PLAINTIFF'S EXHIBIT
AL-120

ALCOA

Engineering Standard

Civil 33.052.2

CONTRACTOR'S SAFETY CHECKLIST

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1. SCOPE

The Contractor is responsible for but not limited to the following job conditions and safe working practices:

2. PREJOB PLANNING - JOB REQUIREMENTS

2.1 Display safety and health protection on-the-job posters.

2.2 Maintain Log of Occupational Injuries (OSHA #200).

2.3 Maintain Record of Occupational Injuries or Illnesses (#101).

2.4 Post Summary of Occupational Injuries or Illnesses (#200) at end of the year.

2.5 Maintain current records for the respective contractor firms by the respective field offices at each location.

2.6 Ascertain the names, addresses, and telephone numbers of available emergency and medical services, such as: hospital, doctor, clinic, ambulance, fire and police departments. Post this information conspicuously.

2.7 If there is no infirmary, clinic, or hospital near to the operations, have a trained person (or persons) available to render first aid as well as "first aid supplies approved by the consulting physician."

2.8 Provide transportation or a communication system for contacting necessary ambulance service.

2.9 Protect employees engaged in site clearing from hazards of irritant and toxic plants. Provide for first aid treatment.

2.10 Provide adequate lighting in work areas for work or job being performed.

2.11 Measure noise exposure levels in areas where necessary and provide personal protective equipment as needed.

2.12 Provide an adequate supply of potable water.

2.13 Portable containers for dispensing drinking water shall be capable of being tightly closed and equipped with a tap.

2.14 Toilet facilities shall be adequate for the number of employees.

2.15 Provide, use, and maintain personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, protective shields, and barriers.

2.16 Insist on the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions.

2.17 Where the eyes or body of any person may be exposed to injurious corrosive materials, provide within the work area suitable facilities for quick drenching or flushing of the eyes and body.

2.18 Schedule and hold safety meetings at regular intervals to stimulate safety interest and awareness of all employees.

2.19 PLANT SAFETY REGULATIONS ARE APPLICABLE TO CONTRACTOR'S PERSONNEL WHEN THESE CONTRACTOR'S PEOPLE ARE IN THE PLANT OPERATING AREA.

3. ELECTRICAL HAZARDS

3.1 Before work is begun, ascertain by inquiry, direct observation, or by instruments whether any part of an electrical power circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool or machine into physical or electrical contact therewith. Post and maintain proper warning signs where such a circuit exists. Advise employees of the location of such lines, the hazards involved, and the protective measures to be taken.

3.2 Do not permit an employee to work in such proximity to any part of an electrical power circuit that he may contact the same in the course of his work unless the employee is protected against electrical shock by de-energizing the circuit and grounding it or by guarding it by effective insulation or other means.

3.3 Provide a positive "Lockout System" to render machines operated by electric motors inoperative while repairs or adjustments are made. See Engineering Standard 18.3, Part 5, Tagout and Lockout Procedures for Electric Powered Equipment.

3.4 Use three-wire extension cords for portable electrical tools and appliances. Conduct an effective repair and maintenance program.

3.5 Use only hand-held powered tools, such as circular saws, drills, etc., which are equipped with a constant pressure switch.

3.6 In Tunnels:

a. Keep lighting and drop cords in safe locations to avoid short circuits.

b. Tape, or otherwise protect, or remove exposed bare wires other than ground wires.

c. Do not permit cords to lay in water.

3.7 Portable power tools

a. Do not use tools that are not grounded or double insulated.

b. Portable power tools used in tank and on superstructure covering work require adequate repair and maintenance in order to assure safe use.

3.8 On superstructure covering or metal siding

a. Drop cords can get cut by many things. Inspect the drop cords frequently for cuts in insulation.

3.9 Metal hard hats and metal ladders are not permitted on construction projects because of potential hazards including:

a. Contact with building crane collector rails.

b. Contact with overhead power lines.

c. Contact with bus bar.

d. Contact with power distribution systems while walking or working on roofs and/or yard piping.

3.10 Building crane collector rails require special attention; keep in mind the following:

a. Be sure that crane rails are effectively isolated in order to prevent personal contact when working aloft.

b. Strictly adhere to tagout and lockout procedures in connection with de-energizing collector rails.

c. Avoid erecting metal scaffolding to such elevations that will permit contact with collector rails or obstruct bridge crane travel.

d. Install collector rails warning lights for identifying energized conditions.

3.11 Switchgear - permanent and temporary shall have the following:

a. Adequate cover plates installed.

b Adequate grounding.

c Isolation of transformer areas and switchyard areas.

d Identification as per voltage

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3.12 Electrical switchyard - power distribution systems hazards:

a. Limit mobile crane travel and a flagman must escort them.

b. Keep truck dump beds in traveling position.

c. Post warning signs.

d. De-energize all uninsulated power lines when work is performed within 10 feet of them.

3.13 When using electric welding machines:

a. A ground return cable shall have a safe current carrying capacity equal to or exceeding the specified maximum output capacity of the arc welding or cutting unit which it services. When a single ground return cable services more than one unit, its safe current-carrying capacity shall equal or exceed the total specified maximum output capacities of all the units which it services (OSHA 1926.351(c) (1).

b. Ground the case of the machine.

c. Ground the metal workbench.

3.14 Buried cable

a. PREJOB planning prior to excavation is essential in order to reveal all underground facilities, especially buried power cables. Digging permits are required.

3.15 Use other requirements, as outlined in the National Electrical Code, when applicable.

4. STEEL ERECTION, STAIRWAYS, FLOOR AND WALL OPENINGS AND SCAFFOLDING

4.1 Guard wall openings from which there is a drop of 4 feet or more and the bottom of the opening is less than 3 feet above the working surface.

4.2 Install standard guardrailing or the equivalent at every open-sided floor or platform 6 feet or more above adjacent ground or floor level.

4.3 Wood guardrails shall be 2-inch by 4-inch white pine (or the equivalent), approximately 42 inches high, with a midrail and toe guard. Supports shall be at intervals not to exceed 8 feet. Toeboards shall be a minimum of 4 inches in height.

4.4 Fixed stairways are to be a minimum of 22 inches wide.

4.5 Fixed stairs are to be installed at an angle between 30 and 50 degrees.

4.6 All treads are to be reasonably slip-resistant.

4.7 Provide standard stair railings on the open sides of any exposed stairway and stair platforms. Provide handrails on at least one side (right side descending) on closed stairways.

4.8 All parts of the stairways are to be free of hazardous projections.

4.9 No debris or other loose materials are allowed on stairways.

4.10 Eliminate slippery conditions on stairways as soon as possible.

5. LADDERS

5.1 Keep portable step ladders in good condition.

5.2 Portable rung ladders shall have safety shoes securely bolted or fastened.

5.3 Store purchased wood ladders in shelter or out of elements.

5.4 Use ladders to give safe access except where permanent or temporary stairways or suitable ramps or runways are provided.

5.5 Do not use ladders with broken or missing rungs or steps, broken or split side rails, or other parts not equal in construction.

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6. SAFETY NETS

6.1 Provide safety nets when work places are more than 25 feet above the ground or water surface, or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines or safety belts are impractical.

6.2 Extend net 8 feet beyond the edge of the work surface, when employees are exposed; and install net as close under the work surface as practical but in no case more than 25 feet below such work surface.

7. SCAFFOLDS

7.1 Scaffolds' footing or anchorages must be sound, rigid, and capable of carrying the maximum intended load without settling or displacement.

7.2 Do not erect, move, dismantle, or alter scaffold except under the supervision of competent persons.

7.3 Scaffolds and their components must be capable of supporting without failure at least four times maximum intended load.

7.4 Install guardrails and toeboards on all open sides and ends of platforms more than 10 feet above the ground or floor, except needle beam scaffolds, floats, or pickboards. Install standard guardrails on all open sides and ends of scaffolds 4 feet to 10 feet in height, having a minimum horizontal dimension in either direction of less than 45 inches.

7.5 Where persons are required to work or pass under the scaffold, provide a screen between the toeboards and the guardrail, extending along the entire opening.

8. FIRE PROTECTION

8.1 Do not store flammable or combustible liquids in areas which are used for exits, stairways, or normally used for the safe passage of people.

8.2 Locate combustible fuels at least 50 feet away from construction areas to minimize fire loss.

8.3 Storage of containers outside of buildings shall not exceed 1,100 gallons in any one pile or area. Separate piles or groups of containers by a 5-foot clearance. Do not store piles or groups of containers nearer than 50 feet to a building.

8.4 Maintain suitable fire extinguishing equipment immediately available in the work area in a state of readiness for instant use.

8.5 Fire extinguishers shall be inspected and operable by the Contractor.

8.6 Keep fire extinguishers for Class A fires within 75 feet from any point in the work area, and extinguishers for Class B fires within 50 feet.

8.7 Do not, in any way, hinder access to extinguishers.

8.8 Post "No Smoking" signs in areas where conditions require them.

8.9 Store oxygen and acetylene tanks separately.

8.10 Clearly mark compressed gas cylinders as to content.

8.11 Cylinder protective valve caps shall be in place except when the cylinder is in use.

8.12 Check cylinders, tanks, and air receivers for cuts or gouges, corrosion or pitting, and hairline cracks in necks, etc.

8.13 Shield whenever practicable, all area welding and cutting operations by noncombustible or flame resistant shields.

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9. EXCAVATIONS AND EQUIPMENT OPERATIONS

9.1 Prior to opening an excavation, determine whether underground installations will be encountered. When it is uncovered, provide proper supports for the existing installations. Contact utility companies and advise of proposed work.

9.2 Shore, sheet, brace, slope, or otherwise support sides of trenches in unstable or soft material, 5 feet or more in depth.

9.3 Shore banks more than 5 feet high, lay back to a stable slope, or provide some other equivalent means of protection.

9.4 Inspect excavations daily by a competent person. If evidence of possible cave-ins or slides is apparent, stop all work in the excavation until necessary precautions are taken to safeguard the employees.

9.5 Inspect excavations after every rainstorm or other hazard-increasing occurrence by a competent person.

9.6 Take additional precautions by way of shoring and bracing to prevent slides and cave-ins when excavations or trenches are made in locations adjacent to backfilled excavations or where excavations are subjected to vibrations.

9.7 Employees are not permitted to work above vertically protruding, reinforcing steel unless it has been covered or protected to eliminate the hazard of persons falling on it.

9.8 Provide employees exposed to vehicular traffic with warning vests marked with or made of reflectorized or high visibility material.

9.9 All equipment left unattended at night, adjacent to a roadway in normal use or adjacent to construction areas where work is in progress must have appropriate lights, reflectors, and barricades.

9.10 Trucks with dump bodies must be equipped with positive means of support, permanently attached, and capable of being locked in position to prevent accidental lowering of the bed during maintenance and repair work.

10. HOUSEKEEPING

10.1 During construction, alterations or repairs, keep cleared from work area, passageways, and stairs any form and scrap lumber with protruding nails, and all other debris.

10.2 Combustible scrap and debris shall be removed at regular intervals, such as twice per week, and burned in designated areas, according to local regulations.

10.3 Provide containers for collection of waste, trash, oily and used rags, etc. Containers used for garbage and oily, flammable, or hazardous wastes shall be periodically removed (such as twice per week) from the work area.

10.4 Pile, rack, or store all construction materials in a safe manner.

10.5 Stack, rack, block, interlock, or otherwise secure all materials stored in tiers to prevent sliding, falling, or collapse.

10.6 Keep storage areas free of weeds and debris.

10.7 Keep aisles and passageways clear.

10.8 Keep stairways free of debris and other loose materials.

10.9 Do not store materials on scaffolds or runways except for supplies needed for immediate operations.

10.10 Stack and block structural steel, poles, pipes, bar stock, and other cylindrical materials as to prevent spreading or falling.

10.11 Instruct and train operators of lift trucks for safe operation.

10.12 Equip high lift trucks with overhead guards and working horn.

10.13 Keep walkways, runways, and sidewalks clear of excavated material or other obstructions, and do not undermine sidewalks unless shored to carry a minimum live load of 125 pounds per square foot.

10.14 Do not place materials stored inside building under construction within 6 feet of any hoistway or inside floor openings.

11. MECHANICAL INSTALLATIONS

11.1 Coordinate "start-up" and "tie-ins." Use walkie-talkies if hand signaling is impractical.

11.2 Limit compressed air cleaning equipment to less than 30 psi. Install guarding for protection from flying chips on fixed installations.

11.3 Install dead man guards or switches on portable power wood working tools to prevent accidental operation when not in use.

11.4 Install constant pressure switches on all other hand-held powered tools or equipment.

11.5 Install proper guarding on machines, presses, grinders, saws, etc., to protect employees from hazards created by:

a. Point of operation

b. Nip points

c. Rotating parts

d. Flying chips and sparks

11.6 Install guarding on all mechanically powered transmission apparatus 7 feet or less above floor or work platform. These include:

a. V-belts, shafts and pulleys

b. Chain and sprocket drives

c. Fly wheels

11.7 Provide a positive "Lockout System" to render mechanically powered equipment inoperative while repairs or adjustments are made. See Engineering Standard 18.3, Part 6, Tagout and Lockout Procedures for Mechanically-Powered Equipment.