



DEPARTMENT OF THE NAVY

CRANE DIVISION  
NAVAL SURFACE WARFARE CENTER  
300 HIGHWAY 361  
CRANE, INDIANA 47522-5000

IN REPLY REFER TO:

5090  
Ser 095/2014

2 JAN 2002

U.S. Environmental Protection Agency, Region V  
ATTN: Mr. Hak Cho, Chief (DW-8J)  
Corrective Action Section  
Waste Management Branch  
77 West Jackson Blvd.  
Chicago, IL 60604

Dear Mr. Cho:

Crane Division, Naval Surface Warfare Center (NSWC Crane) submits the signed U.S. Environmental Protection Agency (EPA), Indiana Department of Environmental Management, and NSWC Crane Work Sharing Agreement. This document is provided as enclosure (1). The permit required Certification Statement is provided as enclosure (2).

NSWC Crane point of contact is Mr. Thomas J. Brent, Code 09510, telephone 812-854-6160.

Sincerely,

  
James M. Hunsicker  
Director, Environmental  
Protection Department  
By direction of the Commander

Encl:

- (1) U.S. EPA, IDEM, and NSWC Crane Work Sharing Agreement
- (2) Certification Statement

Copy to:  
ADMINISTRATIVE RECORD  
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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

James Husick  
SIGNATURE

Environmental Protection Department Manager  
TITLE

1/02/02  
DATE

**U.S. EPA / IDEM Work Sharing Agreement  
for Corrective Action Activities  
at Naval Surface Warfare Center - Crane Division  
IN5 170 023 498  
December 2001**

## **I. Introduction**

The Indiana Department of Environmental Management (IDEM) is currently renewing the entire RCRA Permit for Naval Surface Warfare Center (NSWC) as the State of Indiana has been authorized to administer the program in lieu of U.S. EPA. The 1995 U.S. EPA permit established the Hazardous and Solid Waste Amendment (HSWA) Corrective Action Requirements and Compliance Schedules obligating the U.S. Navy to perform RCRA Facility Investigations (RFIs) at 33 Solid Waste Management Units (SWMUs) and one Area of Interest (AOI), to conduct Corrective Measures Studies, and to implement corrective measures if needed. Remedial activities have already begun at many of these units and will continue under the renewed State permit.

Due to the complex nature of the various stages of corrective action at NSWC, the U.S. EPA and IDEM will jointly manage corrective action activities at NSWC under the state permit as outlined in this Agreement in order to optimize the use of the two agencies resources. The Agreement also contains transition points for oversight of the various projects from U.S. EPA to IDEM.

The U.S. EPA may direct NSWC directly for specific Solid Waste Management Unit corrective action activities as outlined and allowed for under this Agreement. This Agreement will ensure that NSWC will not be subjected to conflicting, repetitive, or dual regulation and will ensure that coordination and agreement of all corrective action activities is maintained between the three parties of U.S. EPA, IDEM, and NSWC.

## **II. Solid Waste Management Units (SWMUs)**

This section lists the SWMUs identified in the IDEM RCRA Corrective Action permit and describes the current activities at each SWMU as of this writing. U.S. EPA or IDEM may at any time request technical assistance from each other during any stage of corrective action activity at any of the listed SWMUs regardless of which Agency has assumed the lead role for the SWMU. All 3 parties will be copied and notified of any and all corrective action activities and correspondence related to these SWMUs.

The current status of corrective action activity and a description of workload sharing and transitioning between the two Agencies is presented below for each SWMU. These are current as of the date of this Agreement.

In general, the U.S. EPA will retain the lead role at SWMUs where corrective action activities are currently underway. This is to help ensure that NSWC will have regulatory continuity for existing active projects and will avoid increased cost and schedule delays associated with active project transitions. In order to maintain such continuity, any new SWMU investigation projects will fall under IDEM oversight.

### **SWMU 01/12: MUSTARD GAS BURIAL GROUNDS (MGBG)**

Two previous investigations have removed bomb casings from this site. A RCRA Facility Investigation (RFI) incorporating a baseline human health and a screening level ecological risk assessment (RA) is being prepared for all media to determine the need for further action. The RFI fieldwork and report have been funded for 2001.

#### **Work sharing/transitioning activities**

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

### **SWMU 02/11: DYE BURIAL GROUNDS (DBG)**

An RFI incorporating a baseline human health and a screening level ecological RA has been prepared for all media to determine the need for further action. A RCRA cap has been placed as an Interim Measure (IM). A future Corrective Measures Study (CMS) will determine if the cap can be used as a final remedy. The proposed date for the RFI fieldwork is Summer 2001.

#### **Work sharing/transitioning activities**

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

### **SWMU 03/10: AMMUNITION BURNING GROUNDS (ABG)**

A Natural Attenuation Study of the ground water at this SWMU is ongoing. Expected completion date of field activities is 2001. A multimedia RFI incorporating a baseline human health and a screening level ecological RA/CMS is planned for the Little Sulfur Creek area associated with the ABG area and the Old Jeep Trail (OJT) area. OJT RFI fieldwork will begin Summer 2001. A CMS for the ABG and OJT is planned for 2002. Ground water compliance monitoring is addressed under the Subpart X Permit. Work is ongoing to determine if composting will occur at this site.

#### *Work sharing/transitioning activities*

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities and will maintain the lead for closure activities at this regulated unit until such time that the IDEM reissues the RCRA Subpart X permit.

### **SWMU 04/02: McCOMISH GORGE (MCG)**

Undefined amounts and types of garbage and trash were buried at this site. Burial debris could include wood, paper, construction material, plaster-filled warheads, metal shavings, and industrial wastes. Previous work has partially delineated the extent of the debris. The U.S. EPA has approved the Quality Assurance Project Plan (QAPP) and RFI Risk Assessment Workplan to do additional multimedia sampling, delineate the fill area, and determine the need for future action. The field work has been completed and a report will be submitted in 2001.

#### *Work sharing/transitioning activities*

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

### **SWMU 05/03: OLD BURN PIT (OBP)**

The Old Burn Pit encompasses a narrow stream valley where material was burned in a depression or pit and the ash and metallic objects were buried in a gully to the north of the burning pit. The rubbish included wood, paper, building material and industrial wastes. Previous work has included soil and groundwater sampling and removal of some of the debris. The U.S. EPA has approved the QAPP and RFI Risk Assessment Workplan to do additional multimedia sampling and determine the need for further action. The fieldwork is complete and a report will be submitted in 2001.

#### *Work sharing/transitioning activities*

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

### **SWMU 06/09 DEMOLITION AREA (DEMO)**

High-explosives waste munitions are disposed of by detonation at this site. Previous work has included soil and groundwater sampling. NPDES permitted sedimentation ponds and surface runoff ponds are in place. U.S. EPA has reviewed an RFI, QAPP, and Workplan developed to determine the source area in the soils that is causing a manganese hotspot in the ground water, and determined that the manganese hotspot work should be deferred for now, and incorporated into the unit Closure Plan. Ground water detection monitoring is addressed under the Subpart X permit.

#### *Work sharing/transitioning activities*

U.S. EPA will maintain the lead for closure activities at this regulated unit until such time that the IDEM reissues the RCRA Subpart X permit.

### **SWMU 07/09 OLD RIFLE RANGE (ORR)**

This ten-acre SWMU consists of a closed firing range (rifle and pistol ranges), and an open field with three burning pits. Each pit has several burning pans in which "Yellow D" explosive and other explosive contaminated material is burned. Prior to July 1986, burning was conducted on open ground. This area was also utilized for bomb cook-off testing, and "Open Burning". The high explosive (yellow D/ammonium picrate) bulk and loaded projectiles are burned in clay lined steel pans. It was reported that black powder, red and white phosphorous had been destroyed in this area. U.S. EPA has approved an RFI, QAPP, and Workplan developed to delineate the extent of soil contamination in the backstops of the old rifle and old pistol ranges. Fieldwork is currently taking place. Ground water compliance monitoring is addressed under the Subpart X Permit. Burning pits soils have not yet been addressed.

#### *Work sharing/transitioning activities*

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities and will maintain the lead for closure activities at this regulated unit until such time that the IDEM reissues the RCRA Subpart X permit.

### **SWMU 08/17: LOAD AND FILL AREA, B-106 POND (B106)**

Building 106 contains a cleaning process, consisting of a caustic wash, a degreaser, and an acid wash. Prior to 1972, this wastewater was discharged into a small unlined retention pond. The retention pond overflowed into surface drainage. Sometime after 1972 the pond was connected to a neutralizing system that discharged to the sanitary sewer. In 1981, cooling water from degreasers was discharged to a storm drain until the discharge was connected to the sanitary sewer in 1982. The Building 107 floor drains also discharged to the pond. An RFI is planned to address all media. The RFI investigation of this SWMU as well as SWMU 11/00 and SMWU 18/13 may be included under one plan due to the close proximity of the units to one another. This RFI is not currently scheduled.

Work sharing/transitioning activities

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

**SWMU 09/05: PESTICIDE CONTROL AREA/ R-150 TANK SITE (PCA)**

A waste tank has been removed and both soil and groundwater sampling have shown low levels of several constituents. U.S. EPA has approved the QAPP and RFI Risk Assessment Workplan to do additional multimedia sampling and determine the need for further action. The field work is complete and report will be submitted in 2001.

Work sharing/transitioning activities

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

**SWMU 10/15 ROCKEYE (RKI)**

Previous work has shown both soil and groundwater contamination. Composting of explosive contaminated soils at this SWMU is in progress. U.S. EPA has approved the QAPP and RFI Risk Assessment Workplan to do additional multimedia sampling and determine the need for further action. The field work is complete and report will be submitted in 2001.

Work sharing/transitioning activities

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

**SWMU 11/00: OLD STORAGE, B-225 (B225)**

This was the site of Building 225, which was destroyed by a fire on 13 July 1976. Stored at the building were pentachlorophenol, paints, sodium fluorescein dye, solvents, and various other items. Debris from the fire was cleaned up and the site currently remains vacant. An RFI is planned at this site for all media. The RFI investigation of this SWMU as well as SWMU 08/17 and SMWU 18/13 may be included under one plan due to the close proximity of the units to one another. The RFI is not currently scheduled.

Work sharing/transitioning activities

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

#### **SWMU 12/14: MINE FILL A (MFA)**

Contamination from past operations includes soil, sediments, and possibly groundwater. Composting of explosives contaminated soil has been completed. An Interim Measures Report (IMR) is being prepared. An IM Workplan for source removal has been approved for the adjacent Battery Site. An RFI incorporating risk assessment will be conducted for the MFA area. The RFI work plan is funded for 2001.

#### **Work sharing/transitioning activities**

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

#### **SWMU 13/14: MINE FILL B (MFB)**

Contamination from past operations includes soil, sediments, and possibly groundwater. Explosives contaminated soils at this SWMU are currently being composted and will be completed in 2001. An Interim Measures report will be prepared. Upon completion of the composting an RFI/RA will be conducted for the MFB area. The RFI work plan is funded for 2001.

#### **Work sharing/transitioning activities**

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

#### **SWMU 14/00: SANITARY LANDFILL/LITHIUM BATTERY BURIAL (SL&LB)**

Lithium batteries originally buried at the site that is now the Bioremediation Facility (SWMU 33) have been removed by IM. U.S. EPA has approved a request for No Further Action.

#### **Work sharing/transitioning activities**

No further corrective action activities required.

#### **SWMU 15/06: ROADS AND GROUNDS AREA (R&GA)**

This SWMU consists of an assortment of buildings used to store fuels, oils, and pesticides in support of the maintenance of the facilities' roads and grounds. An asphalt batch plant was also located here prior to 1972. Further, an assortment of material has been deposited into two ravines. The material is thought to be construction rubble and other debris, possibly including fuel oil tanks and pesticide residues. The unknown contents of this site, along with the pesticide residues, indicate that the site could potentially have contaminants in the soil that could migrate to surface water or groundwater. A paved parking area has been approved as an IM to limit leaching of contaminants to ground water. An additional IM Workplan is being prepared to address the hillside debris.

Work sharing/transitioning activities

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

**SWMU 16/16: CAST HIGH EXPLOSIVES FILL/B146 INCINERATOR**

This complex has been used for loading, demilitarization, and renovation of a variety of munitions. A variety of contaminants have been released to the soil, sediments, surface water, and possibly groundwater. Interim Measures work has removed large quantities of contaminated soil and sludge. An RFI for all media is planned to determine the need for further action. The RFI Workplan is funded for 2001.

Work sharing/transitioning activities

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

**SWMU 17/04: PCB CAPACITOR BURIAL/POLE YARD (PCB-PY)**

An IM workplan is being developed to address PCB soils contamination. A RFI will be scheduled and funded at a later date.

Work sharing/transitioning activities

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

**SWMU 18/13: LOAD AND FILL AREA BUILDINGS (L&FAB)**

This was the site of explosives load and fill operations, and is currently used for renovation, rework, and loading of munitions items. Explosives and metals contamination exists in the soil, sediments, surface water, and possibly groundwater. An RFI is planned to address all media. The RFI investigation of this SWMU as well as SWMU 08/17 and SMWU 11/00 may be included under one plan due to the close proximity of the units to one another. This RFI is not currently scheduled.

Work sharing/transitioning activities

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

**SWMU 19/00: PYROTECHNIC TEST AREA/ANNEX/ROCKET RANGE IMPACT AREA (PTA)**

This site is also known as the Ordnance Test Area and consists of three physically separate areas that perform related functions. Each area consists of a large open field and concrete buildings used for quality assurance test burning of pyrotechnic lots. Boggs Creek flows through the center of or nearby each area. Contamination from pyrotechnic testing includes chlorates, dyes, oxidizers, fuels, and other by-products of flares and smoke. An RFI Workplan for all media is planned for this site and has been scheduled for 2001.

*Work sharing/transitioning activities*

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

**SWMU 20/00: CAAA QA/QC TEST AREA (CAAA)**

QA/QC testing of pyrotechnics devices is conducted at Building 2167. Lead chromate contamination has been identified on the surface of the ground from testing MARK1-3 flares. There is an indication of stressed vegetation from past operations. The potential for remediation of explosives contaminated soil from this site at the Bioremediation Facility (SWMU 33) is being investigated. An RFI for all media is not yet scheduled.

*Work sharing/transitioning activities*

At such time that the RFI workplan becomes funded and scheduled by NSWG, the IDEM will assume the lead role at this SWMU.

**SWMU 21/00: DRMO STORAGE LOT (DRMO)**

This SWMU is a level gravel pad which is approximately a 20 acre area. It is used as a scrap metal salvage area. Metal shavings containing cutting oil are placed on a pad, which collects the oil for recycling. Prior to the late 1960's the oil in metal shavings drained onto the ground in the area. An RFI for all media will be needed for this site. The RFI has not yet been scheduled.

*Work sharing/transitioning activities*

At such time that the RFI workplan becomes funded and scheduled by NSWG, the IDEM will assume the lead role at this SWMU.

**SWMU 22/00: LEAD AZIDE (PbA)**

This SWMU is an unlined pond that received wastewater containing lead salts. The pond was closed in 1981, and contaminated effluent and soil were removed. An RFI is planned to address all media. This RFI is not currently scheduled.

*Work sharing/transitioning activities*

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

**SWMU 23/00: BATTERY SHOP (BS)**

Spent battery acid and waste oil from forklift servicing was disposed of by allowing it to flow down the hill onto a bank behind the Battery Shop, Building 36. Surface drainage from the bank flowed into a storm drain, which drains into Lake Greenwood. As an Interim Measure, superficial debris was removed and disposed of as trash. An RFI Workplan is planned to address all media.

*Work sharing/transitioning activities*

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

**SWMU 24/00: SLUDGE DRYING BEDS A & B (SDBA&B)**

This SWMU consists of cells that were used for sewage sludge drying prior to land application of the sludge. The sludge applied was apparently produced prior to the treatment system that is currently in place, and may have contained certain hazardous constituents from industrial effluent. As an Interim Measure, the sludge/soils of sludge beds A and B were characterized. Sludge bed A was considered not contaminated. A section of sludge bed B was contaminated with a slight amount of DDT. The entire sludge bed B area was excavated and removed including the chain link fence and concrete retaining walls. A request for a No Further Action determination has been approved by U.S. EPA.

*Work sharing/transitioning activities*

No further corrective action activities required.

### **SWMU 25/07D: HIGHWAY 58 DUMP SITE A (H58A)**

Debris at this site consists of paper, cardboard containers, paints, thinners, lubrication and hydraulic fluids, scrap metal, concrete block, and pipe. This site has undergone a partial debris removal. The debris was contaminated with asbestos, so was disposed of as a special waste at an offsite permitted landfill. Site renovation included backfilling, seeding, and mulching to prevent soil erosion. An RFI will be conducted at this site to determine if further remedial action is needed.

#### *Work sharing/transitioning activities*

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

### **SWMU 26/08D: HIGHWAY 58 DUMP SITE B (H58B)**

This is a dump site at the base of a massive sandstone outcrop. The debris consisted of paper, cardboard containers, paints, thinners, lubrication and hydraulic fluids, scrap metal, containers and drums, corrugated pipe, and transite siding. Fifteen crushed and rusted drums (contents unknown) were seen at the site. All of the waste has been removed, and a request for a determination of No Further Action required for the soils has been approved by U.S. EPA. An RFI will investigate impacts to the ground water and the need for further remedial action.

#### *Work sharing/transitioning activities*

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

### **SWMU 27/00: ILLUMINANT BUILDING B-126 (B126)**

Contamination at this site includes red phosphorous, chlorates, dyes, oxidizers, and fuels for flares and smoke munitions. The building used sump pits which were pumped out by trucks and taken to the burning grounds. All sump overflows drained into the Boggs Creek watershed. A metal plating shop utilizing metals, caustics, acids, and cyanides is also present. Significant heavy metal contamination (zinc and cadmium) has been experienced from wastewater being discharged into open ditches. There are also burn areas; one behind Building 126 and one across Highway 5. An RFI will investigate impacts to all media and the need for remedial action. This RFI is not yet scheduled.

#### *Work sharing/transitioning activities*

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

**SWMU 28/00: MAINTENANCE SHOP, B-1820 (B1820)**

This is an automotive repair shop. Adjacent to the building was a large metal drip pan on wooden posts, which drained into an underground waste oil storage tank. Waste oil from various drip pans and gallon jugs were emptied and washed in the metal drip pan. The ground beneath the unit was covered with oil stains. An RFI will investigate impacts to all media and the need for remedial action. This RFI is not yet scheduled.

*Work sharing/transitioning activities*

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

**SWMU 29/00: PCP DIP TANK, B-56 (B56)**

The PCP Dip Tank was used for dipping untreated wood into pentachlorophenol. The building also contains some solvent storage tanks. An RFI will investigate impacts to all media and the need for remedial action. This RFI is not yet scheduled.

*Work sharing/transitioning activities*

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

**SWMU 30/00: LAND FARM (LF)**

This SWMU consists of 18 miles of roadside where liquid sludge from the sewage treatment plant was land applied. Sludge that accumulated was spread along 18 miles of roadside by a vacuum truck. Currently, NSWC land applies sludge on a permitted ~~2.5 acre~~ site. An RFI Workplan to address the potential impact on the ground water has been approved by U.S. EPA. Surface water impacts have not been addressed but will be in a future RFI if appropriate. The current work is in the 2.5 acre Land Farm area. The results of this work will be used to determine the need for activity along the 18 miles of roadside.

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S (Total 41 ACRES) Grant  
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*Work sharing/transitioning activities*

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

### **SWMU 31/00: COMPRESSED GAS CYLINDER SITE (CGC)**

This was an abandoned compressed gas cylinder disposal area adjacent to Building 64. An interim removal measure remediated the site in 1990. Based on the currently available information no further corrective measures are required at this site.

#### *Work sharing/transitioning activities*

No further corrective action activities required.

### **SWMU 32/00: TANK FARM**

This site has had at least one release. The tanks have been removed and an RFI to investigate all media is planned but not yet scheduled.

#### *Work sharing/transitioning activities*

At such time that the RFI workplan becomes funded and scheduled by NSWC, the IDEM will assume the lead role at this SWMU.

### **SWMU 33/00: BIOREMEDIATION FACILITY (BRF)**

This SWMU is an active treatment facility. Potential corrective measures will be determined when the site closes.

#### *Work sharing/transitioning activities*

U.S. EPA will continue to oversee this project through the conclusion of corrective action activities.

### **AOI 01: GRIT BLAST SITE - B3220 (GBS)**

The unenclosed building, 3220, was used for a grit blasting site for the removal of old paint off of railroad cars. Waste material was allowed to fall on the ground contaminating the area. The waste material that was generated from the grit blasting consisted of residual grit blast material and paint chips that contained regulated chromium levels, and probably lead. A considerable amount of the waste material was placed together creating a non-permitted hazardous waste pile containing a D007 waste. The waste pile has since been removed and a closure plan for the remaining area is currently under review by EPA.

#### *Work sharing/transitioning activities*

Closure of this area was deferred from IDEM to U.S. EPA and will be closed under U.S. EPA lead.

### III. Signatures

#### U.S. EPA



Hak Cho, Chief  
Corrective Action Section  
Waste Management Branch  
Waste, Pesticides & Toxics Division  
U.S. EPA Region 5

#### IDEM



Vic Windle, Chief  
Hazardous Waste Permits Section  
Indiana Department of Environmental Management

#### Naval Surface Warfare Center



Jim Hunsicker, Director  
Environmental Protection Department  
Naval Surface Warfare Center - Crane Division