ATTACHMENT 7

PROCEDURES TO PREVENT HAZARDS

ADEQ Revisions:

The Concrete Management Program identified in 7.3.3, 3rd paragraph, is referenced in Attachment 4, 4.4, and Attachment 15.

7. PROCEDURES TO PREVENT HAZARDS

This section contains a discussion of procedures at World Resources Company (WRC) to prevent hazards associated with hazardous waste management. This section includes a discussion of security measures, inspection protocols, and preparedness and prevention procedures.

7.1 Security

The following information on WRC security is provided pursuant to Code of Federal Regulations (CFR) Title 40, Section 270.14(b)(4) and 40 CFR § 264.14.

The nature of WRC's business activity and operating safety requirements results in the need for controlled access to the facility and the prevention of accidental or intentional entry that could result in the violation of applicable regulations or injury to persons or livestock.

7.1.1 24-Hour Surveillance System

The facility is well-lit and the buildings are electronically monitored during periods that employees are not present (i.e., nights and/or weekends) by a contract security company to ensure proper building security. The security company provides services from a central response station seven days a week during non-working hours that include:

- Continuous electronic monitoring of WRC's buildings from a central response station;
- Provision to each WRC employee with authorized access to these buildings with a security code that must be entered into the keypad upon entering the building; and
- Notification to the Tolleson Police Department and WRC point of contact whenever unauthorized access is attempted or made.

During working hours, facility personnel monitor and control entry to the Hazardous Waste Management Unit (HWMU).

7.1.2 Barrier and Means to Control Entry

The WRC Facility HWMU is surrounded with a combination of chain link fencing and block wall that is a minimum of 7 feet high. Descriptions of the exterior fencing and block walls are included in Table 7-1, below.

Table 7-1. WRC Exterior Fencing and Block Walls

Location	Material of Construction	Height (Feet)
the North property line - West end	block wall	5.5
the North property line- East end	combination block and wrought iron wall	6.0
the West property line - North end	chain link fence	5.5
the West property line - South end	chain link fence	6.0

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Table 7-1. WRC Exterior Fencing and Block Walls

Location	Material of Construction	Height (Feet)
the South interior HWMU West end boundary	block wall with barbed wire	7.0
the South property line - West end	chain link fence	6.0
the South property line - East end	chain link fence with barbed wire	7.0
the West interior HWMU boundary	block wall with barbed wire	7.0
the East property line - North end	block wall with barbed wire	7.0
the East property line - South end	chain link fence with barbed wire	7.0
the North interior HWMU boundary (from East side barrier wall to the West side barrier wall)	chain link fence	7.0

A 6-foot high block wall extends from the north property line to the south end of the processing area. This wall is approximately 30 feet inside the west chain link fence. This wall then continues along the south end of the processing area to a point where it connects to the chain link fence on the east end of the south property line. Barbed wire has been added to the top of the block wall and chain link security fence along the east, south, and west barrier of the HWMU to achieve a maximum 7-foot high physical deterrent capable of minimizing the unauthorized entry of persons onto the active portion of the facility. Directly adjacent to the north side of the HWMU, from the east side barrier wall to the west side barrier wall, WRC installed a 7-foot high chain link fence security barrier as a means of preventing entry to the active portion of the facility by unauthorized persons. This barrier is the primary physical deterrent to entry on the north side of the HWMU and is in addition to the existing barrier wall that is positioned on the north side of the facility directly adjacent to Sherman Street. These details are shown on Site Plan SP-S01.

Access gates to the facility are normally closed and locked. They are opened only when access is required and are closed when access is no longer necessary. The parking lot gates are open during normal Administrative Building working hours and closed and locked at other times. The truck-receiving gate is closed and locked at all times. It is opened only to allow trucks, delivery services, and authorized personnel to enter and leave the site. A closed-circuit security system in the Maintenance Building allows for monitoring of the receiving gate. The railroad gate is normally closed and locked. It is opened only to allow delivery and pick-up of rail cars.

The following additional control measures are utilized at the facility:

- Visitors must check in at the front lobby, sign a logbook, and receive a badge;
- Visitors are escorted in traffic and hazardous materials areas;
- Hand-carried bags, including briefcases, are not allowed in controlled areas unless authorized by WRC;
- Delivery personnel are only provided the degree of access required to allow completion of their delivery, and they are kept under surveillance while they are within a controlled area;
- Smoking is only allowed in designated areas of the facility; and
- The Tolleson Fire Department has access to WRC keys.

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7.1.3 Warning Signs

Signs with the legend, "DANGER - Unauthorized Personnel Keep Out" are posted on the fence/block wall at 50-foot intervals around the perimeter of the site. The signs, which are printed in both English and Spanish, are legible from a distance of at least 25 feet.

7.2 Preparedness and Prevention

The WRC facility is designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface and groundwater that could threaten human health or the environment.

7.2.1 Equipment Requirements

A description of emergency equipment and internal and external communications equipment is provided in the Contingency Plan (Section 10).

WRC's communication, alarm, fire protection, spill control, and decontamination equipment are periodically tested and inspected as required to ensure proper operation during an emergency. WRC's Site Inspection Log (Attachment 6-B) includes the inspection requirements for site safety and emergency equipment.

7.2.2 Aisle Space Requirement

Adequate aisle space is maintained to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility in an emergency.

7.2.3 Water Volume and Pressure

Fire hydrants adjacent to WRC and tested by the City of Tolleson Fire Department are rated for 2,000 gallons of water per minute at 60 pounds per square inch static pressure.

7.3 Preventive Procedures, Structures, and Equipment

WRC strives to prevent hazards to human health or the environment through the preventive procedures, structures, and equipment described in this section, pursuant to 40 CFR § 270.14(b)(8).

7.3.1 Loading/Unloading Operations

Recyclable material loading and unloading operations at WRC occur only within the confines of the HWMU. Trucks are loaded and unloaded at the north-central portion of the HWMU and railcars are loaded at the east side. Recyclable materials are transported from the trucks or railcars to the pre-designated location on the HWMU concrete surface via front-end loaders or forklifts. The following precautions have been taken to reduce the potential for hazards during loading and unloading operations:

- Loading and unloading of trucks and railcars occur within the HWMU and under the fabric mesh canopy to minimize wind dispersal;
- Loading and unloading activities are supervised by trained WRC employees;
- Chock blocks or similar devices are placed under the wheels to prevent vehicle movement during loading and unloading; and
- Emergency brakes are engaged.

All transport vehicles are loaded and unloaded within the HWMU and under the fabric mesh canopy.

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7.3.2 Run-On and Run-Off

The HWMU is surrounded by a minimum 16-inch high berm to prevent storm water run-on. The surface of the HWMU is sloped so that storm water that falls on the unit is collected and contained in the southwest portion of the HWMU where it is pumped to an on-site wastewater treatment unit (WWTU).

Water may temporarily collect on the HWMU concrete surface from the following sources:

- Rinse water from the cleaning of shipping containers, rail cars, roll-off interiors and delivery truck tires; and
- Storm water.

Parking lots and other asphalt or paved concrete areas on the facility property are sloped to direct storm water flow to a catch basin located immediately north of the HWMU. The catch basin connects to a storm water discharge pipe that runs from the catch basin, through a storm water conveyance that runs beneath the HWMU, to the southwest parcel and into a natural drainage area. Refer to Site Plan SP-MW01, in Section 4.

A letter to WRC dated July 29, 1994, from Samuel Rector of the Arizona Department of Environmental Quality (ADEQ), Water Quality and Assessment Unit, states that the run-off of water from the parking lot to the drainage ditch is not a discharge to navigable water since the ditch is not considered a water of the U.S. Therefore, the run-off of water is exempt from National Pollutant Discharge Elimination System (NPDES) storm water permit requirements.

7.3.3 Water Supply Protection

The HWMU has been designed and constructed to prevent fluids from entering the vadose zone. The design and construction of the unit used for processing the incoming recyclable materials is described in Section 4, Miscellaneous Units Description.

Both the east and west sections of the HWMU are constructed of various layers of compacted soil, concrete, geomembrane liner material, concrete sealant and joint and crack caulking/sealants that, together, comprise a system that is effective in preventing the migration of hazardous constituents into the underlying groundwater.

The Concrete Management Program (CMP) is designed to increase the likelihood that constituent concentrations in the HWMU's concrete floor, the soil layer between the concrete and the underlying membrane liner(s), and the soil below the lowermost liner will meet closure criteria set forth in Section 11.4 of the Closure Plan or criteria for clean closure. The CMP will not be in effect once the Closure Plan takes effect following notice of final closure in accordance with Section 11.1 of the Closure Plan. The data generated in accordance with the sampling and analysis procedures of the Closure Plan will be used to determine whether the required closure criteria have been met. The criteria for clean closure include compliance with minimum or ADEQ-approved GPLs and residential (pre-determined or risk-based) soil remediation standards. The applicable criteria for closure as described in Section 11.4 of the Closure Plan include compliance with minimum or ADEQ-approved GPLs and non-residential (pre-determined or risk-based) soil remediation standards.

Existing data (Appendix H-A) indicate that average concentrations of metals, except arsenic, are well below the clean closure criteria, i.e., the concentrations are well below minimum GPLs and well below residential pre-determined soil remediation standards. Arsenic is unique because its pre-determined residential and non-residential standards are both 10 mg/kg and that is the lowest concentration of all metals for which pre-determined soil remediation standards have been established. Still, it is unlikely that the average arsenic

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concentration will exceed 10 mg/kg within the foreseeable future. Whenever it exceeds the pre-determined 10 mg/kg standard, a risk-based standard will be developed in accordance with R18-7-206 and submitted to ADEQ for approval.

Based on the average concentrations shown in Appendix H-A, arsenic is the only metal likely to exceed a pre-determined residential soil remediation standard and require a risk-based standard. If other metals exceed the pre-determined residential standards, WRC may develop risk-based standards in accordance with R18-7-206 and submit the standards to ADEQ for approval. WRC may develop the risk-based standards for either residential or non-residential use.

In addition, the facility has several groundwater monitor wells to assess groundwater quality. A detailed discussion of the groundwater monitoring program is included in Section 9.

7.3.4 Equipment and Power Failure

Equipment and power failure procedures are discussed in Section 10.5.3 of the Contingency Plan.

7.3.5 Personal Protective Equipment

WRC provides personal protective equipment (PPE) to each operations, maintenance, and laboratory employee. The PPE is issued for use during routine operations and for emergency situations. A detailed description of the PPE available at WRC is provided in the Contingency Plan (Section 10). The Contingency Plan also includes a description of the WRC PPE assigned to employees for use at the facility. WRC's PPE capabilities and locations list is provided in Section 10, Attachment B.

7.3.6 Atmospheric Releases

WRC eliminates or minimizes, to the extent possible, hazardous emissions to the atmosphere by following applicable documented policies, plans, and procedures. Control equipment used includes dust collectors, filters, the fabric mesh canopy, mobile sweepers and washers, and other housekeeping equipment.

An analysis of ambient air quality impacts utilizing refined dispersion modeling was provided in Part III, Attachment M of the permit application. This evaluation concluded that, with the exception of short-term nickel compound impacts, the predicted off-facility concentrations were uniformly below stringent health-based benchmarks for both acute and chronic inhalation exposure. Further conservative assessments of short-term nickel compound dispersion indicated that while predicted benchmark exceedances might occur between 1 and 18 hours per year, depending on location, these levels would be confined to the industrial areas immediately to the west and east of the WRC facility. Consequently, there was no appreciable likelihood of adverse impacts to the public caused by WRC particulate and HAPs emissions.

Procedures and equipment to minimize atmospheric releases include the following:

- MAC Baghouse (primary filter) and a secondary filtration unit on the TCU process;
- Discharging contents of the mobile sweeper in a dust prevention enclosure;
- Operating equipment at slow speeds;
- Using the side brush on the sweeper only when needed;
- Keeping fabric mesh canopy doors closed when not in use;
- Keeping the loader bucket low to the ground when unloading material;
- Keeping intermediate bulk containers (IBCs) low to the ground when being unloaded;

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- Use of agglomerating agents on recyclable materials discharged from the thermal concentrating unit (TCU) and on recyclable materials during solar drying;
- Sweeping open areas under the fabric mesh canopy regularly; and
- Using rakes on dry material instead of the tractor-operated tiller.

WRC monitors for airborne pollutant emissions, in accordance with the requirements of its air permit issued by Maricopa County Air Quality Department (MCAQD).

7.4 Procedures to Prevent Acceptance of Ignitable, Reactive, or Incompatible Wastes

This section demonstrates compliance with the requirements for prevention of accidental ignition or reaction of ignitable, reactive, or incompatible wastes [40 CFR § 270.14(b)(9)].

Procedures are in place to evaluate each incoming load to assess if the generator has provided the contractually specified material and if the material is compatible with available PPE and the construction of the HWMU. Incoming materials undergo extensive pre-acceptance evaluations, including testing for pH, organic vapors, free hydrogen cyanide gas, ignitability, radioactivity, and free liquids. Materials that exceed these pre-designated limits are not accepted. Detailed procedures for evaluating incoming materials are discussed in the Waste Analysis Plan (WAP) (Section 5).

WRC's recyclable materials pre-acceptance evaluation tests help to mitigate the potential for accidental hydrogen cyanide (HCN) off-gassing by ensuring that tests of each incoming shipment confirm that it is free of any detectable quantity of HCN, (which WRC believes to be an indicator of improperly treated waste), and rejecting any shipment where HCN is detected to prevent it from entering WRC's recycling process.

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