K. Jones, EID

Department of Energy
Albuquerque Operations Office
Waste Isolation Pilot Plant Project Office
P. O. Box 3090
Carlsbad, New Mexico 88221

OCT 31 1989

Mr. Robert H. Neill, Director
Environmental Evaluation Group
State of New Mexico
7007 Wyoming, N.E., Suite F-2
Albuquerque, NM 87109

Dear Mr. Neill:

The purpose of this letter is to respond to your request of August 8, 1989 for a copy of the Probabilistic Risk Assessment (PRA) report for WIPP.

The draft report on the Probabilistic Risk Assessment was "issued" to Westinghouse-WIPP by their subcontractor, Westinghouse-Nuclear Advanced Technologies Division, in April. Subsequently, Westinghouse-WIPP let a contract for an Independent Review of the document in accordance with Westinghouse procedures. This review was completed in September 1989. The DOE formal review was recently completed and upon satisfactory inclusion of DOE comments, the final PRA will be provided to EEG. I anticipate providing the PRA to EEG in early December 1989.

Please note that with the exception of the Final Safety Analysis Report (FSAR) and the Supplemental Environmental Statement (SEIS), this PRA represents the only current comprehensive DOE WIPP risk study to identify, analyze and quantify the public health risks due to operation of the WIPP facility during the five year demonstration phase. Previous PRA and MORT tree analyses are superceded by this document so it is recommended that EEG limit expenditure of valuable time on obsolete material.

I would also like to schedule a meeting with you to discuss the status of the waste hoist repairs and modifications we propose to make to the brake system. I suggest we meet during the week of November 6 while you are here to discuss your findings on the FSAR.

891001

If you have any questions on this matter, please contact Tom Lukow of my staff.

Sincerely,

W. John Arthur, III
Acting Project Manager

cc:
C&C File
J. Kenney, EEG
R. Kehrman, WID

WIPP:HJD:E89-0162

Kirkland Jones

Department of Energy
Albuquerque Operations Office
Waste Isolation Pilot Plant Project Office
P. O. Box 3090
Carlsbad, New Mexico 88221

OCT 30 1989

Mr. Robert H. Neill, Director
Environmental Evaluation Group
State of New Mexico
7007 Wyoming N.E., Suite F-2
Albuquerque, NM 87109

Dear Mr. Neill:

The purpose of this letter is to transmit the recent findings of the Mine Safety and Health Administration (MSHA) following an electrical inspection conducted at the WIPP Site on August 1-9, 1989. These findings are listed in the enclosure to this letter and were posted in the Miners Waiting Area.

Corrective actions taken in response to these findings are also listed in this letter. The majority of these actions have been completed and those items still in progress indicate the expected completion date.

If you have further questions on this topic, please contact Tom Lukow of my staff

Sincerely,

Arlen Hunt /for
W. John Arthur, III
Acting Project Manager

Enclosure

cc w/enclosure:
C&C File
J. Kenney, EEG

cc w/o enclosure:
R. Kehrman, WID

WIPP:HJD:E89-0192

MSHA INSPECTION AUGUST 1989

SEPTEMBER 25, 1989 REV 4

MINING, MAINTENANCE AND TOTAL QUALITY

1. (11E) NOTICE ISSUED:

The exposed 600 VDC commutator brush sets on the C&SH hoist MG set and drive motor were not insulated or guarded to prevent contact by foot traffic in the area.

WID RESPONSE:

The MSHA Notice 11E was abated on August 12, 1989. Physical barriers and warning signs identifying the hazard were installed to block access at the stairs leading to the Salt Hoist drive motor commutator brush and to each pillar block bearing. The MG set was tagged out of service on August 12, 1989 and will not be operated until the physical barriers and warning signs are in place.

2. (12E) NOTICE ISSUED:

The C&SH hoist overspeed alarm circuit was not functional to provide overspeed warning before the emergency trip out of the hoist.

WID RESPONSE:

The MSHA Notice 12E was abated by the recommendation of the manufacturer of the Salt Hoist Controller Logan Actuator Co. The letter from J. Davis #WZ:89:00337, to Logan Actuator and their response is attached which explains that the warning contacts is of no effect on an automatic hoist with multiple automatic overspeed backups and an automatic deceleration control for overspeed. The warning contact lead can be removed with no ill effect on the operation of the lilly.

3. (9E) NOTICE ISSUED:

The excessive heat from the resistor grid mounted on top of the C&SH hoist exciter cabinet has blistered the paint inside the cabinet and melted the light fixture wiring insulation.

WID RESPONSE:

On August 12, 1989, the resistor grid was remounted 4 inches above the Salt Hoist Excitor cabinet. The blistered areas of the cabinet were repainted on August 30, 1989. Closer examination of the light fixture indicated that it was not damaged.

This item is considered complete.

4. (7E) NOTICE ISSUED:

The 2 HP, 3 phase, 480 V C&SH hoist oil pump motor circuit was not protected from excessive overcurrent by the 43 A magnetic trip breaker setting.

WID RESPONSE:

The Salt Handling hoist bearing oil pump starters A&B magnetic trip settings were adjusted to 22 amps on August 23, 1989 in accordance with Plant Request Numbers I50080 and I50081.

This item is considered complete.

5. (6E) NOTICE ISSUED:

The bottom 3/4" hub on FDC-2 condulet mounted on the West wall was not plugged.

WID RESPONSE:

On August 9, 1989 the 3/4" hub on FDC-2 condulet mounted on the West wall of the AIS Winch house was plugged.

This item is considered complete.

6. (8E) NOTICE ISSUED:

In the AIS hoist room, the Sierra loadcenter was missing the inside cover exposing 125/250 volt bus bars and the Square D loadcenter was missing bottom section of inside cover and KO covers in the bottom of the enclosure.

WID RESPONSE:

The cover for the small control 480 V to 120 V transformer on the West winch (33-H-010) was replaced on August 9, 1989.

One cover was designed to protect all noted areas.

This item is considered complete.

7. (5E) NOTICE ISSUED:

Three disconnect switches on the east wall were not adequately marked to indicate their function. NEC 110-22.

WID RESPONSE:

On August 8, 1989 the three disconnect switches at the AIS collar (#33P-SW04/10, 11, & 12) were labeled.

This item is considered complete.

8. (10E) NOTICE ISSUED:

The AIS hoist overspeed alarm circuit was not functional to provide overspeed warning before the emergency trip out of the hoist.

WID RESPONSE:

The MSHA Notice 10E was abated when the AIS hoist was tagged out of service until the overspeed alarm was properly engineered and installed by qualified electrical personnel and a functional retest was performed.

This was completed 10/3/89.

9. (3E) NOTICE ISSUED:

A control transformer cover on the West winch was missing, exposing electrical conductors.

WID RESPONSE:

Corrective action was completed on August 7, 1989. The inside cover of the Sierra load center 125/250 V bus bar was installed. The bottom section of the inside cover of the Square D DP panel and the knock outs in the bottom of the enclosure were installed.

This item is considered complete.

10. (4E) NOTICE ISSUED:

Three disconnect switches on the South wall were not adequately marked to indicate their function.

WID RESPONSE:

On August 8, 1989 the three disconnect switches (#33P-SW04/1, 2, & 3) at the AIS collar were labeled.

This item is considered complete.

11. (24E) NOTICE ISSUED:

Tape was used as breaker blank cover in the distribution panel 53P-DPO 3/6.

WID RESPONSE:

Underground Services replaced the blank cover which was found at the bottom of the cabinet on August 4, 1989.

This item is considered complete.

12. (23E) NOTICE ISSUED:

The North 460 conference room A/C units call for maximum 20 AMP fuse protection and were provided 30 AMP NON fuses in the supply safety switches.

WID RESPONSE:

On August 11, 1989, 15 amp fuses were installed in the conference room A/C unit.

This item is considered complete.

13. (19E) NOTICE ISSUED:

The CB-5 circuit breaker in Sub. #2A was not labeled.

WID RESPONSE:

Underground Services labeled the circuit breaker as "Sandia Room 1 Power" on 9/12/89.

This item is considered complete.

14. (18E) NOTICE ISSUED:

The receptacle on the West wall of Room B was not grounded.

WID RESPONSE:

This action was completed on August 11, 1989. Experimental Operations grounded the neutral on the B shed wall receptacle.

This item is considered complete.

15. (21E) NOTICE ISSUED:

The shed A/C safety switches on the 480 V primary side of the transformer were rated for 240 volts. Sandia sheds RM A-1, A-2, B and V.

WID RESPONSE:

The MSHA Notice 21E was abated on 10/10/89. The necessary Engineering Work Package, materials and equipment have been received and qualified electricians have installed eight 15 amp molded case breakers, replacing the hazardous fuse disconnects.

16. (20E) NOTICE ISSUED:

In Sandia shed RM A-1, the 14.1 AMP parallel lead A/C units from the 10 KVA transformer were not protected from overloads by the 15 AMP. FRN fuses on the primary side of the 10 KVA transformer.

WID RESPONSE:

Sandia PO# 527730 was issued to purchase needed materials and equipment. Corrective action was to add a 15 amp breaker box on the secondary side of each A/C unit. Completed on 8/31/89.

This item is considered complete.

17. (22E) NOTICE ISSUED:

The AIS hoist galloway winch brake control circuits were not protected from excessive overloads. ¯ .5 KVA Xmer.

WID RESPONSE:

Two Work Requests (#M41197 and M41198) for installing fuse protection for CPT used on Winches #2 and #3 were developed and sent to Work Control Center for issuance on August 16, 1989.

On AIS Winch #2 (33-H-010) work instructions include: (030 #M-41198)

1) Mount fuse block on back panel of NEMA 3R box.

2) Mount NEMA 3R box next to CPT on winch.

3) Wire the primary side of CPT to bottom of fuse block.

On AIS Winch #3 (33-H-011) work instructions include:(030#M-41197)

1) Reroute all wire existing in liquid tight conduit.

2) Mount fuse blocks on back panel of NEMA 3R box.

3) Mount NEMA 3R box next to CPT on winch.

The MSHA Notice 22E was abated on 10/4/89. When the necessary Engineering Work Package, materials and equipment were received, qualified electricians completed the work.

18. (17E) NOTICE ISSUED:

Disconnects #5 and #6 - Enclosures were not grounded due to lack of neutral bar bond screw on eccentric knock-outs. Also EMT conduit lacked bonding fitting through eccentric K-O.

WID RESPONSE:

Work Order # R02153 was issued and Disconnect #5 and #6 were grounded on August 3, 1989. Also, the wiring was color coded with green tape on August 18, 1989.

This item is considered complete.

19. (16E) NOTICE ISSUED:

Loose unconsolidated scale was observed at the sides of the C&SH shaft station.

WID RESPONSE:

The salt shaft was scaled and corrective actions were completed on August 3, 1989.

This item is considered complete.

20. (14E) NOTICE ISSUED:

The fixed, above ground ladder at the C&SH collar does not have adequate toe clearance due to a 1 1/4" lb. condulet mounted 5 ft. above ground and 1 1/2" behind rung.

WID RESPONSE:

Work Orders (#M41207 and M41208) were issued by Mine Engineering on August 21, 1989 to initiate corrective action. This package has been funded and is in QA for comment resolution. The ladder access has been barricaded and signs posted against entry.

Action: J. Davis/D. Schoen

21. (15E) NOTICE ISSUED:

The C&SH hoist knocker switch SO cable feed had cracked phase insulation and did not have the equipment ground connected.

WID RESPONSE:

MSHA Notice 15E was abated on August 16 when the knocker switch grounding wire was connected and new J boxes and termination boxes were installed.

22. (13E) NOTICE ISSUED:

The 60 amp receptacle in Rm. D was not protected from excessive overload by the 30 amp FSR fuses in SW 53 R-R P04/37.

WID RESPONSE:

Sandia PO# 89-0814 was issued to purchase needed materials and equipment. The 80 amp fuses were removed and 60 amp fuses were installed. Corrective action was completed on 8/25/89.

This item is considered complete.

23. (27E) NOTICE ISSUED:

The large air compressor in the welding shop was not properly grounded. No ground wire was run to the compressor and the flexible conduit was approximately 8' long.

WID RESPONSE:

On August 4, 1989, the air compressor in the Maintenance Welding Shop was grounded . The flex conduit was shortened to less than six feet on August 18, 1989.

This item is considered complete.

24. (26E) NOTICE ISSUED:

Two defective lanyards were found on the galloway. One latch lock would not release on its own (corroded). One rope had broken strands.

WID RESPONSE:

The defective lanyards were immediately replaced by operations personnel on August 4, 1989.

This item is considered complete.

25. (25E) NOTICE ISSUED:

The splice in the light cord connector did not have the jacket penciled and an equal build-up of tape adds to jacket thickness.

WID RESPONSE:

The light cable was removed from service on August 5, 1989.

This item is considered complete.

26. (28E) NOTICE ISSUED:

The washer cable supply 60 feet above the galloway had a bend in the cable which exceeds the allowable bending radius. An extension cord on the galloway had soft jacket with nicks.

WID RESPONSE:

The electrical cables were removed from service on August 5, 1989.

This item is considered complete.

27. (44E) NOTICE ISSUED:

5 KVA transformer #53P TR04/27 was not protected by proper sized fuses.

WID RESPONSE:

The 40 amp fuses were replaced with 15 amp fuses on August 11, 1989.

This item is considered complete.

28. (2E) NOTICE ISSUED:

The exhaust tunnel escape signs were coated with dust and did not show up well.

WID RESPONSE:

Experimental Operations dusted off signs to complete corrective actions.

This item is considered complete.

29. (1E) NOTICE ISSUED:

The cover was missing on a fire alarm horn J-box, exposing live conductors.

WID RESPONSE:

The fire alarm cover was secured on August 8, 1989.

This item is considered complete.

30. (43E) NOTICE ISSUED:

The #11 5 KVA transformer was not protected by proper size fuses.

WID RESPONSE:

This MSHA Notice 43E was abated on October 10, 1989. The 5 KVA transformer was taken out of service until the necessary materials were received and qualified electricians have installed the proper size fuses.

31. (33E) NOTICE ISSUED:

The secondary circuits leaving transformers Nos. 53F-TR04/25 and 53P-TR04/32 did not have adequate overcurrent protection. TR04/25 had no DC protection and TR04/32 was fused too high (30 AMP).

WID RESPONSE:

Sandia Work Order # F00057 was issued and existing 30 amp fuses were changed to 15 amp fuses on August 15, 1989.

This item is considered complete.

32. (31E) NOTICE ISSUED:

The cover on 53P-SW04/21 has been damaged and does not open properly.

WID RESPONSE:

Sandia Work Order #F00057 was issued and and a new power box was installed. This was completed on August 15, 1989.

This item is considered complete.

33. (32E) NOTICE ISSUED:

The door on panel 53P-DP04/21 was partially blocked by overhead air duct and does not provides suitable clearance for access to the enclosed electrical equipment.

WID RESPONSE:

Underground Services issued Work Order (#R02218) and the vent ducting was raised to provide suitable clearance to allow access to the enclosed electrical equipment.

34. (37E) NOTICE ISSUED:

The Blue duplex receptacle boxes on the East wall were not provided a system grounded neutral. Circuit protection for the 120 V circuits were from 1-pole overcurrent devices.

WID RESPONSE:

Sandia Work Order # F00057 was issued and the installation of the neutral on the Room 4 transformer was completed on August 15, 1989.

This item is considered complete.

35. (40E) NOTICE ISSUED:

The hydraulic oil heat exchanger 120 V fan circuit with stepdown transformer was not protected from excessive overcurrents. The circuit was connected to the bottom of the pump motor linestarter.

WID RESPONSE:

A one amp fuse was installed on the primary side and a two amp fuse was installed on the secondary side of the 120 V fan circuit on August 21, 1989.

This item is considered complete.

36. (41E) NOTICE ISSUED:

The subfeeder top from 53P-DPO 4/10 panel line side was not protected from overcurrents. Size 1/0 tap from 500 ncn line w/ 400 AMP breaker.

WID RESPONSE:

This is not a valid citation. See Attachment B.

37. (34E) NOTICE ISSUED:

The primary side of transformer 53P-TR04/36 (10kva) was fed from a 60 AMP circuit breaker, which is not adequate overcurrent protection. Secondary side duplex receptacle not protected by 30 AMP breaker.

WID RESPONSE:

The transformer and breaker has been removed from service.

38. (29E) NOTICE ISSUED:

The right hand circuit breaker handle was broken off transformer 53P-TR04/36.

WID RESPONSE:

The transformer has been removed from service.

39. (30E) NOTICE ISSUED:

Doors CB1 thru CB5 have light switches at top of opening with exposed and energized terminals.

WID RESPONSE:

Underground Services issued a Work Order (#R02228) to the Work Control Center on August 24, 1989. On 8/30/89 the Work Order was sent to Electrical Systems for approval. Corrective action will be initiated after the Work Order is released.

Action: D. Schoen/T. Kocialski

40. (36E) NOTICE ISSUED:

Duplex metal weatherproof receptacle cover on the outlet across the room from #2 substation was open about 1 inch. Outlet was used for scooter charger.

WID RESPONSE:

Underground Services closed the receptacle cover on August 23, 1989 to complete the corrective action.

This item is considered complete.

41. (35E) NOTICE ISSUED:

The five breaker boxes, for the variacs were not equipped with interior covers over the breakers to prevent contact with energized terminal when operating the control handles of the breaker.

WID RESPONSE:

Sandia Work Order # F00057 was issued and installation of covers was completed on August 14, 1989.

This item is considered complete.

42. (42E) NOTICE ISSUED:

Storage area power center - The 12/4 cable feed for the welder safety switch was not protected from excessive overcurrent by the 100 amp breaker w/mag-trip set on high.

WID RESPONSE:

Underground Services removed the 12/4 cable and installed a #4 3/C cable to complete corrective action on August 15, 1989.

This item is considered complete.

43. (38E) NOTICE ISSUED:

The breaker circuits on the road header power center were not labeled for the trailing cable device or equipment allowed.

WID RESPONSE:

Permanent labels were installed by Mining Operations on 9/15/89.

This item is considered complete.

ATTACHMENT B

WD:89:01118

Westinghouse Electric Corporation

Government Operations

Waste Isolation Division

Box 2078
Carlsbad NM 88221

October 11, 1989

Mr. R. D. Nations
Safety Manager
U. S. Department of Energy
WIPP Project Office
P. O. Box 3090
Carlsbad, New Mexico 88221-3090

Subject: MSHA CITATION 41E

Ref: 1) National Electric Code - Xerox copy of: Article 240-20, Article 240-21, Article 240-21 exception #3 and Article 90-4 (Attached)
2) D-76-J-07 Design Basis Raceway and Cable System - Rev. 7 (Attached)
3) Specification 16122 - Cable 600 Volt (Attached)

Dear Mr. Nations:

The tap feeder from the top of distribution panel 53P-DP04/10 to the top of 53P-SW04/12 was cited by MSHA as a violation. We recommend close out of the subject citation by accepting the installation as-is.

Computer and Electrical Engineering believes that this installation is not a violation for the following reasons.

1. D-76-J-07 Design Basis Raceway and Cable Systems Rev. 7, Paragraph 3.3.1 indicates that protection from mechanical damage is a primary design feature of cable systems.

2. D-76-J-07 Design Basis for Raceway and Cable Systems Rev. 7 Paragraph 3.1 indicates that the wiring method used at WIPP shall be in accordance with the National Electric Code.

3. The wiring methods employed at WIPP are in accordance with the National Electric Code. Specifically the wiring method chosen for underground distribution of electric power is "messenger supported wiring" article 321 - NEC.

4. Specification 16122-01E cable 600 Volt - Paragraph 3.2.2.E indicates that the cable has a high resistance to tearing & punctures.

5. Any scenario that would damage the existing tap conductor between 53P-DP04/10 and 53P-SW04/12 would cause more damage to 53P-DP04/10 and switch 53P-SW04/12.

6. National Electric Code article 240-21 exception #3, applies to the cited installation.

   The existing installation meets items A, B and C of the exception. Item D is subject to interpretation, in that it specifically requires the conductor to be enclosed in a "Raceway", yet Raceways are not required in our messenger supported wiring method.

Interpretations of code articles are relegated to the authority responsible for enforcing the code - in this case, DOE/WPO. Westinghouse recommends that Item D of Exception 3 to Article 240-21 be interpreted as "Not Applicable" to WIPP's underground wiring, since the wiring method does not require raceways.

T. F. Kocialski, Manager
Computer & Electrical Engineering

rs

Attachments

cc: (with attachments)
J. W. White/WID
V. F. Likar/WID
H. D. Ripley/WID

HA:89:8057

tions 110-9 and 110-10 for interrupting ratings, circuit impedance, and racteristics requirements.

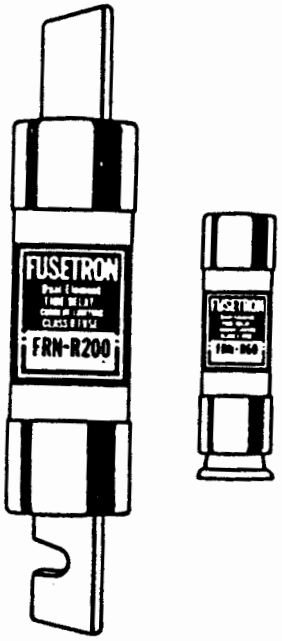
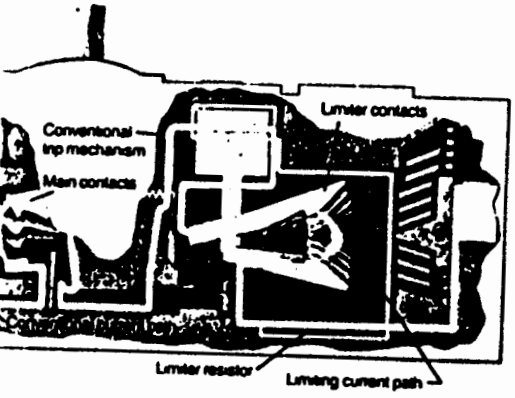
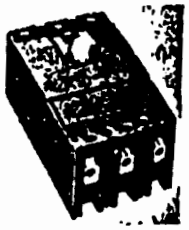


Figure 240-1. Class R current-limiting fuse with rejection feature to prohibit the installation of noncurrent-limiting fuses. (*Bussman Mfg. Co.*)





Current-limiting circuit breaker within UL Class R fuse levels and former Class K-5 levels.

ctrical System Coordination. Where an orderly shutdown is required to mini-) to personnel and equipment, a system of coordination based on the following two all be permitted:

dinated short-circuit protection.

rload indication based on monitoring systems or devices.

(FPN): Coordination is defined as properly localizing a fault condition to restrict outages to the equipment affected, accomplished by choice of selective fault-protective devices. The monitoring system may cause the condition to go to alarm allowing corrective action or an orderly shutdown thereby minimizing personnel hazard and equipment damage.

B. Location

240-20. Ungrounded Conductors.

(a) Overcurrent Device Required. A fuse or an overcurrent trip unit of a circuit breaker shall be connected in series with each ungrounded conductor. A combination of a current transformer and overcurrent relay shall be considered equivalent to an overcurrent trip unit.

(FPN): For motor circuits, see Parts C, D, F, and J of Article 430.

(b) Circuit Breaker as Overcurrent Device. Circuit breakers shall open all ungrounded conductors of the circuit.

Exception: Individual single-pole circuit breakers shall be acceptable as the protection for each ungrounded conductor of 3-wire direct-current or single-phase circuits, or for each ungrounded conductor of lighting or appliance branch circuits connected to 4-wire, 3-phase systems or 5-wire, 2-phase systems, provided such lighting or appliance circuits are supplied from a system having a grounded neutral and no conductor in such circuits operates at a voltage greater than permitted in Section 210-6.

In the first part of the exception, the term "3-wire" applies to both "direct current" and "single-phase." See Figure 240-3.

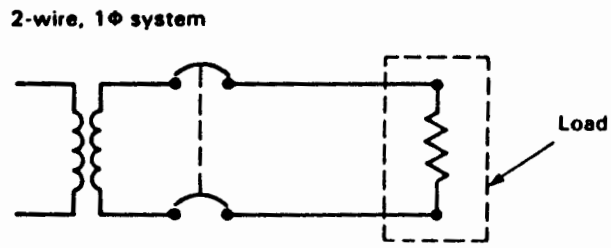


Figure 240-3. Double-pole circuit breaker required because ungrounded two-wire circuit used is not included in the exception.

(c) Closed-Loop Power Distribution Systems. Listed devices providing equivalent overcurrent protection in closed-loop power distribution systems shall be permitted as a substitute for fuses or circuit breakers.

240-21. Location in Circuit. An overcurrent device shall be connected at the point where the conductor to be protected receives its supply.

Exception No. 1: Smaller Conductor Protected. Where the overcurrent device protecting the larger conductor also protects the smaller conductor in accordance with Tables 310-16 through 310-31.

Exception No. 1 is illustrated by Figure 240-8. A smaller 1/0 THW conductor (150 A) is tapped from a larger 3/0 THW feeder conductor (200 A) which is in turn protected by a 150-A circuit breaker that is equal to the ampacity of the 1/0 tap conductor. The circuit breaker protecting the feeder conductors is rated to protect the tap conductors.

Exception No. 3: Feeder Taps Not Over 25 Feet (7.62 m) Long. For conditions [illegible] all of the following conditions are met:

a. The length of the tap conductors does not exceed 25 feet (7.62 m).

b. The ampacity of the tap conductors is not less than ⅓ that of the feeder conductors or overcurrent protection from which they are tapped.

c. The tap conductors terminate with a single circuit breaker or a single set of fuses that will limit the load to the ampacity of the tap conductors. This single overcurrent device shall be permitted to supply any number of additional overcurrent devices on its load side.

d. The tap conductors are suitably protected from physical damage and are enclosed in a raceway.

Exception No. 3 is illustrated in Figure 240-9. Three No. 3/0 THW copper tap conductors are protected from physical damage in a raceway. The lengths of the tap conductors are not more than 25 ft between terminations. They are tapped from a 500 MCM feeder and terminate in a circuit breaker.

Note: A No. 3/0 THW copper conductor (200 A) is more than ⅓ the ampacity of a 500 MCM THW (380 A) copper conductor. See Table 310-16 for ampacity of copper conductors in conduit above ground.

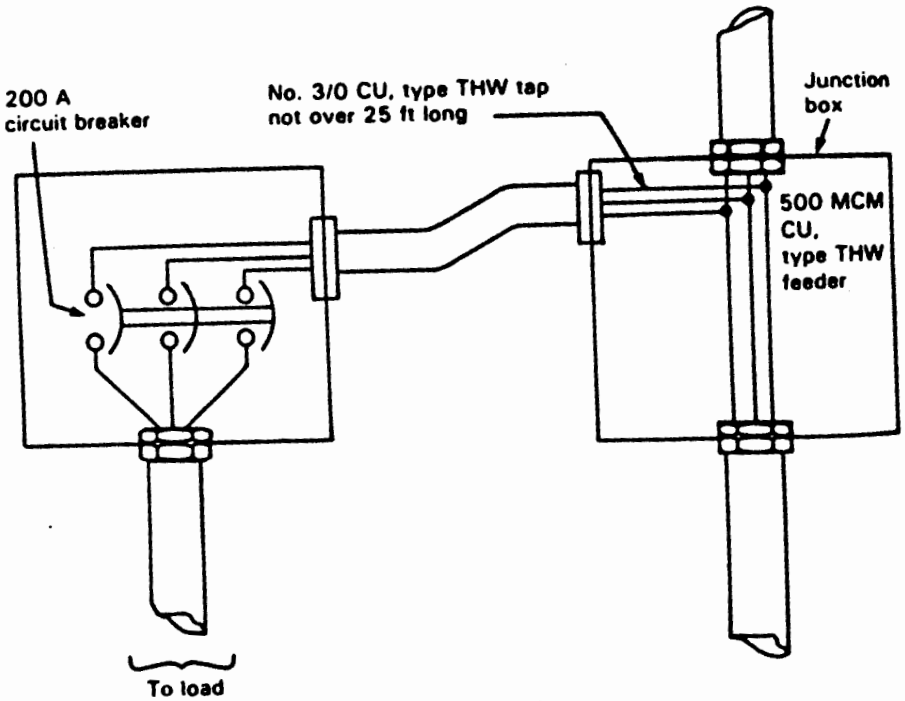


Figure 240-9. Feeder taps terminating in a single circuit breaker. See Exception No. 3.

Exception No. 4: Service Conductors. For service-entrance conductors where protected in accordance with Section 230-91.

Exception No. 5: Branch-Circuit Taps. Taps to individual outlets and circuit conductors supplying a single household electric range shall be considered as protected by the branch-circuit overcurrent devices when in accordance with the requirements of Sections 210-19, 210-20, and 210-24.

Exception No. 7: Busway Taps. For busways where protected in accordance with Sections [illegible] through 364-14.

Exception No. 8: Transformer Feeder Taps with Primary Plus Secondary Not Over 25 Feet (7.62 m) Long. Where all of the following conditions are met:

a. The conductors supplying the primary of a transformer have an ampacity at least ⅓ that of the conductors or overcurrent protection from which they are tapped.

b. The conductors supplied by the secondary of the transformer have an ampacity that, when multiplied by the ratio of the secondary-to-primary voltage, is at least ⅓ the ampacity of the conductors or overcurrent protection from which the primary conductors are tapped.

c. The total length of one primary plus one secondary conductor, excluding any portion of the primary conductor that is protected at its ampacity, is not over 25 feet (7.62 m).

d. The primary and secondary conductors are suitably protected from physical damage.

e. The secondary conductors terminate in a single circuit breaker or set of fuses which will limit the load to that allowed in Tables 310-16 through 310-31.

Exception No. 8 is illustrated in Figure 240-10.

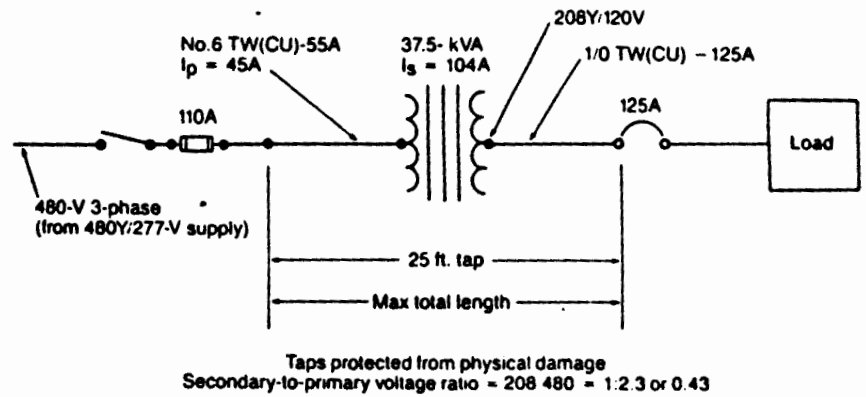


Figure 240-10. Transformer feeder taps (primary plus secondary) not over 25 ft long, as per Section 240-21, Exception No. 8. Also applies to overcurrent protection requirements of Sections 384-16(a) and 450-3(b).

Exception No. 9: Conductors from generator terminals to the first overcurrent device as covered in Section 445-5.

Exception No. 10: Feeder Taps Over 25 Feet (7.62 m) Long. In high bay manufacturing buildings over 35 feet (10.67 m) high at walls, where conditions of maintenance and supervision assure that only qualified persons will service the systems, conductors tapped to a feeder shall be permitted to be not over 25 feet (7.62 m) long horizontally and not over 100 feet (30.5 m) total length where all of the following conditions are met.

a. The ampacity of the tap conductors is not less than ⅓ that of the overcurrent device from which they are supplied.

Grant exception for [illegible]

of the electric utilities and used to connect the electric utility supply system to the [illegible] entrance conductors of the premises served, provided such installations are outside a building or terminate immediately inside a building wall.

90-3. Code Arrangement. This Code is divided into the Introduction and nine chapters. Chapters 1, 2, 3, and 4 apply generally; Chapters 5, 6, and 7 apply to special occupancies, special equipment, or other special conditions. These latter chapters supplement or modify the general rules. Chapters 1 through 4 apply except as amended by Chapters 5, 6, and 7 for the particular conditions.

Chapter 8 covers communications systems and is independent of the other chapters except where they are specifically referenced therein.

Chapter 9 consists of tables and examples.

Material identified by the superscript letter "x" includes text extracted from other NFPA documents as identified in Appendix A.

The reference to the Introduction and Tables and Examples is made with the intention that Article 90 and Chapter 9 be included in the application of this *Code*.

Chapters 1 through 4 apply generally, except as amended or specifically referenced in Chapters 5, 6, and 7 (Articles 500 through 780). For example, Section 300-22 (Chapter 3) is modified by Sections 725-2(b), 760-2(b), and 770-2(b) (Chapter 7) and specifically referenced in Sections 800-3(b)(3) and 820-15(c) (Chapter 8). See commentary following Section 300-1, also.

90-4. Enforcement. This Code is intended to be suitable for mandatory application by governmental bodies exercising legal jurisdiction over electrical installations and for use by insurance inspectors. The authority having jurisdiction of enforcement of the Code will have the responsibility for making interpretations of the rules, for deciding upon the approval of equipment and materials, and for granting the special permission contemplated in a number of the rules.

Section 90-4 advises that an authority must grant approval for all materials and equipment used under the requirements of the *Code* in its area of jurisdiction. The texts of Sections 90-6, 110-2, and 110-3, along with the definitions of "approved," "identified," "listed," and "labeled," are intended to provide a basis for the authority having jurisdiction to make necessary judgments that are its responsibility.

The authority having jurisdiction may waive specific requirements in this Code or permit alternate methods, where it is assured that equivalent objectives can be achieved by establishing and maintaining effective safety.

It is the responsibility of the local authority enforcing the *Code* to make interpretations of the specific rules of the *Code*.

The second paragraph to Section 90-4 is included to allow the authority having jurisdiction the option of [illegible] methods [illegible] are not established in the Code [illegible] example, allows the local authority to waive specific requirements in industrial occupancies, research and testing laboratories, and other occupancies where the specific type of installation was not contemplated in the *Code* rules.

Some localities do not adopt the *National Electrical Code* but, even in those localities, installations meeting the current *Code* are prima facie evidence that the electrical installation is safe.

This Code may require new products, constructions, or materials which may not yet be available at the time the Code is adopted. In such event, the authority having jurisdiction may

The second paragraph permits the authority [illegible] requirements on the basis of equivalent safety. The third paragraph of Section 90-4 permits the authority to waive a new *Code* requirement during the interim period between the acceptance of a new edition of the *NEC* and the availability of the new product, construction, or material redesigned to comply with the increased safety required by the new *Code* edition. It is difficult to establish a viable future effective date in the *NEC* because the time needed to change existing products and standards, and to develop new materials and test methods, is not usually known at the time of adoption of the new requirement in the *NEC*.

90-5. Formal Interpretations. To promote uniformity of interpretation and application of the provisions of this Code, Formal Interpretation procedures have been established.

(FPN): These procedures may be found in the "NFPA Regulations Governing Committee Projects."

The procedures for formal interpretations of the provisions of the *National Electrical Code* are outlined in the Regulations Governing Committee Projects that may be obtained from the Secretary of the Standards Council of the National Fire Protection Association. These regulations are included in the NFPA *Directory*. The formal interpretations procedure can be found in Section 16 of the *Directory* and has been reprinted in its entirety in the appendix to this Handbook. Additional information on interpretations from the NEC Operating Procedures is included.

The National Electrical Code Committee has established a policy of not processing formal interpretations that do not involve a question of national significance, as evidenced by essentially the same question submitted to NFPA by a number of different interests from various parts of the country.

When a formal interpretation is processed, a special Interpretations Subcommittee is established. This subcommittee is made up of five or more members or alternates of the Code Panel(s) having primary jurisdiction over the part(s) of the *Code* covering the subject under consideration. The members are selected by the Chairman of the Correlating Committee or the Secretary of the Standards Council, if the Chairman is not available. No member or alternate is eligible for appointment to an Interpretations Subcommittee if he or she is directly involved in the particular case prompting the request for the Interpretation. The personnel of NEC Interpretations Subcommittees are varied for each request.

The National Electrical Code Committee cannot be responsible for subsequent actions by authorities enforcing the *NEC* as to whether they accept or reject the findings. The authority having jurisdiction has the responsibility of interpreting the *Code* rules and should attempt to resolve all disagreements at the local level.

Two general forms of Formal Interpretations are recognized: (1) those making an interpretation of the literal text and (2) those making an interpretation of the intent of the Committee when the particular text was adopted.

Interpretations of the *NEC* not subject to processing are those that (1) involve a determination of compliance of a design, installation, or product or equivalency of protection, including the suitability of isolation or guarding; (2) involve a review of plans or specifications or require judgment or knowledge that can only be acquired as a result of on-site inspection, including the degree and extent of a hazardous (classified) location; and (3) involve text that clearly and decisively provides the requested information.

Formal Interpretations of *Code* rules are published in the NFPA *Fire News* or the NFPA *Fire Journal*, and the NFPA Electrical Section News Bulletin, and are sent to interested trade publications.

Most interpretations of the *NEC* are rendered as the personal opinion of NFPA Electrical Department staff, or of the involved member of the National Electrical

U.S. DEPARTMENT OF ENERGY

WASTE ISOLATION PILOT PLANT

ELECTRICAL

NO	DATE	DESCRIPTION	BY	CHK'D	DESIGN ENGR	ENG'R	PEM	DOE
7	9/21/82	ISSUED FOR TITLE II						
6	7/8/82	REVISED PER COST REDUCTION PROGRAM						
5	1/28/82	REVISED AND ISSUED FOR TITLE II						
4	11-8-79	ISSUED FOR TITLE I RMC-2						HRC
3	10/18/79	ISSUED FOR TITLE I RMC-2 APPROVAL						
2	5-17-79	ISSUED FOR TITLE I PER BTL 612		G.C.				HRC
1	3-22-79	ISSUED FOR CLIENT APPROVAL PER BTL-86		"				
0	9-29-78	ISSUED FOR CLIENT REVIEW		G.C.				

ORIGIN			
BECHTEL INC SF	BECHTEL	U.S. DEPARTMENT OF ENERGY WASTE ISOLATION PILOT PLANT DESIGN BASIS RACEWAY AND CABLE SYSTEM	JOB NO. 12484 - 004 DOCUMENT NO: D-76-J-07 REV: 7

SHEET 1 OF 8

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DESIGN BASIS

RACEWAY AND CABLE SYSTEM

1.0 INTRODUCTION

1.1 Scope

This document identifies basis for the installation of raceway and cables in both the surface and underground facilities.

1.2 Primary Function

The function of the power, control and instrumentation cables is to transmit energy and signals between the equipment and devices of the WIPP facilities. The conduit, cable tray, and duct bank system provides physical protection, separation, and support for these cables.

1.3 Definitions

See National Electric Code 1981 (NFPA No. 70-1981). Article 100 - "Definitions"

2.0 APPLICABLE DOCUMENTS

1) 30CFR 57 - Health and Safety Standards for metal and non-metallic underground mines.

2) DOE 6430 - General Design Criteria Manual

3) WIPP Design Criteria, RMC II A, August 1982.

3.0 DESIGN REQUIREMENTS

3.1 Operational Requirements

Wiring methods, cable ampacity ratings and group derating factors for cables directly buried or in conduit or ducts and for cables in trays shall be in accordance with the National Electric Code, and ICEA P-46-426.

3.2 Configuration and Essential Features

3.2.1 Surface Facilities Installation

1) Outdoors:

   a) Cables in underground duct bank, with concrete encasement where necessary.

   b) Direct - burial cables.

   c) Overhead bus ducts.

   d) Conduits and/or cable trays.

2) Indoors:

   a) Cable in underfloor cellular raceways.

   b) Cable in exposed conduit and wireways.

   c) Cables in trays.

3.2.2 Underground Facilities Installation

Armored cable corrugated or smooth with outer jacket, open run supported from ceiling or wall in underground area and supported by messenger wires in the shaft.

3.3 Safety Design Requirements

3.3.1 Raceway and cable system shall be so designed to provide the following:

1) Protection against mechanical damage.

2) Protection against corrosion.

3) Protection against fire or prevention of fire spread.

4) Protection against electromagnetic interferences and electrical noises.

5) Protection against radiological environments.

3.3.2 Separation by Power Sources and Voltage Classification (Cables and Associated Raceways and Trays)

1) The cables shall be separated by voltage classification into the following four subgroups and run in separate raceways. Classification of subgroup is as follows.

a) 15kV power - Power cables for the 13.8kV ac power distribution system.

b) 600V power and control - Power and control cables for the 480 volt ac power system and 208V ac power system.

c) 600V signal control and digital signal cables - twisted pairs with over-all shield for the digital instrumentation system.

d) 300V Analog signal - 300V twisted and shielded pairs of conductors for low (millivolt and milliampere) and medium (up to 30 volts) level signals. TC and RTD Cables - 300 volt twisted and shielded pairs of conductors for temperature measurements.

3.3.3 Cable Trays

a) Vertically stacked cable trays shall be stacked in order of their voltage class with the higher voltage class contained in the top trays and the lower voltage class in the lower trays.

b) Minimum clearance between vertically stacked trays shall be 12" measured from the bottom of the upper tray to the top of the next lower tray. Trays wider than 24" shall be accessible from both sides.

c) Tray supports shall be provided to meet the load requirements for the cable trays and the load safety factor.

d) Solid tray covers shall be used on trays installed beneath gratings, along stairways, on vertical tray runs penetrating floors (for a minimum of 6 feet above the floor), on all trays installed outdoors or exposed to falling objects, or where a potential for contamination of the cable exists.

3.3.4 Conduit

a) Conduits throughout the facility shall be installed either exposed, concealed in walls, and floors or embedded in concrete or directly buried in sand.

b) Rigid steel conduit shall be used for exposed or concealed conduit runs throughout the facility.

c) Rigid steel or non-metallic (PVC) conduits shall be used when the runs are embedded in concrete or in concrete encased duct banks, or directly buried.

d) Flexible metal conduit shall be used for all conduit connections to devices and equipment conduit boxes where vibration is anticipated. In all areas, the flexible connection shall be accomplished using liquid tight flexible metal conduit. Adequate continuity between conduit and equipment shall be provided for grounding. The minimum bending ratio recommended for the cable which is to be installed shall be incorporated in the flexible metallic conduit design.

e) Conduit and conduit boxes shall be placed in areas with low potential for contamination, wherever it is practicable.

f) EMT conduits shall be used in office areas.

3.4 Structural and Material Requirements

Industrial Standard

3.4.1 Conduit and Tray Fill

Tray fill (including known planned expansion) shall be, in general, 30% of the cross sectional area for cables in trays. Conduit fill shall be in accordance with Chapter 9 of National Electrical Code. A minimum of 25 percent spare conduits shall be provided in underground duct banks for future expansion.

3.5 Maintenance Requirements

Industrial Standard

3.6 Instrumentation and Control Requirements

Not Applicable.

3.7 Inspection and Test Requirements During Plant Operation

Power circuits shall be inspected per industrial standard practice.

3.8 Service Requirements

Not Applicable

3.9 Decommissioning Requirements

No special requirement.

4.0 CONSTRAINTS IMPOSED ON DESIGN

None

5.0 INTERFACING DOCUMENTS

Document No.	Title
D-45-J-01	Emergency Power System
D-76-J-02	13.8kV AC Power Distribution System
D-76-J-04	480/V AC Power Distribution System
D-76-J-06	Uninterruptible Power Distribution System
D-76-J-08	Grounding System
D-76-J-09	Lighting System
D-71-J-01	Communication System
D-76-B-02	Radiological Protection (General)

6.0 REFERENCES

None

7.0 ATTACHMENTS

None

U.S. DEPARTMENT OF ENERGY
WASTE ISOLATION PILOT PLANT

DIVISION 16 - ELECTRICAL

SPECIFICATION 16122-01E CABLE (600 V)

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Attachments	Number of Pages
A. Document Submittal Requirements	1

Total number of pages, including attachment: 7

1.0 SCOPE

1.1 Description of Work

1.1.1 This Specification covers the furnishing, installing and testing of 600 V power, control and lighting cables.

1.1.2 The work includes, but is not limited to, the following:

a) Furnishing single conductor and multiconductor cables.

b) Installation in underground mine and supports for open cable runs.

c) Terminations, including cable identification and grounding.

d) Field testing.

1.2 Related Work Specified Elsewhere

Specification 16121-01E Cable Terminations

Specification 16131-01E Terminal Boxes

Specification 16450-01E Grounding

2.0 APPLICABLE DOCUMENTS

2.1 Codes, Specifications, and Standards

Codes, specifications, and standards referred to by number or title shall form a part of this Specification to the extent required by the reference thereto. These publications are not furnished with the Contract Documents.

CFR30 Part 57-83	Mine Safety and Health Standards Metal and Non-metal Underground Mines
ASTM B 8-81	Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B 33-81	Tinned Soft or Annealed Copper Wire for Electrical Purposes
ICEA S-19-81	Rubber-Insulated Wires and Cable
ICEA S-68-516-83	Ethylene-Propylene-Rubber Insulated Wire and Cable for the Transmission

	and Distribution of Electrical Energy
NEMA WC 21-78	Nonreturnable Reels for Wires and Cables
NEMA WC 25-75	Protective Coverings for Wire and Cable Reels
UL 44-83	Rubber-Insulated Wires and Cables May 12, 1983

3.0 PRODUCT REQUIREMENTS

3.1 Conditions of Service

The cable shall be in open runs in underground mine areas in a salt dust environment.

3.2 Design

3.2.1 General

a) Cable types and sizes shall be as shown on the Contract Drawings.

b) All cables shall have a design life of 25 years.

c) Each cable shall be supplied in one continuous length on a single reel.

d) Manufacturer's standard data sheets for all cables shall be submitted for approval prior to shipment. Installation instructions for all cables shall be submitted for record prior to shipment.

3.2.2 Low-Voltage Cable for Power, Control and Lighting

a) General: All cables shall meet the requirements of UL 44.

b) Rating: Cables shall be rated 600 V. Cables shall be rated for continuous operation at a conductor temperature of 90°C for dry locations and 75°C for wet locations at an altitude approximately 2200 feet below the ground surface.

c) Conductors: Conductors shall be coated soft or annealed copper, Class B, solid up to No. 14 AWG and stranded for heavier sizes. Stranding and coating requirements shall be in accordance with

ASTM B 8 and ASTM B 33, respectively. Multiconductor power cables shall consist of three or four insulated conductors with standard size bare copper ground conductor built into the cable construction. The number of conductors in a control cable shall be as shown on the Contract Drawings.

d) Insulation: Insulation shall be ethylene propylene in accordance with ICEA S-68-516. Color coding and cable identification shall be per ICEA S-68-516.

e) Overall Jacket: Jacket shall be heavy-duty neoprene or chlorosulfonated polyethylene or chlorinated polyethylene having high resistance to tearing, punctures, moisture, ozone, oil, and chemicals and shall be in accordance with ICEA S-68-516.

3.2.3 Marking

All wire and cable shall bear the UL label.

3.3 Shop Inspection and Testing

Cables shall be tested in accordance with ICEA S-19, ICEA S-68-516, and UL 44. Test reports shall be submitted for record prior to shipment. An existing test report made on an identical cable shall be acceptable.

3.4 Shipment and Storage

3.4.1 Shipment

Each end of all cable shall be hermetically sealed with a heat-shrinkable elastomeric cap or by other suitable means to protect against the entrance of moisture. Each continuous length of cable shall be placed on an individual reel. Cable shall be protected by single or multiple layers of weather-resistant pressured pulpboard, or by other suitable means, in accordance with NEMA WC 21 and WC 25.

3.4.2 Storage

Wire and cable shall be stored at the site in a clean, dry, covered location. Until final terminations are completed, ends of cable shall be kept sealed against moisture.

4.0 FIELD EXECUTION

4.1 Installation

4.1.1 General

a) Wire and cable shall be installed in accordance with CFR30 Part 57-12 and as shown on Contract Drawings.

b) Cables installed shall be UL-listed for the specific type of installation shown on the Contract Drawings.

c) Bending radius of insulated wire or cable shall not be less than the minimum recommended by the manufacturer. Maximum pull tension of wire or cable shall not exceed the manufacturer's written recommended values.

d) All cables shall be grounded in accordance with Specification 16450-01E.

e) All cable and wire teminations, splices, and taps shall be in accordance with Specification 16121-01E.

4.1.2 Identification

a) All power and control wiring shall be identified in terminal boxes in the wiring system as well as at the terminations. Identification shall be by means of taped-on numbers or letters attached to each conductor.

b) Three-phase power feeder conductors shall be identified by phase designations, e.g., ØA-ØB-ØC (red-yellow-blue).

4.2 Field Inspection and Testing

4.2.1 Cables shall be tested as specified below. Test reports shall be submitted for record daily with the Contractor's Daily Quality Control Report.

a) Continuity test shall be made on the conductors.

b) Insulation resistance tests shall be made with a 1000 V insulation resistance tester. The minimum acceptable reading shall be 15 megohms.

4.2.2 Pursuant to Contract Special Provision SP-13, field inspection notification to the Contracting Officer is required for the following:

Witness Point: Start of ground continuity and insulation tests.

5.0 SUBMITTAL

Documents shall be submitted in accordance with Attachment A: Document Submittal Requirements.

** End of Specification **

DOCUMENT SUBMITTAL REQUIREMENTS

SUBMIT DOCUMENTS PRIOR TO THE POINTS INDICATED BY THE CODE BELOW:

F - FABRICATION
T - TESTING
S - SHIPMENT
C - CONSTRUCTION/INSTALLATION
A - FINAL ACCEPTANCE

Document Requirements	See Paragraph	For Approval	For Record
1. Manufacturer's standard data sheet	3.2.1d	S	
2. Installation instructions	3.2.1d		S
3. Shop test reports	3.3		S
4. Field test reports	4.2.1		*
* Daily with the Contractor's Daily Quality Control Report			

ATTACHMENT A

Cable Address: [redacted]
LOGANACT

[redacted]

PHONE 736-7500
AREA CODE 312
TELEX 25-5180

LOGAN ACTUATOR CO.

4956 N. ELSTON AVENUE
CHICAGO, ILLINOIS, U.S.A. 60630

September 22, 1989

RECEIVED
SEP 25 1989
PURCHASING

Mr. Alex J. Graham
Procurement Department
Westinghouse Electric Corporation
W.I.P.P. Site
P. O. Box 2078
Carlsbad, NM 88221

Dear Mr. Graham:

In reply to letter #W2:89:00337 from J. A. Davis regarding the overspeed warning contact on the Salt Hoist Logan-Lilly Controller, the contact was originally, and still is, intended primarily for use on manually operated hoists.

The contact, for low voltage grounded circuit, is to tell the operator of impending trip out unless he reduces speed or, if in the slow down zone, that he should slow down at a faster rate.

In automatic operation, the warning contact is of no effect, as an operator is not present to take action. With the multiplicity of overspeed detectors and the double overspeed contact sets on the Lilly Controller, the warning contact lead can be removed with no ill effect on the operation.

It should be recognized that the warning contact is a preventive measure against trip out with operator action, while the other devices are deceleration control measures in the event of an overspeed.

Sincerely,

LOGAN ACTUATOR CO.

G. H. Logan

G. H. Logan
President

GHL/kh

Westinghouse
Electric Corporation

Government Operations

WZ:89:00337
Waste Isolation Division

Box 2078
Carlsbad NM 88221

September 6, 1989

Mr. George Logan
LOGAN ACTUATOR COMPANY
4956 N. Elston Avenue
Chicago, IL 60630

Subject: OVERSPEED WARNING ALARM ON SEMIAUTOMATIC HOIST

Dear Mr. Logan:

In reference to our phone conversation on August 31, 1989, I would like to thank you for your time discussing the overspeed warning alarm function on our Model C Lilly on the Salt Hoist at the DOE Waste Isolation Pilot Plant, near Carlsbad, NM.

The Model C Hoist Lilly Controller has the Serial No. RE-5332. The hoist is a double drum, double clutch mine hoist which has been modified to a direct drive first motion unbalanced single drum semiautomatic hoist. Additionally, the hoist controls have been modified to include the following:

- thyristor controlled power supply
- process controlled speed and current regulators
- Dynapar braking controller
- Lilly C with overspeed trip settings 1 and 2

The overspeed warning alarm function on the Lilly is presently not being used. Recently, a MSHA inspector noted it was not connected.

The overspeed protection system in place on the hoist is five times redundant. The first line of protection is Lilly overspeed 1 when activated will initiate a Dynapar controlled deceleration E-Stop. The second line of protection is the electronic overspeed which will also initiate a Dynapar controlled deceleration E-Stop.

The third line of protection is Lilly overspeed #2. If Lilly overspeed #2 is reached the Dynapar controller will initiate an immediate stop of the hoist with boost.

The electronic controls also provide two additional ways to detect an overspeed of the hoist. One is the Decel check circuit. Proximity switches located in the shaft provide a point of reference where the actual speed of the hoist is compared with a preset value. If a difference is detected the circuit initiates a Dynapar controlled deceleration E-Stop. The other redundant overspeed circuit is regulator malfunction. This circuit continually compares the reference input to the hoist speed feedback. If the two signals differ by more than approximately 10%, a Dynapar controlled deceleration E-Stop is initiated.

In light of all of the overspeed detection methods of our Salt Hoist system, the Dynapar Brake Controller and the fact the hoist is semiautomatic, do you believe the overspeed warning alarm function is necessary? And if removed would the safety provided by the Lilly C Controller be degraded?

I would like to express my appreciation for your help in advance. If you need any additional information on the Salt Hoist please feel free to call me at 505-887-8184.

Sincerely,

Jayne A Davis

J. A. Davis
Mine Engineering

phm

HA:89:5111

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

1

1. Date: Mo 0 3 Da 0 1 Yr 8 9
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.19120
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
10. Condition: The C+SH hoist overspeed alarm circuit was not functional to provide overspeed warning before the emergency trip out of the hoist.
11. Signature: D. J. Haupt
12. AR Number: 12E 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

2

1. Date: Mo 0 8 Da 0 1 Yr 8 9
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.12023
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
10. Condition: The exposed 600 V DC commutator brush sets on the C+SH hoist MG set and drive motor were not insulated or guarded to prevent contact by foot traffic in the area.
11. Signature: D. J. Haupt
12. AR Number: 11E 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

3

1. Date: Mo 08 Da 01 Yr 89
2. Event Number:
3. Served: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID:
(Contractor)
7. Violation: A. Section of Act:
B. Part/Section of Title 30 CFR: 57.12030
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
10. Condition:
The excessive heat from the resistor grid mounted on top of the C+SH hoist equater cabinet has blistered the paint inside the cabinet and melted the light fixture wiring insulation.
11. Signature: R. J. Haupt
9E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

4

Date: Mo 08 Da 01 Yr 89
2. Event Number:
Served To: Ray Nations
4. Operator: DOE
Mine: WIPP
6. Mine ID:
(Contractor)
Violation: A. Section of Act:
B. Part/Section of Title 30 CFR: 57.12001
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
10. Condition:
The 2 HP 3 phase 480Volt C+SH hoist oil pump motor circuit was not protected from excessive overcurrents by the 43A magnetic trip breaker setting.
11. Signature: R. J. Haupt
7E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

5

Date Mo 08 Da 01 Yr 89	2. Event Number		
Served to: Ray Nation		4. Operator: DOE	
Mine: WIPP		6. Mine ID	(Contractor)
Violation: A. Section of Act		B. Part/Section of Title 30 CFR: 57.19120	
Type of Inspection (activity code): 65	9. Primary or Mill: P		

Condition: The AIS hoist overspeed alarm circuit was not functional to provide overspeed warning before the emergency trip out of the hoist.

Signature: D. J. Haupt 10E 12. AR Number: 347

SHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

6

Date Mo 08 Da 01 Yr 89	2. Event Number		
Served: Ray Nation		4. Operator: DOE	
Mine: WIPP		6. Mine ID	(Contractor)
Violation: A. Section of Act		B. Part/Section of Title 30 CFR: 57.12032	
Type of Inspection (activity code): 65	9. Primary or Mill: P		

Condition: In the AIS hoist room, the Sierra loadcenter was missing the inside cover exposing 125/250 volt bus bars and the Square D loadcenter was missing bottom section of inside cover and KO covers in the bottom of the enclosure.

Signature: D. J. Haupt 8E 12. AR Number: 347

SHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

7

1. Date: Mo 08 Da 01 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: U.S. Dept. of Energy
5. Mine: Waste Isolation Pilot Plant
6. Mine ID: - N/A - (Contractor)
7. Violation: A. Section of Act: 104-a
B. Part/Section of Title 30 CFR: 56.12018
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
Hoist house - Air intake shaft

10. Condition
Three disconnect switches on the south wall were not adequately marked to indicate their function.
NEC 110-22

11. Signature: R. J. Haupt
4E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

8

1. Date: Mo 08 Da 01 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: U.S. Dept. of energy
5. Mine: Waste Isolation Pilot Plant
6. Mine ID: - N/A - (Contractor)
7. Violation: A. Section of Act: 104-a
B. Part/Section of Title 30 CFR: 56.12032
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
Winch house - Air intake shaft

10. Condition
A control transformer cover on the west winch was missing, exposing electrical conductors.

11. Signature: R. J. Haupt
3E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

[redacted]

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

9

1. Date: Mo 08 Da 01 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: U. S. Dept. of Energy
5. Mine: Waste Isolation Pilot Plant
6. Mine ID: - N/A - (Contractor)
7. Violation. A. Section of Act: 104-a
B. Part/Section of Title 30 CFR: 56.12032
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
Winch House-Air intake shaft

10. Condition
The bottom 3/4" hub on the FDC-2 Condulet mounted on the west wall was not plugged.

NEC 370-8

11. Signature: D. J. Haupt
12. AR Number: 6E 347

MSHA Form 4000-81, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

10

1. Date: Mo 08 Da 01 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: U. S. Dept. of energy
5. Mine: Waste Isolation Pilot Plant
6. Mine ID: - N/A - (Contractor)
7. Violation: A. Section of Act: 104-a
B. Part/Section of Title 30 CFR: 56.12018
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
Collar - Air intake Shaft

10. Condition
Three disconnect switches on the east wall were not adequately marked to indicate their function.

NEC 110-22

11. Signature: D. J. Haupt
12. AR Number: 5E 347

MSHA Form 4000-81, Sept 82 (Revised)

[redacted]

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

11

1. Date: Mo 08 Da 02 Yr 89
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act:
B. Part/Section of Title 30 CFR: 57.12001
8. Type of Inspection (activity code):
9. Primary or Mill: P

10. Condition

The AIS hoist galloway winch brake control circuits were not protected from excessive overloads. ≈ .5 KVA xmer

11. Signature: R. J. Haupt
12. AR Number: 22E 347

MSHA Form 4000-51, Sept.82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

12

1. Date: Mo 08 Da 02 Yr 89
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act:
B. Part/Section of Title 30 CFR: 57.12032
8. Type of Inspection (activity code): 65
9. Primary or Mill: P

10. Condition

Tape was used as breaker blank cover in the Dist. Panel 53P-DP03/6

11. Signature: R. J. Haupt
12. AR Number: 24E 347

MSHA Form 4000-51, Sept.82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

13

1. Date: Mo 08 Da 02 Yr 89
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.12001
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
N 460

10. Condition
The North 460 conferance Room A/C units call for max. 20 AMP fuse protection and were provide 30 Amp. NON fuses in the supply safety switches.

11. Signature: R. J. Haupt
12. AR Number: 23E 347

MSHA Form 4000-51, Sep 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

14

1. Date: Mo 08 Da 02 Yr 89
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.12002
8. Type of Inspection (activity code): 65
9. Primary or Mill: P

10. Condition
The shed A/C safety switches on the 480V. primary side of the transformer were rated for 240 Volts. Landia sheds R.M. A-1, 2 and B and V.

11. Signature: R. J. Haupt
12. AR Number: 21E 347

MSHA Form 4000-54, Sep 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

15

1. Date: Mo 08 Da 02 Yr 89
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.12001
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
10. Condition: In Sandia sled RM A-1, the 14.1 Amp parallel Head A/C units from the 10KVA transformer were not protected from overloads by the 15A, FRN fuses on the primary side of the 10KVA transformer
11. Signature: R. J. Haupt
12. AR Number: 20E 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

16

1. Date: Mo 08 Da 02 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: D.O.E.
5. Mine: WIPP
6. Mine ID: N/A (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 56-12018
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
10. Condition: The CB-5 Circuit breaker in Sub #2A was not labeled.
11. Signature: R. J. Haupt
12. AR Number: 19E 347

MSHA Form 4000-51, Sept 82 (Revised)

[redacted]

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

17

1. Date: Mo 08 Da 02 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: D.O.E.
5. Mine: WIPP
6. Mine ID: - N/A - (Contractor)
7. Violation: A. Section of Act: - B. Part/Section of Title 30 CFR: 56.12025
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
10. Condition: The receptacle on the west wall of Room B was not grounded.
11. Signature: D. J. Haupt 18E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

18

1. Date: Mo 08 Da 03 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: - N/A - (Contractor)
7. Violation: A. Section of Act: - B. Part/Section of Title 30 CFR: 56.12025
8. Type of Inspection (activity code): 65
9. Primary or Mill: P Instrumentation shop
10. Condition: Disconnects #5 & #6 - Enclosures were not grounded due to lack of Neutral bar bond Screw an[redacted]ocentric Knock-outs, Also EMT Conduit Lacked bonding fitting Thru eccentric K-O,
11. Signature: D. J. Haupt 17E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

19

1. Date: Mo 08 Da 03 Yr 89
2. Event Number: —
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: — - (Contractor)
Violation: A. Section of Act: -
B. Part/Section of Title 30 CFR: 57.12030
Type of Inspection (activity code): 65
9. Primary or Mill: P
Upper Lead frame switch
8. Condition: The SHS hoist knocker switch SO cable feed had cracked phase insulation and did not have the equipment ground connected.
11. Signature: R. J. Haupt
15E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

20

1. Date: Mo 08 Da 03 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: - N/A - (Contractor)
Violation: A. Section of Act: -
B. Part/Section of Title 30 CFR: 56.11005
Type of Inspection (activity code): 65
9. Primary or Mill: P
8. Condition: The fixed, above ground ladder at the C&SH Collar does not have adequate Toe clearance due to a 1¼" LB Condulet mounted 5ft. above ground and 1½" behind rung.
11. Signature: R. J. Haupt
14E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

21

Date	Mo 08	Da 03	Yr 89	2. Event Number	
Served To	Ray Nations			4. Operator	DOE
Mine	WIPP			6. Mine ID	- (Contractor)
Violation: A. Section of Act				B. Part/Section of Title 30 CFR	57.3200
Type of Inspection (activity code)	65	9. Primary or Mill	P		

7. Condition
Loose unconsolidated scale was observed at the sides of the C+SH shaft station.

Signature D. J. Haupt 16E 12. AR Number 347

MSHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

22

Date	Mo 08	Da 03	Yr 89	2. Event Number	
Served To	Ray Nations			4. Operator	DOE
Mine	WIPP			6. Mine ID	- (Contractor)
Violation: A. Section of Act				B. Part/Section of Title 30 CFR	57.1200
Type of Inspection (activity code)	65	9. Primary or Mill	P		

7. Condition
The 60 AMP. Receptacle in Rm. Dwer not protected from excessive overload by the 30 AMP. RSR fuses in SW 53R-R P04/37.

Signature D. J. Haupt 13E 12. AR Number 347

MSHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

23

Date: Mo 08 Da 04 Yr 89	2. Event Number: N/A		
Served To: Ray Nations		4. Operator: DOE	
Mine: WIPP		6. Mine ID: - N/A -	(Contractor)
Violation: A. Section of Act	-	B. Part/Section of Title 30 CFR: 56.12025	
Type of Inspection (activity code): 65	9. Primary or Mill: P		

Condition

The large air compressor in the welding shop was not properly grounded. No ground wire was run to the compressor and the flexible conduit was aprox. 8' long.

Signature: D. J. Haupt

27E

12. AR Number: 347

SHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

24

Date: Mo 08 Da 04 Yr 89	2. Event Number:		
Served To: Ray Nations		4. Operator: DOE	
Mine: WIPP		6. Mine ID: -	(Contractor)
Violation: A. Section of Act	-	B. Part/Section of Title 30 CFR: 57.12004	
Type of Inspection (activity code): 65	9. Primary or Mill: P	AIS shaft.	

Condition

The worker cable supply 60 feet above the the galloway had a bend in the cable which exceeds the allowable bending radius. An extension cord on the galloway had soft jacket w/ nicks.

Signature: D. J. Haupt

28E

12. AR Number: 347

SHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

25

1. Date: Mo 08 Da 04 Yr 89
2. Event Number:
3. Served To: Ray Nation
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: - (Contractor)
7. Violation: A. Section of Act: - B. Part/Section of Title 30 CFR: 57.14100 b
8. Type of Inspection (activity code): 65
9. Primary or Mill: P AIS Gallaway.
10. Condition: Two defective lanyards were found on the gallaway. One latch lock would not reclose on its own. (Corroded). One rope had broken strand.

11. Signature: D. J. Haupt 26E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

26

1. Date: Mo 08 Da 04 Yr 89
2. Event Number:
3. Served To: Ray Nation
4. Operator: DOE.
5. Mine: WIPP
6. Mine ID: - (Contractor)
7. Violation: A. Section of Act: - B. Part/Section of Title 30 CFR: 57.12013 e
8. Type of Inspection (activity code): 65
9. Primary or Mill: P AIS Gallaway.
10. Condition: The splice in the light cord by connector did not have the jacket penciled and an equal build-up of tapeoto jacket thickness.

11. Signature: D. J. Haupt 25E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

27

1. Date Mo 08 Da 07 Yr 89
2. Event Number N/A
3. Served To Ray Nations
4. Operator DOE
5. Mine W. PP
6. Mine ID - N/A - (Contractor)
7. Violation: A. Section of Act
8. Part/Section of Title 30 CFR 56.12032
8. Type of Inspection (activity code)
9. Primary or Mill P Exaust Tunnel
10. Condition
The cover was missing on a fire alarm horn J-box, exposing live conductors.

11. Signature Leroy Powers
12. AR Number IE 9440

MSHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

28

Date Mo 08 Da 07 Yr 89
2. Event Number N/A
Served To Ray Nations
4. Operator DOE
Mine W. PP
6. Mine ID - N/A - (Contractor)
Violation: A. Section of Act
B. Part/Section of Title 30 CFR 56.12002
Type of Inspection (activity code)
9. Primary or Mill P Sub STA 2B
. Condition
5 KVA Transformer #53 P TR04/27 was not protected by proper sized fuses.

. Signature Leroy Powers
12. AR Number 44E 9440

SHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

29

1. Date: Mo 08 Da 07 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: - N/A - (Contractor)
7. Violation: A. Section of Act: -
B. Part/Section of Title 30 CFR: 56.12002
8. Type of Inspection (activity code):
9. Primary or Mill: P
Sub Station #4

10. Condition
The #11 5KVA Transformer was not protected by the proper sized fuses.

11. Signature: Leroy Powers
43E
12. AR Number: 9440

MSHA Form 4000-51, Sept 82 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

30

Date: Mo 08 Da 07 Yr 89
2. Event Number: N/A
Served To: Ray Nations
4. Operator: DOE
Mine: WIPP
6. Mine ID: - N/A - (Contractor)
Violation: A. Section of Act: -
B. Part/Section of Title 30 CFR: 57.11051
Type of Inspection (activity code):
9. Primary or Mill: P

). Condition
The exaust Tunnel escape signs were coated with dust & did not show up well

1. Signature: Leroy Powers
2E
12. AR Number: 9440

SHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

31

1. Date: Mo 08 Da 08 Yr 89
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.12001
8. Type of Inspection (activity code): 115
9. Primary or Mill: C RM 4 North Sandia
10. Condition: The 120V duplex out lets on the East wall were not protected from excessive overcurrents by the 25 amp breaker and 30 amp fuses. The 8/3 SO cable feeding from 40AMP breaker in 53P SW04/21 was not protected from excessive overcurrents.
11. Signature: R. J. Haupt 39E
AR Number: 397

MSHA Form 4000-51, Nov 85 (Revised)

AV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

32

Date: Mo 08 Da 08 Yr 89
2. Event Number: N/A
Served To: Ray Nations
4 Operator: DOE
Mine: WIPP
6 Mine ID: N/A (Contractor)
Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.12019
Type of Inspection (activity code): 65
9. Primary or Mill: Room #4
0. Condition: The door on panel 53P-DP04/21 was partially blocked by overhead air duct and does not provide suitable clearance for access to the enclosed Electrical equipment.
1. Signature: R. J. Haupt 32E
12. AR Number: 347

SHA Form 4000-51, Sep 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

1. Date: Mo 08 Da 08 Yr 89
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: 57- (Contractor)
7. Violation: A. Section of Act: - B. Part/Section of Title 30 CFR: 57.12030
8. Type of Inspection (activity code): 65
9. Primary or Mill: P Rm. 4 North Landia
10. Condition: The Blue duplex receptacle boxes on the East wall were not provided a system grounded Neutral. Circuit protection for the 120V circuits were from 1-Pole overcurrent devices.
11. Signature: R. J. Haupt 37E
AR Number: 347

MSHA Form 4000-51, Nov 85 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

1. Date: Mo 08 Da 08 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: - N/A - (Contractor)
7. Violation: A. Section of Act: - B. Part/Section of Title 30 CFR: 57.12030
8. Type of Inspection (activity code): 65
9. Primary or Mill: P Room #4 60 Amp Safety Switch
10. Condition: The cover on 53P-SW04/21 has been damaged and does not open properly.
11. Signature: R. J. Haupt 31E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

35

1. Date: Mo 08 Da 08 Yr 89
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: - (Contractor)
7. Violation: A. Section of Act: - B. Part/Section of Title 30 CFR: 57.12001
8. Type of Inspection (activity code): 65
9. Primary or Mill: P Rm 4 North Landis (#2 Longyear Drill)
10. Condition: The hydralic oil heat exchanger 120v. fan circuit w/ stepdown transformer was not protected from excessive overcurrents. The circuit was connected to the bottom of the pump & motor lineslater.
11. Signature: R. J. Haupt
AR Number: 40E 347

MSHA Form 4000-51, Nov 85 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

36

Date: Mo 08 Da 08 Yr 89
2. Event Number:
Served To: Ray Nations
4. Operator: DOE
Mine: WIPP
6. Mine ID: - - (Contractor)
Violation: A. Section of Act: - B. Part/Section of Title 30 CFR: 57.12047
Type of Inspection (activity code): 65
9. Primary or Mill: P Room T
Condition: The 5 breaker boxes for the variacs were not equipped with interior covers over the breakers to prevent contact with energized terminals when operating the control handles of the breakers.
Signature: R. J. Haupt
12. AR Number: 35E 347

SHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

37

1. Date: Mo 08 Da 08 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: - N/A - (Contractor)
7. Violation: A. Section of Act: -
B. Part/Section of Title 30 CFR: 57.12023
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
Substation #2
10. Condition
Doors CB1 Thru CB5 have light switches at Top of opening with exposed & energized Terminals.
11. Signature: R. J. Haupt
30E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

38

1. Date: Mo 08 Da 08 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: - - (Contractor)
7. Violation: A. Section of Act: -
B. Part/Section of Title 30 CFR: 57.12001
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
10. Condition
The primary side of transformer #53P-TR04/36 (10 KVA) was fed from a 60A circuit breaker, which is not adequate overcurrent protection. Secondary side - duplex recept.'s not protected by 30Amp CCT. breakers
11. Signature: R. J. Haupt
34E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

39

1. Date: Mo 08 Da 08 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: - N/A -
(Contractor)
7. Violation: A. Section of Act: -
B. Part/Section of Title 30 CFR: 57.12002
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
10. Condition:
The right hand circuit breaker handle was broken off Transformer #53P-TR04-36.

11. Signature: D. J. Haupt
29E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

40

1. Date: Mo 08 Da 08 Yr 89
2. Event Number: N/A
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: - N/A -
(Contractor)
7. Violation: A. Section of Act: -
B. Part/Section of Title 30 CFR: 57.12001
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
ROOM J - Transformers
10. Condition:
The secondary circuits leaving Transformers No's. 53F-TR04/25 & 53P-TR04/32 ~~were~~ did not have adequate overcurrent protection. TR04-25 had no O.C. Protection and TR04/32 was fused too high 30 Amp.

11. Signature: D. J. Haupt
33E
12. AR Number: 347

MSHA Form 4000-51, Sept 82 (Revised)

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

1. Date: Mo 08 Da 08 Yr 89
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.12032
8. Type of Inspection (activity code): 65
9. Primary or Mill: P
10. Condition: Duplex metal weatherproof receptacle cover on the outlet across the room from #2 substation was open about 1 inch. Outlet was used for scooter chargers.
11. Signature: R. J. Haupt
AR Number: 36E 347

MSHA Form 4000-51, Nov 85 (Revised)

42

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

1. Date: Mo 08 Da 08 Yr 89
2. Event Number:
3. Served To: Ray Nations
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.12001
8. Type of Inspection (activity code): 65
9. Primary or Mill: P 53R-DPO 4/10
10. Condition: The subfeeder tap from 53P-DPO 4/10 panel line side was not protected from overcurrents. Size 1/0 tap from 500mcm line w/ 400 Amp. breaker.
11. Signature: R. J. Haupt
AR Number: 41E 347

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43

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

1. Date: Mo 08 Da 08 Yr 89
2. Event Number:
3. Served To: Ray Nation
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.12001
8. Type of Inspection (activity code): 65
9. Primary or Mill: P

10. Condition
Storage area power center
The 12/4 cable feed for the welder safety switch was not protected from excessive overcurrents by the 100 amp. breaker w/ non-trip set on high.

11. Signature: R. J. Haupt 42E

AR Number: 347

MSHA Form 4000-51, Nov 85 (Revised)

44

CAV-Nonpenalty

U.S. Department of Labor
Mine Safety and Health Administration

1. Date: Mo 08 Da 08 Yr 89
2. Event Number:
3. Served To: Ray Nation
4. Operator: DOE
5. Mine: WIPP
6. Mine ID: (Contractor)
7. Violation: A. Section of Act: B. Part/Section of Title 30 CFR: 57.12018
8. Type of Inspection (activity code): 65
9. Primary or Mill: P

10. Condition
The breaker circuits on the road header power center were not labeled for the trailing cable device on equipment allowed.

11. Signature: R. J. Haupt 38E

AR Number: 347

MSHA Form 4000-51, Nov 85 (Revised)