NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T

(pursuant to NAC 445A.236)

Permittee Name: US Department of the Army
Hawthorne Army Depot (HWAD)
Plasma Ordnance Demilitarization
System (PODS)
1 South Maine Avenue
Hawthorne, Nevada 89415

Permit Number: NEV2003516

Description of Discharge:

Location: The Hawthorne Army Depot PODS Facility is located northwest of Hawthorne, in Mineral County, Nevada.

Latitude: 38◦35'N.; Longitude: 118◦39'W. Outfall 001, 002
Section 32, T. 9N., R. 30E.

General: The US Army Hawthorne Army Depot (HWAD Permittee) proposes to discharge from the PODS water treatment system to a one acre, 60 mil HDPE double lined evaporation pond which is ten feet deep for disposal via evaporation (zero discharge), and the non-contact cooling tower blowdown water discharges from the PODS facility to two 60 mil HDPE lined 220,000 gallon storage ponds for storage for use in dust suppression on the HWAD roads. Two monitoring wells (one downgradient and one upgradient) have been installed to monitor water quality proximal to the PODS evaporation pond.

PODS is located in Building 117-2 in the Western Area Demilitarization Facility (WADF) at the Hawthorne Army Depot.(HWAD). The PODS Facility consists of a plasma furnace with air pollution control equipment, and a water treatment system. The plasma furnace consists of computerized controls, a primary processing chamber, a slag collection chamber, two plasma arc torches, and a feed system. The air pollution control equipment (APCE) processes organics for the destruction or removal of volatile metals, acid gas, particulates and NO_x. The water treatment system provides removal of total metals, total dissolved solids, and total suspended solids from the wastewater generated by the air pollution control equipment.

PODS will be used to safely destroy a wide range of obsolete and unserviceable munitions, detonators, fuses, primers, smoke and incendiary munitions, pyrotechnic and other ordnance using plasma technology. These materials are considered RCRA hazardous wastes

due to their explosive/reactive components, or because of metals content or organic hazardous constituents. The advantage of PODS over conventional incineration technologies is that it can successfully immobilize heavy metals in slag.

Characteristics: Two wastestreams generated at the PODS facility are the water treatment system effluent and the non-contact cooling system blowdown water. The water treatment system effluent results from the "blown down" scrubber liquor from the wet air pollution control equipment (APCE) containing particulates, dissolved metals and nitrate concentrations. Removal of particulates and total metals and total dissolved metals from the wastestream from the water treatment system is accomplished via chemical precipitation, followed by a solid-liquid separation. Following water system treatment the discharge of treated water effluent contains nitrates (2,500 - 5,500 ppm), TDS (500 - 1000 ppm) and TSS (100 - 1,000 ppm). This effluent is discharged to a 60 mil HDPE double lined evaporation pond one acre in size, and 10 feet deep.

The PODS wastewater from the "blown-down" scrubber water from the wet air pollution control equipment which contains particulate and dissolved metals, is stored in an equalization tank prior to treatment. This tank also receives rejected water from the filter press, sand filter, and any water spilled onto the floor and floor drain sump. The first two stages of water treatment utilizes a liquid-solid separation by coagulation, flocculation and precipitation which chemically makes the metals insoluble and flocculates the minute particles into a dense mass that settles readily.

The first stage operates at an elevated pH to soften the water, remove calcium, magnesium, sulfate, carbonates and heavy metals. The precipitated solids are removed in the initial clarifier. The pH is then reduced to near neutral to precipitate aluminum, trivalent chromium and other metals. These precipitated metals are removed (second stage) in the secondary clarifier (high rate circular up-flow) which settle solids in the bottom. Solids are removed and pumped to a filter press. Effluent is taken off of the top of the clarifiers and run onto a gravity fed sand filter to remove any microscopic metal precipitates. The clarifier solids are pumped to a filter press, compacted, dewatered and placed in 55 gallon poly drums and sealed. The filtrate from the dewatering is then recycled back into the equalization tank. The filtered effluent from the clarifiers is discharged to the evaporation pond.

The non-contact cooling water is supplied by the HWAD municipal water supply, and meets State drinking water standards. This water is discharged to the two 60 mil HDPE lined storage ponds for storage and use in dust suppression.

Flow: The PODS water treatment facility is designed for a 15 GPM 30-day average flow, and a 15 GPM daily maximum flow. Outfall 001

The cooling water discharge is designed for a 24 GPM 30-day average flow. Outfall 002

Water used for dust suppression, Outfall 003 has no flow limit.

Monitoring Required:

Outfall 001 - PODS water treatment system treated effluent wastewater discharged to the PODS lined evaporation pond.

FLOW: GPM	15 GPM Daily maximum	Monthly
pH:	Monitor & Report SU	Monthly
NITRATE as N:	Monitor & Report mg/L	Monthly
NITRITE as N:	Monitor & Report mg/L	Monthly
TDS:	Monitor & Report mg/L	Monthly
CHLORIDE:	Monitor & Report mg/L	Monthly
Priority Pollutant Metals: 8260	Monitor & Report mg/L	4th Quarter (annual)
Leak Detection System Collection Sump:	150 gpd	Weekly
Pond Liner Inspection: (Visual inspection)*	Monitor and Record in a log	Weekly

Outfall 002 - Cooling tower system blowdown water to storage pond.

FLOW: GPM	30 GPM daily maximum	Monthly
TDS:	Monitor & Report mg/L	Monthly
Pond Liner Inspection: (Visual inspection)*	Monitor and Record in a log	Weekly

Outfall 003 - Dust suppression, water from PODS cooling water ponds (002).

FLOW:	Monitor & Report Total Gallons based on number of truck loads	Monthly

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*A copy of the log shall be available for insection by NDEP staff or their Agents.

Receiving Water Characteristics: Discharges from the PODS water treatment system is to a double lined pond (zero discharge); discharges of cooling water is to a lined storage pond from which water may be used for dust suppression on HWAD roads. The groundwater at the site is approximately 20 feet below groundsurface fluctuating with the rise and fall of groundwater in response to seasonal weather and Walker Lake elevations. A confining clay layer near Walker Lake has been identified which is up to 30 feet thick, which restricts vertical groundwater flow between the shallow aquifer and the aquifer below. Groundwater meets drinking water standards.

Two new groundwater monitoring wells have been installed; one up gradient and one downgradient. Monitoring is required for TDS,
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Chlorides, Nitrate as N, depth to groundwater and groundwater elevation.

Procedures for Public Comment:

The Notice of the Division's intent to issue the permit authorizing the facility to discharge: to lined ponds, and to groundwaters of the State (dust suppression) subject to the conditions contained within the permit, is being sent to the **Mineral County Independent News and the Reno Gazette Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the date of the publication of the public notice, by February 20, 2004. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination:

The Division has made the tentative determination to issue the proposed permit.

Schedule of Compliance and Special Conditions:

An Operations and Maintenance Manual (O & M) for the ponds, water use for dust suppression, and monitoring, including groundwater required shall be submitted to the Division for review and approval by July 30, 2004.

Rationale For Permit Requirements

Monitoring is required to assess the level of treatment being provided and to ensure that Waters of the State are not degraded.