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Johnston Atoll Chemical Agent Disposal System (JACADS)

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1. Introduction

The Johnston Atoll Chemical Agent Destruction System, known as JACADS, is the first full-scale destruction plant. At JACADS, the U.S. Army will safely destroy the various chemical munitions and bulk agent containers stored at JACADS. The types of chemical munitions which will be destroyed at JACADS are shown at Table 1.

2. Facility and Process Design

a. The JACADS process involves separating the explosives and agent from the munitions and then incinerating the various components. The main demilitarization operations take place in a two story structure designed to provide multiple levels of containment. When munitions are processed that contain both agent and explosives, all work, such as removing explosives or opening the agent cavity of rockets or land mines, is performed inside of the explosives containment room. This room, which is constructed of steel reinforced concrete, provides total containment from the effects of an unlikely detonation of the munition being processed. Total containment means no release of vapor, fragments or blast pressure. The remainder of the plant, where agent-filled projectiles and bulk containers are transferred for agent draining and preparation for feeding into the furnaces, is provided with vapor containment.

b. The route the items follow in the plant is dependant on the munition type being processed. Munition disassembly and draining of chemical agent is accomplished on the second level. The incinerator, three furnaces, and control systems are located on the first level of the building. Bulk items such as bombs and ton containers by-pass the explosive containment room and are conveyed directly to the munitions processing room for agent draining. The drained agent is collected in tanks on the first level and from there the agent is fed to a liquid incinerator. The liquid