Exhibits 64 and 65

Pages 572 - 579

Referred to:

MULTI-NATIONAL FORCES-IRAQ
TASK FORCE SAFE – STANDARDS & INSPECTION TEAM

(b)(2)High

MULTI-NATIONAL FORCES-IRAQ
TASK FORCE SAFE - STANDARDS & INSPECTION TEAM

(b)(2)High

08-100325-5-0216

REPLY TO ATTENTION OF
MNF-I TF SAFE – S&I Team

9 October 2008

MEMORANDUM FOR RECORD

SUBJECT: LSF 1

Investigation Report Prepared by: (b)(3), (b)(6)
Position: TF SAFE Electrical SME
Qualification: Master Electrician, Certified ICC Inspector
Submission Type: Final

1. Investigation; Bottom Line Up-Front:

Report received from KBR LSF 1 work is complete. All work conforms to the NEC

2. Inspection Summary

a. Property disconnect located on wall was the starting point. Disconnect does not have overcurrent protection. Conductors feeding disconnect not protected and installed to NEC required depth. Grounding Electrode Conductor not installed per NEC. Photo #1

b. Conductors feeding the structure have no overcurrent protection at property. Conductors feed a Main Panel on structure improperly labeled as a sub-panel. Photo #!

c. Grounding Electrode System established per NEC. Grounding Electrode conductor installed to ground rod. Grounding Electrode Conductor has a jumper installed bonding an abandoned metal pipe. Structure's water piping system not bonded per NEC 250.104 (A). Bonding jumper is to be installed in accordance with 250.64 (A), (B), & (E). Bonding jumper is to be sized in accordance with Table 250.66 with exceptions that do not apply. The service entrance conductors are 70 mm^2 which is between 2/0 and 3/0 AWG. Table 250.66 2/0 – 3/0 requires a #4 copper bonding jumper. The only bonding of the water piping is done through branch circuit equipment grounding conductors. The largest size found is 4mm^2 which is 19% of the required size. Photo's 2,3,4 &5

3. Conclusion

a. The property and structure are not NEC compliant to Articles 240 and 250.

b. I have read the KKAI report # 080507. This report agrees with my assessment the grounding conductors were not connected at the pressure switch and the male cord cap. The KKAI report on page 6 and 7 agrees with my assessment the insulation on conductors under the capacitor had melted exposing the conductor.

EXHIBIT 104

DHS-08-CO259-52146

(b)(2), (b)(3), (b)(6)

(b)(3), (b)(6)

TF SAFE – S&I Team
Electrical SME

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~~LAW ENFORCEMENT SENSITIVE~~

EXHIBIT

0004- 08-[illegible] 25 3 -52 1 [illegible]

01/10/2008 05:15:24

WORK ORDER / SERVICE ORDER FORM

Work Order No.: 7815715 GROUNDING AND BONDING VALIDATION: BLGD LSF 1

Priority: 3	WO Type: US-SOR	WO Class: SOO	WO Status: COMP
Req. Org.: KBR	Req. Unit:	POC Name: (b)(3), (b)(6)	POC Phone: (b)(2)
Reported Date: 17/09/2008 05:00:00		Dept. Assigned: ELEC	
Location: ME-IRQ-D9 Radwaniyah Palace Complex (RPC)			
Asset:			

Comments:

LSF 1 is safely grounded and bonded with temporary deviation on clamps to bond water lines.The Current clamps will be removed and replaced upon receipt of materials.

Approved By:

ACO:	Print ____________	Init ________	Date: ________
PM/DPM:	Print ____________	Init ________	Date: ________
Trade Mgr.:	Print ____________	Init ________	Date: ________

Tasks

ID	Description
1	LSF 1-grounded & bonded as per NEC, Article 250

Labor

Task ID	Labor/Craft	Hrs

Material

Task ID	Item No.	Description	Quantity

Additional Information (Failure Remark) :

Date/Time Started: 17/09/2008 05:20:00 Date/Time Completed: 18/09/2008 13:00:00

Completed By: Print ____________ Sign: ____________ Date ________

POC Approval: Print ____________ Sign: ____________ Date ________

Action Taken : Grounding&Bonding completed-4 wire loop completed-SAP 449748;SAP299113

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EXHIBIT 64

MULTI-NATIONAL FORCES-IRAQ
TASK FORCE SAFE - STANDARDS & INSPECTION TEAM

(b)(2)High

REPLY TO
ATTENTION OF
MNF-I TF SAFE – S&I Team

16 October 2008

MEMORANDUM FOR RECORD

SUBJECT: LSF 1

Investigation Report Prepared by: (b)(3), (b)(6)
Position: TF SAFE Electrical SME
Qualification: Master Electrician, Certified ICC Inspector
Submission Type: Final

LSF 1 Electrical Review

(b)(3), (b)(6)

Over 25 years as a licensed Electrician
Master Electrician License in Kansas, Colorado and West Virginia
International Code Council Certified - Commercial Building, Commercial Electrical, Commercial Mechanical and Commercial Plumbing Inspector
DoJ/FBOP- Electrical / Security / Electronics Inspector
Following is the expert opinion of photos given to me from CID of the Electrical at LSF1. I have visited the site on several occasions.
Pictures 100_0182, 100_0183 & 100_0186 are all photos of the Main Breaker/Disconnect for this building. This main breaker is located on a steel pole that is part over the overhead 200/400 volt 50hz power distribution system at RPC. There is a power cable bringing power from the overhead lines to the line side of the breaker. The second power cable is the power cable to building LSF-1. This power cable is also connected to the line side of this breaker. This connection of both cables on the line side of the breaker defaults this breaker. The power for the building does not go through the breaker. This connection is equivalent to connecting the cables together and does not provide any overcurrent protection or a means to disconnect power to the building. The only

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overcurrent protection is whatever protects the overhead lines at their source.

Pictures 100_0112, DSCN 1656, DSCN 1657, DSCN 1658, DSCN 1659 and DSCN 1660 are all photos of the building main panel located inside the structure. Photo 1656 shows the incoming power cable. This is a 4 wire cable which requires the bonding of the neutral conductor or a RCD. The grounding electrode system for the structure must be established. There is no indication in the photos this bonding and grounding. There is no indication of the bonding of water pipes and other systems as required by code.

These photos show what appears to be tar entering the panel. The top left branch circuit breaker has tar on the case but does not appear to have any in the breaker handle area. The Main Breaker appears to have tar on the case and in the handle operating area. Tar in the handle operating area of the breaker will have no affect on the overcurrent or short circuit operation of code compliant breaker. The NEC requires breakers to operate internally independent of the breaker handle. This allows for the installation of breaker handle locks used to prevent shutting off of critical circuits. For example NFPA 72, the Fire Alarm code, requires the breaker feeding power to the alarm panel to be painted red and a locking mechanism used to prevent accidental shutting off of the fire alarm panel. This locking of the breaker does not prevent the normal operation of the circuit protection in the event of overcurrent or short circuit. If the pump was grounded and/or the water pipes bonded, and there was a fault, there would have been an extremely high fault current (amperage) imposed on the circuit. The pump breaker would open. In the event the pump breaker did not open the amperage would have continued on the circuit until the wires burnt or the main opened. The wires in the pump cord and the cord cap do not show overheating. This leads me to the fact there was not a grounding conductor to the pump and the water lines were not bonded.

This photo shows a 4 wire cable connected on the line side of the breaker. This cable exits the top of the panel and has been added. The grounding conductor has been installed as an un-grounded or "hot" conductor. The circuit supplied by this cable does not have the required equipment grounding conductor.

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The neutral conductor is installed under the same lug as the incoming power neutral. This violates NEC Article 408.
The un-grounded phases in this cable are double tapped on the line side of the breaker. The breaker terminals must be rated for more than one conductor and for conductors of this size or this violates the NEC.
These conductors have no overcurrent or short circuit protection at this panel. The only overcurrent and short circuit protection for these conductors are back at the overhead conductor source the same location as the power cables they tap from. It is highly likely the circuit wired from this tapped cable would never trip the supply source breaker because of the impedance of these conductors.
Photo 100_0266 is a top view of a water pump. The pump has a cord installed from the pressure switch with a 13 amp 200volt British style grounding cord cap. The cord is not properly installed into the pump pressure switch with a listed connector.
Photos 100_0270, 100_0274 and 100_0290 show the capacitor and wiring compartment of the pump. The capacitor shows heat damage.
Photos 100_271, 100_272 and 100_ 273 again show the heat damaged capacitor. The photos also show wires with damaged insulation. By the melted wire insulation on the capacitor it appears the wires were not installed correct. The body of the capacitor and the bottom of the wiring compartment indicate the wires were installed under the capacitor. This does not match the wiring diagram on the pump. The heat from the capacitor melted the insulation from the wires. This caused an increase in the current flow which further damaged the wires. At some point the insulation melted exposing the copper conductor. This conductor was then in contact with the metal body of the pump. This would cause an instantaneous and extreme rise in the circuit amperage called fault current and open the circuit protection of the pump's source power if the wiring was installed to code. This is because the pump body or metal frame is required to be connected to the supply source by a low impedance fault current carrying conductor called the equipment grounding conductor. In addition the metal water piping of the structure is required to be bonded at the main service. This bonding jumper assures a fault current path from the metal piping back to source voltage should the piping become energized by a circuit fault. Because this

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pump had metal water piping connected to it the piping was required to be bonded. The pictures of the panel do not give any indication of a water pipe bonding conductor.

Pump Inspection 14OCT08

Started the inspection of the pump at the cord connection to pressure switch. Pressure switch appears to have been recently replaced when comparing its appearance to the pump. The cord is installed into the pressure switch without the proper connector. The equipment grounding conductor is cut off and not connected to the pressure switch.
Inspected the cord connection to the male cap on the same cord.
Grounding conductor is cut off flush with the cord outer jacket.
Grounding terminal in the male cord cap does not show any evidence of a conductor being attached.
The pump was rated for continuous use.
The stator/frame of the motor showed burnt and shorted winds. The wires in the motor wiring compartment were burnt and melted. The wires were not installed per the pump manufacturers wiring diagram. The wires were under the pump capacitor. The pressure on the wires from the capacitor allowed for better heat transfer from metal stator/ frame. The capacitor showed signs of melting by these hot wires. Because the wires were "smashed" under the capacitor the insulation on these wires were compromised. This allowed the hot conductor to energize the pump stator/frame.
Without the equipment grounding conductor from source to the pump the pump frame was energized by the conductors smashed by the capacitor. The pump would have 220 volts touch potential to ground. There is no evidence in the pictures of the panel of a water pipe bonding jumper. There was no evidence on the water lines that a bonding jumper was ever installed. In fact an inspection of the building done after the electrical was completely replaced still showed the lack of a bonding jumper to the metal water lines. To this date the bonding of the metal water lines at the building does not meet the NEC. Documents received from the contractor state the NEC is the code used for the electrical work at this building. Because of the lack of water pipe bonding, all the metal water pipe connected from the pump would now also be energized with

220 volts to ground. Anyone in contact with these water pipes and ground would complete the circuit and current would flow through them to ground causing shock or electrocution.

POC for this action is the undersigned at (b)(2), (b)(3), (b)(6)

(b)(2)

(b)(3), (b)(6)

11 OCT 08

TF SAFE – S&I Team
Electrical SME

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