HSS Independent Activity Report - Rev. 0	**Report Number:** HIAR NNSS-2014-03-03

Site: Nevada National Security Site (NNSS)	**Subject:** Office of Enforcement and Oversight's Office of Safety and Emergency Management Evaluations Activity Report for Operational Awareness Oversight of the Nevada National Security Site

Dates of Activity :	03/03/2014 - 03/06/2014	**Report Preparer:**	William Macon

Activity Description/Purpose:

The Office of Health, Safety and Security (HSS), Office of Safety and Emergency Management Evaluations (Independent Oversight), performed an operational awareness site visit to observe activities at the National Criticality Experiment Research Center (NCERC) and coordinate future assessment activities with the NNSS Field Office.

Result:

1. The Independent Oversight Site Lead observed the conduct of operations at NCERC for the Flattop assembly, which included a 6,000 second high power free run and re-entry into the Flattop operations area to retrieve irradiated samples and move them to another location to prepare them for shipment. The Independent Oversight Site Lead noted minor inconsistencies in the Radiation Work Permits regarding airborne radiation hazards and controls, and discussed these inconsistencies with the Radiation Control technician, who indicated that revisions to radiological controls were planned based on operating experience data collected since Flattop commenced operations at NNSS over a year ago. All four critical assemblies at NCERC are now operational. Independent Oversight had no concerns with operations or safety of the observed activities.

2. The Independent Oversight Site Lead also toured the Dense Plasma Focus (DPF) facility in Area 11. DPF recently resumed deuterium/tritium fusion operations after a 4-year hiatus and had performed operations the previous week, reaching 10^{13} reactions. DPF had also received a getter (a small cylinder of uranium hydride containing approximately 1,000 curies of tritium) the previous week that contained removable contamination below reportable levels; the getter was decontaminated and installed the following day and operations resumed. The getter requires heating to high temperatures to release the deuterium and tritium gas into the sealed DPF chamber and then reabsorbs the gas upon cooling following a shot. The other hazard of DPF operation is the 14.1 million electron volts (MeV) neutrons produced by the fusion reaction; personnel leave the facility and safely control operations from more than 800 feet away during a shot. Independent Oversight had no safety concerns.

HSS Participants	**References**
1. William Macon (lead)	

Were there any items for HSS follow up? ☒Yes ☐No

HSS Follow Up Items

1. Independent Oversight will coordinate dates with NNSS for a work planning and control targeted review for FY 2015.