



U.S. ARMY CHEMICAL MATERIALS AGENCY

Newport Chemical Depot

The Newport Chemical Agent Disposal Facility Closure

The Newport Chemical Agent Disposal Facility (NECDF) at the Newport Chemical Depot (NECD) in Newport, Ind., successfully and safely neutralized the 1,269 tons of chemical nerve agent VX that had been stored at NECD since 1968. Neutralization operations began May 5, 2005, and chemical stockpile elimination was achieved Aug. 8, 2008.

Closure activities presently underway are in accordance with a closure plan reviewed and approved by the Indiana Department of Environmental Management (IDEM) and governed by environmental permits and Army regulations in order to ensure the long-term protection of human health and environment. In preparation for closure, NECDF evaluated decontamination technologies and prepared detailed plans and procedures for the transition of personnel from operations into closure and for the decontamination, dismantlement and demolition of facilities.

Closure at NECDF is divided into four phases with specific goals for each phase. Work packages provide the work force with detailed guidance for achieving these goals at each phase of the project.

Closure Phase One

Phase one activities focus on initial cleanup and removal of agent processing systems. Facility decontamination is initiated by performing a flush of the chemical agent processing systems with a caustic solution. The solution is flushed through the facility piping and into the neutralization reactors where it is processed and tested to confirm the absence of chemical agent. Completion of this activity initiated the formal request to terminate NECDF's chemical agent surety status. The request was approved Oct. 24, 2008, by the Department of the Army.

The termination of surety is followed by continued decontamination and dismantlement of equipment directly exposed to VX chemical agent during operations. Pumps, piping and holding tanks, including agent holding tanks, neutralization reactors, caustic and hydrolysate holding tanks are pressure washed and steam cleaned. Following decontamination, workers carefully remove the agent processing system pumps, piping and instrumentation. This equipment is packaged into waste drums in preparation for final treatment and disposal. During phase one, the areas and equipment used to store hydrolysate, the byproduct of the chemical neutralization process, are also decontaminated. Pumps, piping and tanks are cleaned and removed in preparation for final treatment and disposal. This area is then closed in accordance with the Resource Conservation and Recovery Act (RCRA) permit issued by IDEM.



For more information, contact the **Newport Chemical Stockpile Outreach Office**
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Workers removed the process auxiliary building (PAB) tank as part of phase one operations. The PAB will be demolished.



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(continued)

Closure Phase Two

Phase two focuses on final decontamination and dismantlement of all other areas and equipment used in the neutralization of VX agent. During phase two, workers decontaminate the walls, floors, stairs, walkways and external surfaces of remaining equipment to support lowering worker personal protective equipment requirements. Equipment is removed as necessary to allow complete access to all areas of potential contamination. In addition, the Ton Container Line (TCL) equipment, which was used during operations to decontaminate the empty steel containers in preparation for recycling, is cleaned and dismantled. A performance standard for decontamination, utilizing a health-based risk assessment approach, was developed to ensure the safety of personnel and the environment following the shut down of the NECDF air exhaust filtration system. Monitoring is performed during a temporary shut down of this air exhaust filtration system to demonstrate successful decontamination. Once monitoring has demonstrated that VX agent has been successfully removed below 1 short-term exposure limit (STEL) or 0.00001 mg/m³, air exhaust filtration is terminated and demolition of facilities is initiated. A 1 STEL reading is similar in perspective to finding one grain of salt in 34 freight cars full of potato chips. This represents the completion of closure phase two.



Employees are working at the Intermodal Storage Area located in the Chemical Limited Area at NECDF. Currently, this area is used for temporary storage of roll-off containers until off-site shipment for disposal.

Closure Phase Three

Phase three focuses on the demolition of facilities used to neutralize VX agent and on the final disposal of all hazardous waste materials. In preparation for demolition of the agent processing building, electrical service is terminated. The extensive exhaust filtration system that was used during agent operations is disassembled. Each filtration unit is decontaminated and carefully monitored in preparation for final disposition. A demolition subcontractor then demolishes the remaining buildings and equipment where agent neutralization or storage of hydrolysate had been performed.

Closure waste is any waste resulting from the removal of equipment and buildings and is generated during all three phases of closure. These wastes are decontaminated prior to packaging, but some may contain trace levels of agent. Closure waste is handled safely and in accordance with regulations both on site at NECDF and off site at commercial permitted treatment and disposal facilities. Once these closure wastes are safely transported off site for final disposal, monitoring is no longer required at NECDF.

At the end of this third phase of closure, the Army will submit a report that demonstrates that closure activities have been conducted in accordance with the IDEM-approved closure plan and that the site meets all of the required cleanup standards. Additionally, this report will be reviewed and certified by a professional engineer. Upon review and acceptance of the report by IDEM, the NECDF RCRA permit will be terminated.

Closure Phase Four

Phase four is defined as administrative closeout. This phase focuses on disposition of government property, closeout of government contracts and formal records archiving. By the end of this phase, the remaining buildings which had supported personnel, laboratory and maintenance activity are all returned to ownership of NECDF.

Conclusion

The safe and efficient closure of NECDF marks a significant milestone in our nation's history. The cornerstone of closure at NECDF remains the same as during operations - the safety of the workers, surrounding communities and the environment.