

ATTACHMENT 9 PROCEDURES FOR HANDLING IGNITABLE, REACTIVE OR INCOMPATIBLE WASTE

9.1 EVAPORATION TREATMENT UNIT

The ETU has been in service since 1988, under both RCRA interim and permitted status. The Unit is located at least 50 feet from the nearest facility boundary. Precautions are taken to prevent accidental ignition or reaction of ignitable or reactive waste. Waste streams that are treated at the ETU are characterized at the point of generation using the NASA Individual Waste Profile Sheet (WIWPS) and procedures specified in the Waste Analysis Plan (WAP). The WIWPS form is initiated by the waste generator and provides the waste profile and compatibility information to ensure appropriate disposal in the unit. The WIWPS information is provided by knowledge of the waste and/or analyses and includes chemical composition, chemical concentration, reactivity, pH, flashpoint, density, solubility, physical description, and description of the generation process. In addition to knowledge of the process provided by the generator and the procedures listed in the WAP, guidance documents are utilized to determine waste properties. The documents can include, but are not limited to: Chris Manual, Dangerous Properties of Hazardous and Industrial Materials, Hawley's Condensed Chemical Dictionary, Merck Index, MSDS, and waste code information from 40 CFR. Any waste that is not compatible with ETU operations is accumulated separately for off-site disposal per regulatory requirements (i.e., satellite and 90-day area accumulation).

The ETU is fenced and gated with controlled access to the actual operating unit. This ensures that smoking or any other heat source is not permitted at the Unit. There are no open flames, cutting or welding, hot surfaces, frictional heat, or sparks allowed at the Unit that could cause accidental ignition or reaction of ignitable or reactive wastes. "No smoking" signs are prominently displayed on all sides of the fenced enclosure.

To prevent hazardous conditions within the tanks, reactive and ignitable wastes are prohibited from entry into the ETU. Incompatible wastes are diluted with site water as a preventative measure to avoid conditions that may threaten the integrity of the tank liners. Additionally, water is added to the tank systems as ballast when necessary to keep the liner system stable and intact. Based on historical analytical data from the tank systems, the dilution procedure provides a safe and compliant ETU operational environment. The waste profiling and dilution procedures minimize any liner incompatibility problems. However, to ensure that the ETU waste does not damage the structure, an annual liner evaluation process has been in-place since operational start-up. These liner evaluations utilize material samples that are suspended in the tank system. Liner material analyses include a visual inspection for cracks, swelling, discoloration, or other degradation indications, thickness, tensile properties, hardness, and specific gravity. Historically, the liner material has not shown any indication of excessive wear or incompatibility, either short-term or long-term, with the ETU waste streams.

9.2 FUEL TREATMENT UNIT

The FTU has been in operation since 1995. The Unit is located at least 50 feet from the nearest facility boundary. Waste acceptance at the FTU is limited to hydrazine(s) contaminated waste. Because there are no other constituents in the waste other than hydrazine(s), dilute citric acid (used

as fuel scrubber descaler), and dilution water, there is no potential for incompatibility reactions. No incompatible wastes enter the system since all propellant hydrazines are compatible both as neat or aqueous mixtures, and these wastes are compatible with the glass lining of the tanks, the stainless steel of the piping and equipment, and the Teflon based soft goods. However, hydrazine(s) is a potential reactive or ignitable constituent, so dilution to a concentration less than 10 percent hydrazine(s) is performed with water to render constituents non-reactive and non-ignitable. The calculations indicating dilution to 10% renders hydrazine non-reactive and non-ignitable are provided in Appendices 22-A and 22-C of the Permit Application.

The dilution of hydrazine(s) with water to less than 10 percent prevents accidental ignition or reaction of ignitable and reactive waste. In addition, the entire Unit is located in a remote location, is fenced and gated, and is locked at all times to prevent unauthorized access. These security measures ensure that no open flames, cutting or welding, hot surfaces, frictional heat, or sparks are present in the Unit. To further prevent potential ignition or reaction, the entire area is off-limits to smoking and has "No Smoking" signs prominently posted on all sides of the Unit fencing.