C17	T
SAIC/TARC	Civil	T. PYSTO	CI-097	T.CI.THP.021	JS-025-ESF-C38	T
SAIC/TARC	Civil	T. PYSTO	CI-109	T.CI.THP.022	JS-025-ESF-C39	T
SAIC/TARC	Civil	T. PYSTO	CI-156	T.CI.THP.023	JS-025-ESF-C44	T
SAIC/TARC	Architectural	T. PYSTO	AR-007	T.AR.THP.024	JS-025-6000-A1	T
SAIC/TARC	Civil	T. PYSTO	CI-015	T.CI.THP.025	FS-GA-0013	T
SAIC/TARC	Civil	T. PYSTO	CI-111	T.CI.THP.027	JS-025-ESF-C39	T
SAIC/TARC	Civil	T. PYSTO	CI-110	T.CI.THP.028	JS-025-ESF-C39	T
SAIC/TARC	Electrical	T. PYSTO	EL-037	T.EL.THP.029	JS-025-ESF-E6	T
SAIC/TARC	General	T. PYSTO	GE-025	T.GE.THP.030	GENERAL	T
SAIC/TARC	Civil	T. PYSTO	CI-062	T.CI.THP.031	FS-GA-0031	T
SAIC/TARC	Civil	T. PYSTO	CI-037	T.CI.THP.032	JS-025-ESF-C17	T
SAIC/TARC	Civil	T. PYSTO	CI-218	T.CI.THP.033	SECTION 02615	T
SAIC/TARC	Civil	T. PYSTO	CI-182	T.CI.THP.034	SECTION 02211	T
SAIC/TARC	Mechanical	T. PYSTO	ME-006	T.ME.THP.035	JS-025-ESF-FP3	T
SAIC/TARC	Architectural	T. PYSTO	AR-015	T.AR.THP.036	JS-025-6001-A2	T
SAIC/TARC	Civil	T. PYSTO	CI-224	T.CI.THP.037	SECTION 02730	T
SAIC/TARC	Civil	T. PYSTO	CI-179	T.CI.THP.038	SECTION 02202	T
SAIC/TARC	General	T. PYSTO	GE-004	T.GE.THP.039	GENERAL	T
SAIC/TARC	Civil	T. PYSTO	CI-176	T.CI.THP.039	SECTION 02110	T
SAIC/TARC	Electrical	T. PYSTO	EL-038	T.EL.THP.040	JS-025-ESF-E6	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
T. PYSTO	6	32	2	40

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

FORM NO. 1000
REV. 12/87

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
LOS ALAMOS	Electrical	T. MERSON	EL-053	A.EL.TJM.001	JS-025-ESF-W15 .B	T
LOS ALAMOS	Mining	T. MERSON	MI-019	A.MITJM.002	FS-GA-0160	T
LOS ALAMOS	Piping & Instrum	T. MERSON	PI-002	A.PIJTJM.003	FS-GA-0220	T
LOS ALAMOS	Piping & Instrum	T. MERSON	PI-005	A.PIJTJM.004	FS-GA-0220	T
LOS ALAMOS	Mechanical	T. MERSON	ME-016	A.MEJTJM.005	FS-SP-1507	T
LOS ALAMOS	Civil	T. MERSON	CI-172	A.CITJM.006	SECTION 02110 .A AND 02211.A	T
LOS ALAMOS	Civil	T. MERSON	CI-015	A.CITJM.007	JS-025-ESF-C4	T
LOS ALAMOS	Architectural	T. MERSON	AR-037	A.ARTJM.008	JS-025-6007-A1 .B	T
LOS ALAMOS	Electrical	T. MERSON	EL-026	A.ELTJM.009	JS-025-ESF-E2 AND E4.A	T
LOS ALAMOS	Electrical	T. MERSON	EL-016	A.ELTJM.010	FS-GA-0207	T
LOS ALAMOS	Electrical	T. MERSON	EL-056	A.ELTJM.011	JS-025-ESF-W3 B	T
LOS ALAMOS	Electrical	T. MERSON	EL-011	A.ELTJM.012	JS-025-6006-E1 B	T
LOS ALAMOS	Electrical	T. MERSON	EL-043	A.ELTJM.013	JS-025-6006-W1 B	T
LOS ALAMOS	Mechanical	T. MERSON	ME-069	A.MEJTJM.014	JS-025-6006-FP1 .B	T
LOS ALAMOS	Architectural	T. MERSON	AR-034	A.ARTJM.015	JS-025-6006-A2	T
LOS ALAMOS	Electrical	T. MERSON	EL-033	A.EL.TJM.016	JS-025-ESF-E5	T
LOS ALAMOS	General	T. MERSON	GE-001	A.GE.TJM.017	GENERAL	T
REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS		
T. MERSON	5	11	1	17		

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

FORWARDED BY REVIEWER
DATE RECEIVED

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
USGS	General	T. LIPPERT	GE-011	G.GE.TLL.001	GENERAL	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-029	G.SH.TLL.002	FS-GA-0054	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-044	G.SH.TLL.003	FS-GA-0058	20MAJA 20P
USGS	Mining	T. LIPPERT	MI-043	G.MI.TLL.004	FS-GA-0163	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-137	G.SH.TLL.005	FS-SP-0201	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-156	G.SH.TLL.006	FS-SP-1407	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-160	G.SH.TLL.007	FS-SP-1416	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-046	G.SH.TLL.008	FS-GA-0058	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-027	G.SH.TLL.009	FS-GA-0054	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-050	G.SH.TLL.010	FS-GA-0059	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-088	G.SH.TLL.011	FS-GA-0072	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-043	G.SH.TLL.012	FS-GA-0058	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-042	G.SH.TLL.013	FS-GA-0058	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-087	G.SH.TLL.014	FS-GA-0072	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-091	G.SH.TLL.015	FS-GA-0072	20MAJA 20P
USGS	Shaft	T. LIPPERT	SH-097	G.SH.TLL.016	FS-GA-0085	T
USGS	Shaft	T. LIPPERT	SH-102	G.SH.TLL.017	FS-GA-0091	T
USGS	Mining	T. LIPPERT	MI-004	G.MI.TLL.018	FS-GA-0150	T
USGS	Shaft	T. LIPPERT	SH-089	G.SH.TLL.019	FS-GA-0072	RESERVED
USGS	Shaft	T. LIPPERT	SH-028	G.SH.TLL.020	FS-GA-0054	T
USGS	Shaft	T. LIPPERT	SH-103	G.SH.TLL.021	FS-GA-0095	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
T. LIPPERT	20	0	1	21

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION FORM ITEM #	COMMENT #	DRAWING OR SPEC	DISPOSITION
NTOS	Electrical	W. BOSS	EL-050	E.EL.WAB.001	JS-025-ESF-W12	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
W. BOSS	0	1	0	1

COMMENT TRACKING SYSTEM
SORTED BY REVIEWER COMMENT NUMBER

ORGANIZATION	DISCIPLINE	REVIEWER	RESOLUTION	COMMENT	DRAWING	DISPOSITION
			FORM ITEM #	#	OR SPEC	
REECO	General	W. GRAMS	GE-016	R.GE.WHG.001	GENERAL	T
REECO	Civil	W. GRAMS	CI-002	R.CI.WHG.002	FS-GA-0011	T
REECO	Civil	W. GRAMS	CI-036	R.CI.WHG.003	FS-GA-0016	T
REECO	Civil	W. GRAMS	CI-047	R.CI.WHG.004	FS-GA-0025	T
REECO	Civil	W. GRAMS	CI-070	R.CI.WHG.005	FS-GA-0034	T
REECO	Civil	W. GRAMS	CI-073	R.CI.WHG.006	FS-GA-0040	T
REECO	Shaft	W. GRAMS	SH-076	R.CI.WHG.007	FS-GA-0041	T
REECO	Shaft	W. GRAMS	SH-024	R.SH.WHG.008	FS-GA-0050	T
REECO	Shaft	W. GRAMS	SH-033	R.SH.WHG.009	FS-GA-0056	T
REECO	Shaft	W. GRAMS	SH-054	R.SH.WHG.010	FS-GA-0059	T
REECO	Shaft	W. GRAMS	SH-066	R.SH.WHG.011	FS-GA-0062	T
REECO	Shaft	W. GRAMS	SH-061	R.SH.WHG.012	FS-GA-0062	T
REECO	Shaft	W. GRAMS	SH-071	R.SH.WHG.013	FS-GA-0063	T
REECO	Shaft	W. GRAMS	SH-076	R.SH.WHG.014	FS-GA-0072	T
REECO	Shaft	W. GRAMS	SH-113	R.SH.WHG.015	FS-GA-0102	T
REECO	Shaft	W. GRAMS	SH-112	R.SH.WHG.016	FS-GA-0102	T
REECO	Mining	W. GRAMS	MI-011	R.MI.WHG.017	FS-GA-0160	T
REECO	Mining	W. GRAMS	MI-015	R.MI.WHG.018	FS-GA-0160	T
REECO	Mining	W. GRAMS	MI-032	R.MI.WHG.019	FS-GA-0161	T
REECO	Mining	W. GRAMS	MI-036	R.MI.WHG.020	FS-GA-0162	T
REECO	Mining	W. GRAMS	MI-040	R.MI.WHG.021	FS-GA-0163	T
REECO	Mining	W. GRAMS	MI-055	R.MI.WHG.022	FS-GA-0166	T
REECO	Mining	W. GRAMS	MI-068	R.MI.WHG.023	FS-GA-0171	T
REECO	Mining	W. GRAMS	MI-073	R.MI.WHG.024	FS-GA-0194	T
REECO	Piping & Instrum	W. GRAMS	PI-004	R.PI.WHG.025	FS-GA-0220	T
REECO	Ventilation	W. GRAMS	VE-004	R.VE.WHG.026	FS-GA-0227	T
REECO	Mining	W. GRAMS	MI-082	R.MI.WHG.027	FS-SP-0204	T
REECO	Mining	W. GRAMS	MI-077	R.MI.WHG.028	FS-SP-0204	T
REECO	Mining	W. GRAMS	MI-088	R.MI.WHG.029	FS-SP-0204	T
REECO	Shaft	W. GRAMS	MI-115	R.MI.WHG.030	FS-SP-0205	T
REECO	Shaft	W. GRAMS	SH-001	R.SH.WHG.031	FS-GA-0050	T
REECO	Shaft	W. GRAMS	SH-031	R.SH.WHG.032	FS-GA-0056	T
REECO	Shaft	W. GRAMS	SH-072	R.SH.WHG.033	FS-GA-0063	T
REECO	Mining	W. GRAMS	MI-012	R.MI.WHG.034	FS-GA-0160	T
REECO	Mining	W. GRAMS	MI-014	R.MI.WHG.035	FS-GA-0160	T
REECO	Mining	W. GRAMS	MI-013	R.MI.WHG.036	FS-GA-0160	T
REECO	Mining	W. GRAMS	MI-056	R.MI.WHG.037	FS-GA-0166	T
REECO	Mining	W. GRAMS	MI-057	R.MI.WHG.038	FS-GA-0166	T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S AND H&N	TOTAL COMMENTS
W. GRAMS	37	0	1	38

COMMENT TRACKING SYSTEM

SORTED BY REVIEWER COMMENT NUMBER

ORGAN.	DISCIPLINE	REVIEWER	RESOLUTION FORM/ITEM #	COMMENT #	DRAWING OR SPEC	DISP.
DOE/HQ	General *	D. Stucker	GE-052	Q.GE.SD.001*		T
DOE/HQ	General *	D. Stucker	GE-053	Q.GE.SD.002*		T
DOE/HQ	General *	D. Stucker	GE-054	Q.GE.SD.003*		T
DOE/HQ	General *	D. Stucker	GE-055	Q.GE.SD.004*		T
DOE/HQ	General *	D. Stucker	GE-056	Q.GE.SD.005*		T
DOE/HQ	General *	D. Stucker	GE-057	Q.GE.SD.006*		T
DOE/HQ	General *	D. Stucker	GE-058	Q.GE.SD.007*		T
DOE/HQ	General *	D. Stucker	GE-059	Q.GE.SD.008*		T
DOE/HQ	General *	D. Stucker	GE-060	Q.GE.SD.009*		T

REVIEWER	TRANSMITTED TO F&S	TRANSMITTED TO H&N	TRANSMITTED TO F&S & H&N	TOTAL COMMENTS
D. Stucker	0	0	9	9