



MK-ENVIRONMENTAL SERVICES
A DIVISION OF MK-FERGUSON

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RECEIVED

AUG 29 1990

DEPT. OF ECOLOGY

August 27, 1990

Mr. Mac Davis
Washington Department of Labor and Industry
300 W. Harrison
Seattle, Washington 98119-4081

Dear Mr. Davis:

Please find enclosed a copy of International Aluminum Inc.'s Health and Safety Plan for the Maralco Site. I am sending this to you per Mr. David South's instructions, Washington Department of Ecology. International Aluminum Inc. is conducting a pilot test of a hazardous waste recycling process at the Maralco site.

Very truly yours,

MK-ENVIRONMENTAL SERVICES

Alan M. Parker
Project Manager

AMP:dmd

Enclosures

cc: Dave South, WDOE W/Attachments
Phil Stansfeld, IAI W/Attachments
Eric Creagh, MK W/O Attachments
File

INTRODUCTION TO THE INTERNATIONAL ALUMINUM SITE SAFETY PLAN

The clean up of MARALCO ALUMINUM SITE is a model hazardous waste clean up project utilizing technology to recycle the processed waste material. This is the largest pile of classified hazardous waste in the State of Washington destined for recycling into useful materials instead of becoming a burden on already overburdened hazardous waste storage sites. ALWAYS, where possible, key personnel from the old site have been trained in hazardous waste practice and brought back to the site to aid in the processing.

IAI is a small company, the site safety plan was written while the entire employment of IAI attended the 40 hour hazardous waste course as required by OSHA/WISHA. Our site safety plan is a living, daily plan to be immediately modified by the entire company as necessary. Guests will attend our meetings and be a part of this plan.

INTERNATIONAL ALUMINUM INCORPORATED

SITE SAFETY PLAN FOR MARALCO KENT WASHINGTON

Date: April 24, 1990 revising October 4, 1988
Preparation and revisions by: Philip Stansfeld Project Manager and Site Safety Officer for IAI personnel only. All IAI personnel aided and helped edit this plan. Other personnel should be covered by their own site plan if they are being paid by other companies. Guests of IAI will be required to conform to this plan.

INTRODUCTION:

The safety of all persons working on or visiting the IAI aspects of the MARALCO site are the responsibility of the IAI site Project Manager. It is this person's responsibility to ensure that all work practices are in compliance with the state and federal regulations. The Project Manager will conduct daily safety meetings and personnel work practice evaluations to ensure compliance with this Safety Plan and with applicable regulations.

The safety of all personnel on this project is of primary importance. The work practices and procedures are designed to minimize worker contact with hazardous materials and reduce risk of physical injury. Project Manager, Philip Stansfeld, is Safety Director. In his absence from the site this responsibility will be turned over to the Maintenance Superintendent, Mike Warner. In the absence of Phil and Mike, site direction will always be delegated such that, at any time personnel are present, there is an on site person responsible and hence there is always a responsible, key person.

Modifications in the work plan or site Safety Plan will be the responsibility of the Project Manager and no changes will be made without the full attendance of the entire company in the decision to change.

While the Site Manager has ultimate responsibility for enforcing safety, it is a condition of employment that all personnel perform all job duties in a safe and responsible manner in accordance with current OSHA and WISHA standards. Any person(s) failing to follow established procedure will be suspended until the reason for failure to comply has been noted and has received consideration. All employees will review the Plan and will sign a file copy that they understand it. If they indicate they do not understand it, they will not be allowed to work on the site until understanding is accomplished.

A. RESPIRATORY PROTECTION

1. All personnel will be instructed as to what type of respiratory protection will be required on the work site. All personnel will be instructed in the use, care, and limitations of respiratory equipment, and will be required to do a fit test each day to ensure proper fit prior to commencing work.

B. PROTECTIVE CLOTHING

1. All personnel will be instructed as to the type of personal protection equipment (PPE) that will be required on the site. The required PPE will be found in the Personal Protective Equipment section of this document. All personnel will be instructed in the use, care and limitations of their PPE prior to commencing work.

C. DESCRIPTION OF JOB HAZARDS/HAZARD ASSESSMENT

1. All personnel will receive instruction on the suspected health and safety concerns of all aspects of the project prior to initial work commencement. In addition, a safety and health meeting will be conducted daily, prior to commencing work to discuss hazards expected for that day's work and the precautions necessary to deal with these hazards.

The following sections describe the health and safety program that will be in effect for the duration of the project.

1. PROJECT RISKS/HAZARDS

Chemical Hazards:

Initial work indicates the primary hazard at this site appears to be in the form of dust from various sources. The dust from the outside pile is called "BLACK DROSS". It is slightly basic and is mostly aluminum oxide with 20 to 30% salts. The salts are about 50:50 sodium and potassium chloride and hence pose little direct hazard to personnel however some of the metal oxides and chlorides within the matrix of the black dross are heavy metals and can constitute a hazard. ~~Inhalation of dusts from the pile must be~~ controlled. Sufficient moisture on the pile eliminates the dusting property of the black dross. It is the attitude of IAI that keeping the pile moist and not allowing dusting is the best protective measure for personnel.

Physical Hazards:

Physical hazards arise from the unstable black dross pile which could result in muscular, skeletal damage or possible skin penetration from fall or slip incidents.

Workers should promptly change their protective clothing if they should fall. Equipment operators and workers will be informed of proper operating and communication techniques during the daily safety meetings.

2. TRAINING

No one will be allowed on site without having first having obtained safety training as pertaining to the job procedures, hazards, hazard controls and medical programs. Training will also include respiratory protection and all employees wearing respirators will be tested for proper fit. Training will include the OSHA/WISHA 40 hour minimum Hazardous Waste Site course.

3. PERSONAL PROTECTIVE EQUIPMENT

The property has been designated into four areas for purposes of level of hazard:

AREA ONE: The residence and office area within the perimeter as defined by the east of the creek, south of 202nd street and within the natural confines of the blackberry perimeter surrounding the residence.

AREA TWO: This is the remainder of the east side of the property not included in AREA ONE, the parking lot and the west side of the building between the building and the railroad right of way.

AREA THREE: Plant and black cross area except AREA FOUR to be defined next.

AREA FOUR: Within the plant a new area has been defined behind the ECO-BLOCK wall in the South West corner of the building. This area contains the high Chromium KBI dross, the baghouses and baghouse dust and the storage of drums which are awaiting disposition.

~~AREAS ONE, TWO, THREE AND FOUR are in order of degree of known contamination. Decontamination routing is to be in reverse order. AREA ONE is not contaminated and no PPE is required there.~~

AREA TWO: Outside the waste pile area:

Unless further analysis shows a greater risk factor for the said hazards, Level D protection will be utilized for normal work operation. It will consist of:

1. 3M dust cup type respirator worn if dust is observable and or if the lab has posted a dust warning based on the ambient moisture content of the soil.
2. Coverall clothing and company hat.
3. Steel toed boots.
4. Gauntlet style gloves.

AREA THREE: Requires the same level as area two except if engaged in activities which will require work into the region of area 4.

AREA FOUR: Requires upgrade to level C which will consist of:

1. Half face or full face air purifying respirator.
2. Tyvex coverall (hooded, long sleeve) and street clothing under coverall.
3. Inner and outer chemical resistant gloves.
4. Chemical resistant safety boots.
5. Splash goggles if half respirator is utilized.
6. Hard hat.

If hazard increases, the level of personal protection will be upgraded to Level C or higher to fit the needs of the work procedure of emergency situation. Hearing protection will be utilized when the site safety officer and lab has deemed it necessary.

4. MEDICAL SURVEILLANCE

A base line and or current physical status will be required by all employees to determine if existing conditions could effect the individual's ability to work safely, and to use as a basis for subsequent post project physicals to assure no employee contamination has occurred. Records will be kept as to employee exposure as a basis for evaluation of potential health effects. These records are company property. The company requires the right to perform drug testing of any employee.

5. SITE CHARACTERIZATION

Continual site analysis will be done to evaluate existing and possible future hazards. Hazards will be constantly evaluated to ensure that safe, low levels of risk are maintained.

6. VISUAL HAZARD CONDITIONS

Large machinery and piles constitute tripping hazards and may need to be moved to make way for the work.

Enclosed areas such as the reverberatory furnaces and the baghouses are not to be entered.

Explosive situations include the sodium drum, it is monitored by the Site Safety Manager do not mess with it.

Drowning hazard exists at the ponds, tanks and creeks.

7. AIRBORNE HAZARDS

Since the piles at MARALCO can get dry and dust, there can be a dust problem. For the purposes of the IAI process and the control of the materials, IAI prefers to keep everything moist at least to moisture content 20% or greater which is the ambient average moisture any way. It has been established that if the piles are kept at 20 % or greater, dusting will not be a problem and many evils get taken care of at once by this control. The workers will bring in samples daily of the various areas for moisture analysis and the lab will provide the report for spraying each morning in the dry areas.

8. HAZARDOUS MATERIALS

Hazardous materials at the site are mostly low irritant dusts which can contain some metals but are mostly hazardous due to silica and alumina irritation.

9. SITE MITIGATION

No materials will be removed from the site until all responsible agencies have had a chance to review and approve of the removal.

10. SITE SECURITY AND CONTROL

Site work zones will be set in accordance to exclusion zone, reduction zone, contamination reduction zone, and clean zones. On-site security is arranged and deemed necessary to prevent the transient trespassers and vandals and thieves who frequent these properties. Proper signs and warnings will be posted and maintained. The fence will be maintained.

11. DECONTAMINATION

A wash area will be set up and maintained for the purposes of worker hygiene. This will be in conjunction with the First Aid Station.

12. HEAT/COLD STRESS

Performing labor with required PPE may pose a burden on an individual's body heat and temperature regulating systems. Employees will be required to take extra breaks to replenish lost liquids. Employees have been ~~advised to report to the decon area if symptoms arise~~ due these conditions. Monitoring by the site safety manager will also serve to check against this being a problem.

EMERGENCY CONTINGENCY PLAN - SUBSTANCE RELEASE

1. The following situations can produce unwanted or unplanned hazardous substance release.
 - 1.1 Dust production from wind or digging operations will produce dust that may be potentially irritating and toxic in nature. Problems occur during inhalation, ingestion, absorption and skin contact.
 - 1.2 Vapors may be released from moist soil or the creek bed during digging or trenching operation.
 - 1.3 Release of unknown substances from trenching operations may produce toxic or poisonous substances.

PROCEDURE TO CONTROL SUBSTANCE RELEASES

1. Dust control by high pressure fog nozzles and sprinklers which will dampen the black dross preventing particulate from becoming airborne.
2. Release of unknown substance will be handled as an alert situation with Level B or other proper protection for handling or processing.

NOTE: All personnel not properly protected during any substance release will don Level C immediately or be ~~evacuated from the area. See Toxic Vapor Release Plan.~~

SITE EMERGENCY SIGNALS

All work parties will carry a portable air horn for use in emergencies. The following emergency warning reports will apply on this site:

* 1 long blast	Move to assembly area.
* 2 shorts	Man down.
* 3 short blasts	Evacuate area.

GENERAL SAFETY

1. A brief safety meeting will precede each shift's work at this site. All personal including supervisory will attend. Minutes will be recorded and each person in attendance will sign the minutes.

2. Smoking is not allowed in any of the work areas.

3. Personal will always work in the buddy system when dealing with known substances.

4. Personnel are to seek help when handling heavy loads. Movement of materials or items over 50 pounds will be done by mechanical means.

5. Adequate fire extinguishers will be made available in all work areas. Fire extinguishers will be on a monthly maintenance program. Personnel will be instructed to remove any fire extinguishers with broken seals to the office for immediate recharging and re-sealing.

6. Portable eye wash devices will be available in all areas.

7. All accidents and injuries will be immediately reported to the Project Manager.

TOXIC VAPOR RELEASE PLAN

1. If spilled material is likely to present either a vapor inhalation or fire hazard, notify others in the area by way of air horn using one long blast.
2. Get everyone out of the area.
3. All personnel should report to the primary evacuation area upon hearing the air horn. WHERE IS THIS? It is the Project Manager's Residence. Go see him and ~~assemble for instructions.~~
4. Notify the local authorities and neighbors of the release is likely to impact the off-site community.

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|------------------|------------------------|
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