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MEMO

TO: Michael D. Grant, IEPA

FROM: Carl Andrews, FSI

DATE: April 13, 1994

SUBJECT: TWI Incinerator, Sauget, Il
OSHA Referral

Pursuant to our 2/23/94 meeting with OSHA personnel and per your request, FSI has reviewed the site's Incident/Accident reports for the month of March 1994. The following are potentially significant issues of concern:

1. On 3/1/94, an explosion occurred at Unit #4's bulk loading hopper. The force of the explosion resulted in a fugitive emission at the kiln seals. The structural steel to which the corrugated siding is attached experienced "bulging" and the roof panels above the hopper were forced open and are loose. The cause of the explosion was the accumulation and subsequent detonation of natural gas in the feed hopper. The waste being processed was reported to contain concentrations of NG of 20%.

   The LEL monitors, installed in the bulk loading pit, had not been calibrated or function checked in >1.5 yrs. TWI indicated that the LEL monitors, for all intents and purposes were not functioning on the day of the incident.

   The access and work area floor adjacent to the bulk hopper is approximately 40 ft. above the next level surface on the east side of the building. There are no guard rails or barriers to prevent personnel from accidently falling the 40 ft. to the bulk pit floor. OSHA requires barriers and toe boards at elevations greater than 4 ft.

2. On 3/5/94, a repack charge in building 2A (storage barn), overpressurized and "blew its lid off". This is not the first incident of this type at this facility.

3. On 3/6/94, Material Technician Thomas Wolf, while repackaging material into incinerator charges, experienced burning on his neck, arms, chest and hands. A subsequent investigation revealed that the PPE specified by the site's hygienist was improper for the material to be handled. The PPE level has since been upgraded to barricade suit. This type of incident has also occurred on previous occasions.

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4. On 3/9/94, Material Processor Heberlein Marion, experienced burning on his left hand ring finger. The burning was first noticed at 2200 hrs. At 2300 hrs. the shift supervisor was notified and he assessed the injury. The employee was advised to rest and continue to rinse the affected area. At 0030 hrs the employee ceased rinsing the finger and he was told to rest in the lunch room. At 0400 hrs. (hrs. after exposure) the employee felt well enough to return to the work area. If site administered first aid fails to provide immediate relief injured employees should be transported to a medical facility for treatment. This type of incident is not unusual at this facility.

5. On 3/16/94, a baghouse bin vibrator broke its weld and fell on top of electrical conduit housing high voltage wiring, breaking the conduit.

6. On 3/21/94, Repack Technician Mike Livingston, placed an empty 10 gal. metal drum between the mast of a forklift and the windshield. This was done to avoid the additional effort required to procure a skid. During transport, the employee accidently hit the "wrong" lever and the drum broke the front windshield. Incidents of this type occur approximately 6-8 times a year.

7. On 3/27/94, Bagger Kenney Jones, experienced an acid burn to the right middle finger. The finger was flushed with water. The material responsible for the burn was Acetic Acid. TWI indicated that the employee's finger became contaminated while removing his gloves and/or the other PPE.

8. On 3/30/94, Material Processor John Warner, received a laceration to his right thumb. The employee was packaging laboratory waste containing glass pipets. The employee was instructed to wear leather gloves when working this type material in the future.

The above incidents occurred during one thirty day period. However, it has been FSI's experience (20 months of on-site monitoring) that the incidents detailed above are representative of the site's operations both in variety and severity. It should be noted that TWI retains internal incident reports detailing all of the above described incidents.

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