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Davis-Besse Nuclear Power Station

EMERGENCY PLAN OFF NORMAL OCCURRENCE PROCEDURE

RA-EP-02850

HAZARDOUS CHEMICAL AND OIL SPILLS

Revision 04

Prepared by: Katharine Mominee

Procedure Owner: Supervisor - Nuclear Chemistry Services

Effective Date: JAN 23 2003

Procedure Classification:

X Safety Related

_____ Quality Related

_____ Non-Quality Related

LEVEL OF USE:

IN FIELD REFERENCE

TABLE OF CONTENTS

1.0 PURPOSE

1.1 This procedure identifies and provides the following:

1.1.1 Actions to be taken in the event of a spill or release of nonradiological oil waste, chemicals, gas or smoke, which require HAZWOPER response implementation.

1.1.2 Actions to be taken to respond, mitigate, and cleanup small incidental spills or releases of nonradiological oil, waste, chemicals, gas or smoke which do not require HAZWOPER response implementation.

1.2 This procedure fulfills applicable requirements for the following Plans and procedure:

1.2.1 Hazardous Substance Emergency Response Plan and a portion of the written Health and Safety Plan, as required by 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER)

1.2.2 NG-NS-00500, Nuclear Emergency Preparedness.

NOTE 1.3

Response actions which may be required in conjunction with HAZWOPER to implement the RCRA Contingency Plan, SPCC Plan, CERCLA, or SARA response can be found in the Environmental Compliance Guidelines.

1.3 This procedure implements response actions in conjunction with the Environmental Compliance Guidelines to fulfill applicable requirements of the following Plans:

1.3.1 Contingency Plan for the Chemical Waste Storage Area and Mixed Waste Storage Area, as required by 40 CFR 265 Subpart D, Contingency Plan and Emergency Procedure

1.3.2 Spill Prevention Control and Countermeasure (SPCC) Plan, as required by 40 CFR 112, Oil Pollution Prevention

1.3.3 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as required per 40 CFR 302, Designation, Reportable Quantities and Notification

1.3.4 Superfund Amendments and Reauthorization Act (SARA), 40 CFR 355

1.3.5 Contingency Plan, as required by OEPA Regulation 3745-52, Standards for Generators of Hazardous Waste

1.3.6 Storm Water Pollution Prevention Plan, Environmental Compliance Guideline (ECG)–10

2.0 REFERENCES

2.1 Developmental

2.1.1 Federal Statutes

a. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980

b. Clean Water Act of 1987

c. Superfund Amendments and Reauthorization Act (SARA) of 1986

d. Resource Conservation and Recovery Act (RCRA) of 1976

2.1.2 Code of Federal Regulations

a. 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response

b. 29 CFR 1910.1200, Hazard Communication

c. 40 CFR 112, Oil Pollution Prevention

d. 40 CFR 116, EPA Regulations on Designation of Hazardous Substances Under the Federal Water Pollution Control (Clean Water) Act

e. 40 CFR 122, 123, and 124, National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges

f. 40 CFR 261, Identification and Listing of Hazardous Waste

g. 40 CFR 265 Subpart D, Contingency Plan and Emergency Procedure

h. 40 CFR Subchapter J (Parts 300-373), Superfund, Emergency Planning, and Community Right To Know

i. 40 CFR 300, National Oil and Hazardous Substances Pollution Contingency Plan

j. 49 CFR Subchapter C (Parts 171-177), Hazardous Materials Regulations

2.1.3 Nuclear Group Procedures

a. NG-DB-00505, Controlled Materials Program

b. NG-NS-00500, Nuclear Emergency Preparedness

2.1.4 Other Documents

a. Environmental Compliance Guidelines ECG-12, Hazardous Chemical and/or Oil Spills

2.2 Implementation

2.2.1 Code of Federal Regulations

a. 10 CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors

b. 40 CFR 302, Designation, Reportable Quantities and Notification

c. 40 CFR 355, Emergency Planning and Notification

2.2.2 Federal and State Codes, Standards, and Permits

a. DBNPS National Pollutant Discharge Elimination System (NPDES) Permit

b. Ohio Administrative Code; Ohio Environmental Protection Agency (OEPA) Regulations Chapter 3745-52, Standards for Generators of Hazardous Waste.

c. Ohio Administrative Code; OEPA Regulations Chapter 3750-25, Emergency Release Notification.

2.2.3 Nuclear Operating Administrative Procedure

a. NOP-SS-03001, Procedure Reviews and Approval

2.2.4 Nuclear Group Procedures

a. NG-DB-00504, Hazardous and Nonhazardous Chemical Waste Management

b. NG-NA-00106, Nuclear Records Management

c. NG-NS-00807, Regulatory Reports

d. NG-NS-00808, Regulatory Agency Communications

2.2.5 Section/Unit Procedures

a. DB-OP-00002, Operations Section Event/Incidental Notifications and Actions

b. DB-OP-02529, Fire Procedure

c. DB-OP-02533, Control Room Emergency Ventilation System Load Shedding

d. DB-OP-06505, Control Room Emergency Ventilation System Procedure

e. DB-OP-06511, Control Room Heating, Ventilation and Air Conditioning System Procedure

f. RA-EP-02530, Evacuation

g. RA-EP-01500, Emergency Classification

2.2.6 Other Documents

a. DBNPS Integrated On-Call Report

b. DBNPS Emergency Plan

c. DBNPS Emergency Plan Telephone Directory

d. Environmental Compliance Guidelines

(1) ECG-03, Resource Conservation and Recovery Act (RCRA) Contingency Plan/Spill Notification Requirements

(2) ECG-04, SARA/CERCLA Hazardous Chemical Locations and Spill Event Guidelines

(3) ECG-05, Spill Prevention Control and Countermeasure (SPCC) Plan

(4) ECG-07, PCB Activities and Response Plan

(5) ECG-09, Storm Water Pollution Prevention Plan

(6) ECG-10, National Pollutant Discharge Elimination System (NPDES) Permit Requirements

3.0 DEFINITIONS

3.1 EMERGENCY RESPONSE - A response effort by employees from outside the immediate release area or by other designated responders (i.e. site HAZWOPER team or fire brigade, local fire departments) to a spill event which results or is likely to result in an uncontrolled release of a hazardous chemical posing exposure hazards to site or offsite personnel. Initial responses to fire or smoke, or unknown chemical exposures are considered emergency responses and should be responded to by the site Fire Brigade or HAZWOPER team until downgraded. Responses to releases of oil or hazardous chemical(s) that can be mitigated by personnel in the area who are familiar with the chemical hazards and where there is no potential safety or health hazard are not considered to require an emergency response.

3.2 ENVIRONMENT - For the purpose of this procedure, means outside of the system (drum, container, tank, pipeline, process vessel, etc.) intended/designed to contain the hazardous chemical.

3.3 HAZARDOUS CHEMICAL - For the purpose of this procedure, this term includes the following categories of chemical/substance hazard classifications. Any materials on the following lists must be considered "hazardous". The toxicity levels for these materials will vary dependent upon concentrations and material state. These materials require HAZWOPER response if releases exceed the Permissible Exposure Limit (PEL) or Reportable Quantity (RQ).

3.3.1 *Hazardous Substance* - Any substance, biological or disease causing agent which may result in adverse effects to the health and safety of employees or their offspring as a result of release to the environment and, as listed in 40 CFR Part 302 and 49 CFR Part 172.

3.3.2 *Extremely Hazardous Substance* - Any substance that can cause serious or adverse health effects with only a single exposure (listed in Appendices A and B of 40 CFR Part 355).

3.3.3 *Hazardous Chemical* - Any chemical which is considered to be a physical or health hazard under the OSHA's Hazard Communication Standard (29 CFR 1910.1200).

3.3.4 *Hazardous Waste* - Any liquid or solid waste as identified by one or more characteristics (corrosivity, ignitability, reactivity, or toxicity) or is on one of the EPA lists of hazardous wastes as referenced in 40 CFR 261 and 49 CFR 171.

3.4 HAZWOPER-TRAINED INDIVIDUAL - The Incident Commander and Technician Level HAZWOPER Responder is an individual that has received the required 24 hours of training as defined by OSHA 29 CFR 1910.120 to respond to a spill event. A HAZWOPER Responder who has received the required 24 hours of training as defined by OSHA 29 CFR 1910.120 to respond to a spill event, but is not qualified on the use of a SCBA, cannot enter the spill zone or be a member of the decontamination team.

3.5 INCIDENT COMMAND SYSTEM - Consists of the following organizational structure (DBNPS title in parentheses) as defined by OSHA for responding to spills (Attachment 1, Incident Command System, provides additional information):

3.5.1 Incident Commander (Shift Manager or designee)

3.5.2 On-Scene Coordinator, also known as "Operations Section Chief" (Unit Supervisor, HAZWOPER Trained Shop Supervisor or designee)

3.5.3 Safety Person (Supervisor - Safety or designee)

3.5.4 Planning Section Person (HAZWOPER trained individual most familiar with affected system)

3.5.5 Information Person (Public Affairs Duty Officer)

3.5.6 Liaison Person (Manager - Security or designee)

3.5.7 Logistics Section Person (On-Call Manager – Maintenance/Planning or designee)

3.5.8 Finance Section Person (Supervisor – Financial Planning and Results or designee)

3.6 MIXED WASTE - Any waste consisting of both a hazardous waste and radioactive material.

3.7 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) - A federal program administered by the Ohio Environmental Protection Agency that provides for the permitted discharge of pollutants to state or federal waterways.

3.8 NAVIGABLE WATERWAYS - Indicates the following:

3.8.1 All navigable water of the United States (U.S.), and adjacent wetlands (for example, the marsh surrounding DBNPS).

3.8.2 Tributaries of navigable waters of the U.S. (including adjacent wetlands).

3.8.3 All other waters of the U.S. such as intrastate lakes, rivers, streams, and wetlands which may be used for recreational or commercial (including commercial fishing) purposes.

3.9 OIL - Includes petroleum, fuel oil, oil refuse, and mixture of oil with wastes other than dredged oil (oils contaminated with PCBs or hazardous chemicals shall be considered Hazardous Chemicals).

3.10 OIL BOOM - A floating device which confines oil spilled on the surface of a body of water.

3.11 REPORTABLE QUANTITY (RQ) - When released, the minimum quantity of a hazardous substance as identified in 40 CFR Parts 302 and 355 which requires emergency notification to a regulatory agency.

3.12 SPILL AREA ZONES/BOUNDARIES - The following zones are established around a spill area to maintain control of the area and personnel safety:

3.12.1 Hot Zone - Consists of the actual spill area.

3.12.2 Warm Zone - Consists of an area surrounding the hot zone at a distance that provides safety from physical contact hazards and/or any airborne chemical contamination, an area for setting up decontamination materials, and entry/exit work space for teams in personal protective equipment. Only the entering/exiting spill response team and decon personnel are permitted in this area.

3.12.3 Cold Zone - Consists of an area outside of the Warm Zone that is used by the remaining responding HAZWOPER trained individuals for support activities.

3.13 SPILL/INCIDENTAL RELEASE - Small spills or incidental releases of known chemicals, gases or smoke which can be absorbed, neutralized or contained at the time of release by employees in the immediate release area or by maintenance personnel, or fuel/oil not meeting definition of spill event in Step 3.14, which pose no safety or health hazard (i.e. fire, explosion, or chemical exposure greater than PEL or RQs), and, do not require notifications of the release are not "spill events" and do not require "emergency responses" nor implementation of the HAZWOPER Response Plan.

3.14 SPILL EVENT -

3.14.1 A discharge (any spill, leaking, pumping, pouring, emptying, or dumping except any discharges authorized by a Federal or State permit, such as an NPDES permit) of oil into or upon navigable waters or adjoining shorelines in harmful quantities (causes a film or sheen on, or discoloration of, water surface, or causes a sludge or emulsion to be deposited beneath water surface or upon adjoining shorelines).

3.14.2 A release (spilling, leaking, pumping, pouring, emptying, discharging, injecting, leaching, dumping, or disposing, except any release as authorized by a federal or state permit such as an NPDES permit) of a hazardous chemical, mixed waste or polychlorinated biphenyl (PCB) containing oils into the environment.

3.14.3 A leak, spill, gas release or discharge of any material of unknown source, or uncontrolled fire and/or smoke from a chemical source.

3.14.4 Release of greater than 25 gallons of oil or fuel within a 24-hour period from a registered underground storage tank.

3.15 SPILL KITS - For the purpose of this procedure, these kits are used for chemical hazards and are NOT the same spill kits used for Radiation Protection (RP) purposes in the Radiologically Restricted Area (RRA). (Attachment 2, Locations of Spill Control Equipment, provides information on spill kit contents.)

3.16 STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY - The discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant.

3.17 TLV - THRESHOLD LIMIT VALUE - The airborne concentration of a material to which nearly all workers can be exposed without adverse effects.

3.18 TLV-TWA - THRESHOLD LIMIT VALUE-TIME WEIGHTED AVERAGE - The allowable time weighted average concentration for a normal 8-hour work day or 40-hour week.

4.0 RESPONSIBILITIES

4.1 The Plant Manager shall ensure that HAZWOPER trained individuals are available to respond to an emergency oil, mixed waste, or hazardous chemical spill event.

4.2 The Shift Manager or designee shall:

4.2.1 Make required onsite and offsite notifications.

4.2.2 Determine if a spill event has occurred and enter into DBNPS Emergency Plan for HAZWOPER Response as necessary.

4.2.3 Dispatch HAZWOPER trained individuals to the spill event site within the Protected Area or the Owner-Controlled Area.

4.3 The Manager - Operations shall provide HAZWOPER trained individuals for responding to spills to perform actions on equipment as required by Operations and this procedure. HAZWOPER position responsibilities are fulfilled in accordance with Attachment 1.

4.4 The Manager - Maintenance shall:

4.4.1 Provide HAZWOPER trained individuals for responding as directed to a spill event within the Protected Area or the Owner-Controlled Area.

4.4.2 Isolate site waterways during a spill event as directed by the Shift Manager or designee or On-Scene Coordinator. (Attachment 3, Site Map of Flapper Gates and Marsh Pumps, may be referenced for locations of isolation equipment.)

4.4.3 Provide clean up of spilled material as directed and coordinated by the Shift Manager or Supervisor - Nuclear Chemistry Services.

4.5 The Manager – Chemistry and Radiation Protection shall:

4.5.1 Provide HAZWOPER trained individuals for responding to spills to perform actions on equipment as required by Chemistry and this procedure, and analyze released process fluids, etc. for hazardous chemical levels when possible.

4.5.2 Provide HAZWOPER trained individuals for responding to spills to provide RP expertise for containment/cleanup in the Radiologically Restricted Area (RRA) to prevent/reduce spread of radioactive contamination.

4.5.3 Ensure timely mitigation of spill event.

4.5.4 Ensure required onsite and offsite notifications are performed as required per Ohio Environmental Protection Agency (OEPA) Regulations Chapter 3750-25, Emergency Release Notifications.

4.6 The Manager – DB Supply shall provide technical assistance to the HAZWOPER team responding to spills in the warehouses and associated yards.

4.7 The Manager - Nuclear Training shall provide adequate training to personnel to meet the requirements of 29 CFR 1910.120.

4.8 Supervisor – Nuclear Chemistry Services

4.8.1 Provide technical assistance during response and cleanup efforts, including verification of appropriate contingency plan implementation, if required.

4.8.2 Ensure that spill kits for use with chemical or oil spill events are stocked with emergency response equipment.

4.8.3 Prepare any required regulatory report to Environmental Protection Agency (EPA).

4.9 The Supervisor – Safety shall:

4.9.1 In conjunction with HAZWOPER Safety Person, ensure personnel protective equipment and practices are prescribed during an emergency response and decontamination area is established as applicable prior to personnel entering contaminated zone for emergency response. (Attachment 4, Decontamination Area Establishment and Methods, may be referenced for equipment and guidance.)

4.9.2 Ensure monitoring of personnel for hazardous chemical exposure is performed.

4.9.3 Prepare any required regulatory report to Occupational Safety Heath Association (OSHA).

4.10 All DBNPS personnel shall immediately report oil, mixed waste, or hazardous chemical spill events to the Shift Manager.

5.0 INITIATING CONDITIONS

5.1 If a spill/incidental release of nonradiological oil, chemicals, gas or smoke has occurred which poses no threat of personnel exposure exceeding permissible levels (including airborne exposure), or migration to the offsite environment, or NPDES pathways, and, is not required to be reported to local, state or federal agencies, the spill may be mitigated at the time of the release by employees in the immediate area or by maintenance personnel. The HAZWOPER Response Plan is not required to be implemented and no further notifications are required. Spills considered incidental releases and their recommended responses are outlined in Attachment 5.

a. IF a vendor or contractor is employed/requested to assist in mitigation activities,
THEN ensure the Shift Manager is informed to notify Duty Plant Manager.

b. To ensure compliance with requirements of DB-OP-00002, the Shift Manager shall be informed of non-radiological oil, chemical, gas or smoke releases including incidental releases listed in Attachment 5, regardless of whether HAZWOPER response is required or activated.

5.2 IF a sufficient volume of oil (i.e. 25 gallons) has leaked and has reached the Training Center Pond and/or the settling basins and has a potential to migrate offsite,
THEN go to ECG-05, Spill Prevention Control and Countermeasure Plan (SPCC).

5.3 This procedure shall be used if the Shift Manager has determined that entry into this procedure is necessary based on conditions such as in the following steps or after consultation with the On-Call Manager - Radiation Protection. (During normal working hours, contact the Supervisor – Nuclear Chemistry Services/designee.)

5.4 An alarm procedure has directed personnel to this procedure.

5.5 IF a hazardous chemical, oil, waste spill event or release of gas or smoke as described below has occurred at DBNPS,
THEN the Shift Manager shall initiate the DBNPS Emergency Plan for HAZWOPER Response:

5.5.1 Leakage/ruptured tank or drum of the following:

- Hydrazine and/or ammonium hydroxide/morpholine/advanced amine tank(s)
- Drum(s) of Nalco 1355 Corrosion Inhibitor, Nalco 7330 and Nalco 7338 biocides, Calgon Pre-Tect 9002 or 4000
- Hydrogen Peroxide
- Other amine (i.e., Nalco CA-926C, Nalco 92UM001)

5.5.2 Hydrazine release in excess of the EPA reportable quantity of one pound, i.e. 60 gallons of 2000 ppm process fluid, or 0.34 gallons of a standard 34% solution, which poses a personal hazard,

5.5.3 Sodium hydroxide, sulfuric acid, sodium hypochlorite and/or sodium bromide tank(s) has leaked/ruptured (Water Treatment Plant)

5.5.4 A spill or leak has occurred at a warehouse storage location which may expose personnel to hazardous materials exceeding permissible levels (i.e. drum rupture of sulfuric acid, hydrazine etc.)

NOTE 5.5.5

The reportable quantity for PCB is 1 pound.

5.5.5 Any oil leakage which may have originated from equipment with PCB containing oil (overhead lighting or motor/inverter capacitors).

5.5.6 An event which presents exposure to Asbestos waste or Asbestos containing material (i.e., insulations) has occurred,

5.5.7 A spill or leak has occurred at any work location, satellite chemical storage area, the main Chemical Waste Storage Area (CWSA) Building, or Chemical Waste Accumulation Area (CWAAs) which may expose personnel to hazardous materials, hazardous waste, or mixed waste in amounts exceeding permissible levels (this includes miscellaneous laboratory solution, chemical or reagent spills or leaks which may be toxic, reactive, ignitable or corrosive),

5.5.8 A leak or spill or gas release from an unknown source or uncontrolled fire and smoke event has occurred,

5.5.9 A spill or leak from any source (onsite or offsite) which could affect control room air quality.

5.6 Contact the Supervisor - Nuclear Chemistry Services/designee for determination of the required response for spills not listed under Step 5.1 or Step 5.5.

6.0 PROCEDURE

6.1 Activation of the HAZWOPER Response Plan

6.1.1 The HAZWOPER Response Plan is not required to be activated for spills or incidental releases as defined in Steps 3.13 or 5.1. This includes nonradiological oils, chemicals, gas or smoke either outlined in Attachment 5, or which do not pose personnel exposures exceeding PELs, nor releases to the environment exceeding the RQ.

a. Spills or releases not listed in Attachment 5 may also meet definition and criteria of incidental release as determined by the Supervisor – Nuclear Chemistry Services.

6.1.2 Actions to determine if HAZWOPER or emergency response should be activated may be initiated by one or more of the following:

a. An alarm is activated that gives indication of a possible spill, for example, an unexpected low level in a hazardous chemical/oil tank and/or high sump alarms in areas of such tanks.

b. A person has discovered a spill or chemical/oil fire and has promptly called the Control Room via Gai-Tronics Line 5 or extension 7911.

NOTE 6.2

Steps 6.2.1 through 6.2.11 (inclusive) can be conducted concurrently.

6.2 Shift Manager Actions

The Shift Manager or designee shall:

6.2.1 Request from the person discovering the spill event at least the following information:

a. Source of material spilled

b. Size/Amount of material

c. Nature/Type of material

d. Location and movement of spill

6.2.2 Clear the spill area of personnel as follows:

a. Inside the Protected Area, announce over the Gai-Tronics that personnel must leave and stay clear of the spill or fire involving a spill area.

b. In the Owner-Controlled Area, notify Security to request personnel to leave and stay clear of the spill area.

6.2.3 Ensure the area is posted to avoid personnel exposure.

NOTE 6.2.4

Standard Fire Brigade turnout gear meets Level B HAZWOPER protection for fire and smoke response. The Fire Brigade is HAZWOPER trained for initial response to spills from site sources, however, HAZWOPER responder Level B protective suits may be required when chemical splash or toxic vapor hazard is present.

6.2.4 If the event is a fire involving spilled oil, hazardous chemicals, or mixed waste:

a. Inside the Protected Area, activate the fire brigade, etc., and follow appropriate fire fighting procedures in accordance with DB-OP-02529, Fire Procedure.

6.2.5 As necessary, direct the following actions:

a. Lockout sump pumps in and/or adjacent to the spill area (ECG-05, Spill Prevention Control and Countermeasure Plan (SPCC), may be referenced for specific instructions when responding to oil spills)

b. Lockout the settling basin transfer pumps.

NOTE 6.2.6

- Depending on conditions of the spill event, certain regulatory agencies must be immediately notified of the spill upon discovery.
- When using the Integrated On Call Report for initial onsite notification, the On-Call Manager - Radiation Protection should be initially contacted.
- If spill is listed as an incidental spill in Attachment 5, HAZWOPER is not required to mitigate the spill.

6.2.6 Contact the Supervisor - Nuclear Chemistry Services/designee with spill event conditions (i.e. quantity, substance released, movement of spill, etc.). The Supervisor/designee will:

- Aid in determination if activation of the HAZWOPER Response Plan is required,
- Aid in determination of whether the quantity meets the regulatory limits for reporting and contingency plan implementation (reference Section 6.4),
- Contact Supervisor - Safety for determination of personnel exposure concerns when hazardous material responses are not listed in Attachment 5.

6.2.7 Record spill event information for Part I of ED 7892, Spill Notification Form (SNF). If the HAZWOPER Response Plan will not be implemented and no further action is required, and an SNF was initiated, forward the SNF (for information purposes only) to the Supervisor - Nuclear Chemistry Services.

6.2.8 Evaluate spill event conditions for emergency classification in accordance with RA-EP-01500, Emergency Classification.

6.2.9 IF evacuation is necessary,
THEN determine the extent of the area to be evacuated,
AND implement RA-EP-02530, Evacuation.

6.2.10 IF the HAZWOPER Response Plan is initiated,
THEN notify the following:

a. Duty Operations Manager

b. Duty Maintenance/Planning Manager

c. Duty DB Supply Manager, for spill in the warehouses or associated yards.

d. Duty Manager Radiation Protection for spills in the RRA.

NOTE 6.2.11

A minimum of four to six HAZWOPER trained individuals are needed for responding to and entering a spill event area. A list of currently certified HAZWOPER responders (Technician and Incident Commander Levels) is available in the Control Room.

6.2.11 IF unusual vapors or fumes are present in the Control Room,
THEN manually isolate the Control Room ventilation air supply in accordance with DB-OP-06511, Control Room Heating, Ventilation and Air Conditioning System Procedure.

6.2.12 IF Control Room Emergency Ventilation System (CREVS) is put in service in accordance with DB-OP-06505, Control Room Emergency Ventilation System Procedure.
AND the Control Room Normal HVAC is shutdown,
THEN evaluate local ventilation concerns and ensure proper habitability of the Control Room, in accordance with DB-OP-02533, Control Room Emergency Ventilation System Load Shedding.

a. Control Room Habitability evaluations for SARA/CERCLA chemicals stored onsite are listed in ECG-04.

6.2.13 IF the HAZWOPER Response Plan is required to be implemented, THEN request HAZWOPER trained individuals report to the Incident Area for briefing of spill event.

a. For spills in the Owner-Controlled Area, the HAZWOPER responders should be certified individuals from Maintenance, Chemistry and Radiation Protection, Safety, and available Operations personnel who are not part of the required on shift complement. A Maintenance Supervisor(s) and additional servicemen may be called in for assistance. Offsite response organizations may be called for assistance. (Ensure compliance with Step 5.1.a)

b. Determine response equipment needed for spill mitigation.

1. Typical locations and contents of spill kits can be found in an Attachment 2, Locations of Spill Control Equipment. Actual spill kit inventories may differ from the sample matrix in Attachment 2. Environmental personnel under the direction of the Supervisor Nuclear Chemistry Services have current inventory listings.

2. The Inventory Form format is controlled by this procedure. Changes to the format will be processed as a procedure alteration in accordance with NOP-SS-3001, Procedure Review and Approval.

NOTE 6.2.14

The On-Scene Coordinator will establish the On-Scene Incident Command Post upwind from the spill and in a cold zone area.

6.2.14 Designate a minimum of four to six HAZWOPER trained individuals to the following Incident Command System positions and actions (see Attachment 1, Incident Command System):

a. One individual may act as the On-Scene Coordinator and act as the Safety Person.
IF safety is not compromised, the individual may also act as the Decon Team and second member of the Backup Entry Team.

b. For spills in the Owner-Controlled Area, one of the following individuals may act as the On-Scene Coordinator:

- Supervisor - Nuclear Chemistry Services/designee
- Supervisor - Safety/designee
- Supervisor - Maintenance/designee

c. Two individuals as the Initial Entry Team

d. Two individuals as the Backup Entry Team

e. One individual as the Decon Team

6.2.15 Dispatch HAZWOPER trained individuals to the spill area.

6.2.16 Record spill event information and notifications for Part I of ED 7892, Spill Notification Form (SNF), and forward to the Supervisor - Nuclear Chemistry Services.

WARNING 6.3

Personnel responding to a spill shall maintain a buddy system to ensure rapid assistance in the event of an emergency. A backup team (with an equivalent level of personal protective equipment [PPE] and self-contained breathing apparatus [SCBA], unless determined otherwise) is required to be standing by.

Chemicals used onsite have been evaluated for required response equipment. Standard Fire Brigade turn out gear meets Level B protection for fire and smoke response for ignitable or flammable hazardous materials. HAZWOPER Level B responder suits, provide recommended permeation times and are acceptable for initial response to onsite chemical and toxic hazard releases.

Level B suits, PPE, rubber boots and butyl gloves, and SCBA shall be worn initially to conduct an assessment of the spill area and also during response actions until the Supervisor - Safety or designated Safety person determines that a lower level of protection is acceptable based on conditions.

For unknown atmosphere/spill events from catastrophic releases of unknown gasses from fires or explosions, Level A Responder suits shall be obtained for use, or an outside response agency shall be requested to respond.

6.3 Spill Response Actions

6.3.1 The Incident Command System Safety Person or Supervisor - Safety/designee shall:

a. Ensure appropriate PPE is selected and used by responding personnel. (Attachment 6, Personnel Protective Equipment Compatibility Chart, may be referenced for recommended PPE).

a. Monitor personnel (i.e. SCBA times, physiological conditions such as heat stress, etc.) and maintain chemical exposure records.

6.3.2 Individuals responding to the spill area shall notify the Incident Commander that they are ready to enter the spill area.

6.3.3 The On-Scene Coordinator and HAZWOPER trained individuals shall:

a. Ensure all individuals, except the spill response team, are cleared from the spill area.

b. At the spill area, establish the boundaries between the hot, warm, and cold zones.

c. Set up a decontamination area, (refer to Attachment 4, Decontamination Area Establishment and Methods), in the warm zone adjacent to the spill area, if applicable.

NOTE 6.3.3.d

The Safety Unit may be able to assist with identifying spilled material by using monitoring equipment.

d. Attempt to identify the spilled material.

e. Obtain the Material Safety Data Sheet (MSDS) on the spilled material from either the Plant or Non-Plant MSDS Catalog for use by the spill response team.

f. Obtain weather data from the DBNPS meteorological monitoring system for spill pathway projections, etc., if necessary.

g. Evaluate the situation and develop a plan of action which may consist of one or more of the following:

1. Covering nearby drains

2. Locking out pumps

3. Containing spilled material by diking, absorbing, plugging, patching, and/or overpacking the container

4. Maintenance personnel shall isolate the ponds or marsh by closing flapper gates or turning off/locking out marsh pumps as requested by the On-Scene Coordinator or the Supervisor - Nuclear Chemistry Services/ designee (see Attachment 3, Site Map of Flapper Gates and Marsh Pumps). This action is to prevent the spilled material from reaching the Navarre Marsh, Toussaint River, or Lake Erie.

h. Drain any fluid from defective equipment.

i. Neutralize or treat the spilled material to render it less harmful, if applicable.

j. Collect the spilled material using a pump or vacuum, if applicable.

k. Evaluate the plan of action continuously due to changing spill area conditions.

l. Provide clear prompt site communications as the event progresses or is mitigated.

6.3.4 The On-Scene Coordinator, as directed by the Supervisor - Nuclear Chemistry Services/designee will instruct the HAZWOPER Team on specific remediation, which may include the following:

a. In the event of an oil spill, Section 7 of ECG-05, Spill Prevention Control and Countermeasures (SPCC) Plan, may be referenced for detailed actions/information to mitigate the spill.

b. In the event of a hazardous chemical spill involving hazardous chemicals or wastes, ECG-04, SARA/CERCLA Hazardous Chemical Locations and Spill Event Guidelines may be referenced for detailed actions/information to mitigate the spill.

c. PCB spills may also require implementation of ECG-07, PCB Activities and Response Plan, for sampling plans and cleanup standards.

6.3.5 For spills too large for site personnel to mitigate, the Supervisor - Nuclear Chemistry Services/designee shall make arrangements for an offsite environmental services contractor to respond with assistance.

6.4 Environmental Compliance Contingency Plan Determinations/Notifications

The Supervisor - Nuclear Chemistry Services/designee shall:

6.4.1 Request Chemistry personnel collect and analyze samples of process fluids, settling basins, ponds, or other points as applicable.

6.4.2 Based upon the amount and type of material released, determine if HAZWOPER response is required and/or if implementation of the SPCC (ECG-05), CERCLA (ECG-04), RCRA (ECG-03), or Stormwater Pollution Prevention Plan (ECG-09) is required.

6.4.3 Complete Part II A of ED7892, Spill Notification Form, upon notification from the Shift Supervisor.

6.4.4 If HAZWOPER is implemented or agency notifications are required, notify the following personnel, at a minimum, and document on Part II B of ED7892, Spill Notification Form:

a. Manager – Chemistry and Radiation Protection

b. Plant Manager

c. Manager - Regulatory Affairs, if agency notifications were made,

d. Public Affairs, courtesy call

e. Manager – Maintenance/designee (only for spills originating from electrical equipment)

NOTE 6.4.5

For the local, state, and federal agencies, the DBNPS Emergency Plan Telephone Directory contains the respective phone numbers. Those numbers are additionally referenced in Attachment 1, "Notification Flow Chart and Agency Numbers" of ECG-03.

6.4.5 IF the substance that meets or exceeds the Reportable Quantity (RQ) for a RCRA Hazardous Waste or a SARA/CERCLA hazardous substance or extremely hazardous substance (40 CFR 302/355 or ECG-04), has been released from the intended system, and has spread offsite or out of control of the facility,
THEN notify the State Emergency Response Commission (SERC) of the Ohio Environmental Protection Agency (OEPA), the National Response Center (NRC), and the Ottawa County Sheriff's Office to activate Local Emergency Planning Committee (LEPC) and local Fire Department notifications. (Reference DBNPS Emergency Plan Telephone Directory or Attachment 1 of ECG-03).

6.4.6 IF the released substance is gasoline or oil exceeding 25 gallons and has spread or has the potential to spread offsite, or has been released in harmful quantities into or upon navigable waters or adjoining shorelines (reference ECG-05),
THEN notify the SERC of OEPA, and the Ottawa County Sheriff's Office to activate Local Emergency Planning Committee (LEPC), and local Fire Department notifications. Also notify the U.S. Coast Guard if the substance has spread into navigable waterways. (Reference the DBNPS Emergency Plan Telephone Directory or ECG-03, Attachment 1).

6.4.7 IF the spilled substance reaches a storm drain, sump or other water pathway and results in a DBNPS National Pollutant Discharge Elimination System (NPDES) permit violation,
THEN notify the OEPA Emergency Hotline and the OEPA Northwest District Office. (Reference ECG-09 for storm water and ECG-10 for NPDES industrial process discharges).

6.4.8 IF the release does not meet any of the conditions in 6.4.5 through 6.4.7,
THEN the Supervisor - Nuclear Chemistry Services/designee should:

a. Consult with the Manager - Regulatory Affairs, the Manager – Chemistry and Radiation Protection or the Plant Manager to determine which, if any, of the agencies listed in Part II C or D of ED 7892, Spill Notification Form, are to be notified of the event.

b. Upon recommendation, make the appropriate notifications and document on the form.

6.4.9 The Supervisor - Nuclear Chemistry Services/designee shall document all calls to a regulatory agency and any other appropriate above calls on a Telephone Call Documentation Form (ED 6650).

6.4.10 The emergency notification to the government agencies shall be followed up with a written report as soon as practical within the specified time frame. Environmental reports shall be prepared by the Supervisor - Nuclear Chemistry Services/designee and submitted in accordance with NG-NS-00807, Regulatory Reports, and NG-NS-00808, Regulatory Agency Communications, as appropriate.

6.5 10 CFR 50.72 Notifications

6.5.1 IF any of the offsite agencies were notified as identified in accordance with Section 6.4,
THEN the Supervisor - Nuclear Chemistry Services/designee shall ensure the Shift Manager is notified.

6.5.2 The Shift Manager or designee shall ensure that the Nuclear Regulatory Commission has been notified as required by 10 CFR 50.72(b), Immediate Notification Requirements for Operating Nuclear Power Reactors, Non-Emergency Events, Four-Hour Reports. Refer to DB-OP-00002, Operating Section Event Incidental Notifications and Actions.

6.6 Cleanup and Recovery Actions

6.6.1 The spilled substance and cleanup materials such as used pads, pillows, booms, clothing, and other equipment shall be recovered and placed in drums or other approved containers as identified by the Supervisor - Nuclear Chemistry Services/designee.

6.6.2 Label and accumulate/store these containers in accordance with NG-DB-00504, Hazardous and Nonhazardous Chemical Waste Management.

6.6.3 The Supervisor - Nuclear Chemistry Services/designee shall:

a. Make arrangements for disposal of collected waste materials in accordance with the requirements of NG-DB-00504, Hazardous and Nonhazardous Chemical Waste Management.

b. Ensure that environmental samples are collected and analyzed, to verify the cleanup response is adequate.

6.7 Spill Notification Form Completion and Deactivation

6.7.1 The Shift Manager or designee, in consultation with the Supervisor - Nuclear Chemistry Services/designee, shall determine that all spilled chemicals or oils have been confined, controlled, absorbed, or transported offsite and pose no threat to personnel, the plant, the environment, or to navigable waterways.

6.7.2 The Supervisor - Nuclear Chemistry Services/designee shall complete Part II E of form ED 7892, in accordance with 29 CFR 1910.120, as applicable, when the event is terminated.

6.7.3 The Spill Notification Form package shall be submitted to Records Management according to NG-NA-00106, Nuclear Records Management.

7.0 FINAL CONDITIONS

7.1 HAZWOPER responses and/or actions taken to mitigate fire, smoke or incidental spills/releases of nonradiological waste, chemicals, or oils, are considered terminated once the spill has been contained, recycled, or removed from the DBNPS site, and poses no threat to the health and safety of personnel, the plant, or the environment.

7.2 Clear prompt communications shall be disseminated to site personnel explaining event closure.

8.0 RECORDS

8.1 The following quality assurance records are completed by this procedure and may be listed on the Nuclear Records List, captured, and submitted to Nuclear Records Management in accordance with NG-NA-00106:

8.1.1 Completed Spill Notification Forms, (ED 7892) and associated documentation

8.1.2 Telephone Call Documentation Form, (ED 6650)

8.2 The following non-quality assurance records are completed by this procedure and may be captured and submitted to Nuclear Records Management, in accordance with NG-NA-00106:

8.2.1 None

ATTACHMENT 1: INCIDENT COMMAND SYSTEM

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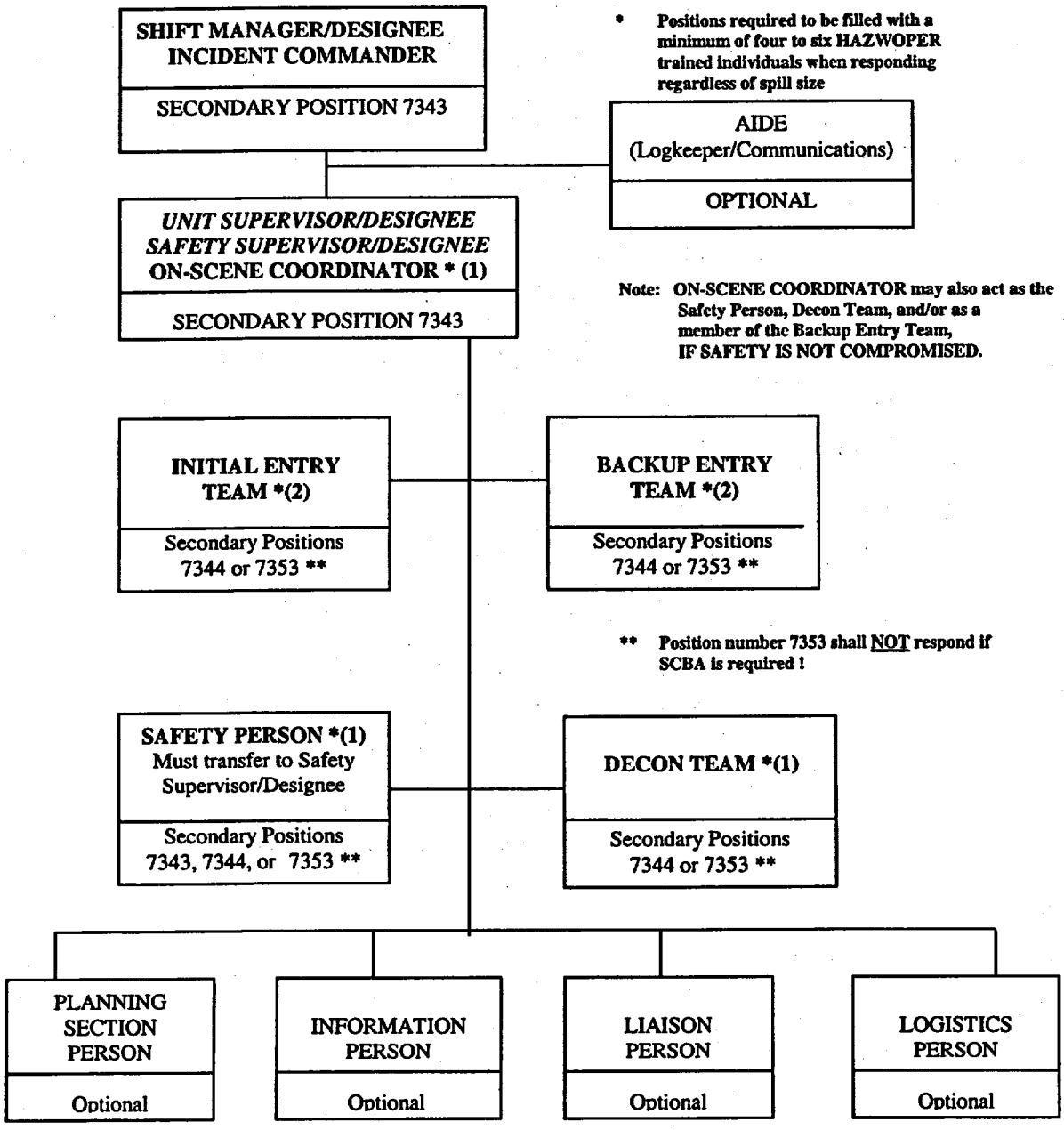
HAZWOPER ORGANIZATIONAL CHART



ATTACHMENT 1: INCIDENT COMMAND SYSTEM

The Incident Command System shall consist of the following organizational structure as defined by OSHA and includes reference to DBNPS plant and emergency plan titles (any number of these positions may be used in a spill response depending on the spill size, etc.):

OSHA Position	DBNPS Title	Actions/Duties
1. Incident Commander	Shift Manager or designee	• Develops and implements strategic decisions. • Activates the Incident Command System (Hazardous Substance Emergency Plan duties) and HAZWOPER trained individuals. • Maintains overall control of spill event.
2. On-Scene Coordinator	Unit Supervisor or Senior Person/designee, i.e. a HAZWOPER Trained Shop Supervisor, Supervisor – Safety, Supervisor – Nuclear Chemistry Services, or DB Supply Management Supervisor/Manager (if Owner-Controlled Area)	• Oversees and coordinates response actions at the spill area. • Maintains communications with the Incident Commander. • Controls access of personnel to spill area.
3. Safety Person	Initially may be any HAZWOPER trained individual, who would turn over actions to the Supervisor - Safety/ designee	• Responsible for safe conditions and actions such as ensuring barricade rope is in place and unnecessary personnel are kept out of the spill area. • Monitoring SCBA times for HAZWOPER individuals in spill area • Ensure proper PPE is used. • Monitor HAZWOPER individuals for other physiological conditions, i.e. heat stress, etc.

ATTACHMENT 1: INCIDENT COMMAND SYSTEM

NOTE 4

Any governmental agency (i.e., EPA, OSHA, etc.) representative shall be referred to the Supervisor - Nuclear Chemistry Services or On-Call Regulatory Affairs Manager.

OSHA Position	DBNPS Title	Actions/Duties
4. Information Person	Public Affairs Duty Officer	• Acts as contact for disseminating information on spill event to media
5. Liaison Person	Security acts as escort in Protected Area	• Acts as contact upon arrival at DBNPS for offsite groups, i.e. fire departments, emergency medical squad, etc., responding to spill event.
6. Planning Section	A HAZWOPER trained individual responding that is most knowledgeable of system involved in the spill	• Collects, evaluates, and disseminates information on the spill event. • Understands the current spill event condition. • Continuously predicts probable cause of events during response to spill event • Prepares alternative course of actions to assist in maintaining control of spill event.
7. Logistics Section Person	Manager - Maintenance	• Provides/stages materials, facilities, services, etc. to support spill response actions.
8. Finance Section Person	Supervisor – Financial Planning and Results	• Controls access of personnel to spill analysis aspects of spill event.

NOTE

Minimum response to implement the HAZWOPER Response is a 4 to 6 man team as follows:

1	On-Scene coordinator/safety person
2	Entry persons
2	Backup entry persons
1	Decontamination person

The On-scene Coordinator, Safety person and Decontamination person may be filled by one member of the backup entry team so long as the safety of the original entry team is not compromised.

ATTACHMENT 2: LOCATIONS OF SPILL CONTROL EQUIPMENT

Page 1 of 2

This chart represents typical locations only. Inventories are based on materials present in the area, the potential spill characteristics, and remediation/Personal Protective Equipment (PPE) supplies needed for the area. The kit contents are listed on the kit. Chemistry personnel may be contacted for current inventory listings. Main chemical spill kits containing HAZWOPER response equipment for HAZWOPER Level B response may be found in the Turbine Building (Main Spill Kit located in the office building lobby). The Warehouse Spill Kits are for general cleanup (do not contain Level B response suits).

All other small kits (designated PPE Kits) are for ease of obtaining PPE for small incidental releases or for containing small releases. The locations of PPE Kits are listed for information only. These are not HAZWOPER or General Spill response kits and may be transient or removed as required. Contact Nuclear Chemistry Services for exact locations and inventories.

A. INSIDE PROTECTED AREA - Spill Kits

I. Turbine Building

a. 585' Main HAZWOPER General Spill Kit (located in the old office building lobby)

B. OUTSIDE PROTECTED AREA - Spill Kits

I. Warehouse

a. 585' General Spill Kit, Z-Building #3 (General Spill)
b. 585' Hydrazine Spill Kit, Z-Building #3 (General Spill)
c. 585' General Spill Kit, Warehouse Loading Dock (General Spill)

C. PPE Kits

I. Turbine Building

a. 585' Chemical Spill Kit (located at chemical feed tanks)
b. 603' Hydrazine Spill Kit outside Room 331
c. 603' Oil Spill Kit outside Room 428
d. 603' Wall Kit (located in hallway outside of the chemistry laboratory)
e. 623' Oil Spill Kit (located in the feedwater heater bay area)

II. Water Treatment Plant

a. 585' Sodium Hypochlorite Spill Kit, located at bulk tank
b. 585' General spill Kit, inside building staged just outside storage area
c. 565' Wall Kit, outside of laboratory

III. Auxiliary Building

a. 565' Hydrazine Spill Kit, Room 207
b. 565' Hydrazine Spill Kit, Room 227
c. 585' Oil Spill Kit – EDG Room 321 (Enter through Turbine Building)
d. 603' Wall Kit, located in Auxiliary Building chemistry laboratory

ATTACHMENT 2: LOCATIONS OF SPILL CONTROL EQUIPMENT

C. PPE Kits (continued)

IV. Personnel Shop Facility

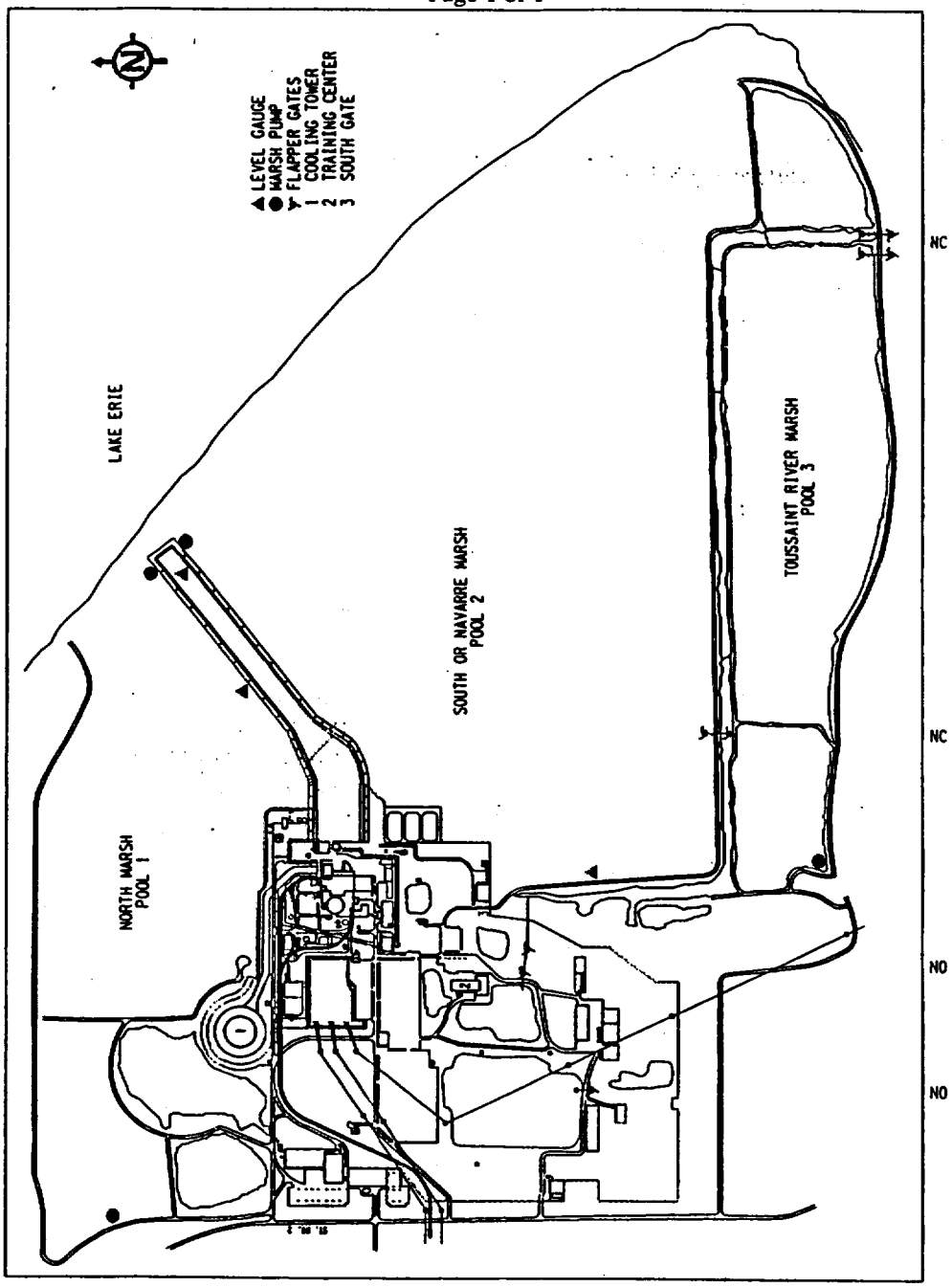
a. 585' Wall Kit , located in PSF pipe shop on east wall
b. Service Building #6, Paint Shop Kit, located outside entry

V. Other Area

a. 585' Wall Kit – WWTP, located in general laboratory area
b. DBAB Chemical Spill Kit, located in Records Management laboratory
c. 585' General Spill Kit – CWSA, outside rollup door
d. 585' Wall Kit Training Center Chemistry Laboratory
e. 585' Oil Spill Kit , located at the two-40,000 gal. Diesel Fuel Tanks
f. 585' Oil Spill Kit, located at the 100,000 gal Diesel Fuel Tank

ATTACHMENT 3: SITE MAP OF FLAPPER GATES AND MARSH PUMPS

Page 1 of 1



NO = Normally Open
NC = Normally Closed

ATTACHMENT 4: DECONTAMINATION AREA ESTABLISHMENT AND METHODS

> **CAUTION 1.0**
>
> No eating, drinking or smoking/chewing shall be allowed within the Hot or Warm Zones of the spill area.

1.0 Establishment of the Decontamination Area

1.1 Location

1.1.1 The decon area shall be set up at the entry/exit to the Hot Zone but within the Warm Zone. The entry/exit point of the spill area shall be upwind of the spill. The decon area shall be set up on a level surface to prevent any decon liquids from spreading outside of the decon area.

1.2 Equipment

1.2.1 The decon area shall consist of plastic sheeting, decon pool(s), step off pad(s), and drum(s) for contaminated personal protective equipment (PPE).

1.2.2 Decon equipment that shall be available for use include the decon solution (see 1.2.3), hand sprayer(s) for decon solution, brushes, sponges, rags, clean PPE, and plastic bags for temporarily holding contaminated equipment prior to deconning. The materials for the decon area are maintained by Environmental personnel under the direction of the Supervisor - Nuclear Chemistry Services.

1.2.3 Decon solutions should react mildly to neutralize the contaminants from the spill. If the spilled material is unknown a general decon solution may be used. However, this should be tested on a small area to ensure that a worse condition is not created. Listed below are spilled materials with the suggested decon solution. Following this list is the actual content of each decon situation.

ATTACHMENT 4: DECONTAMINATION AREA ESTABLISHMENT AND METHODS

A. Spilled Material	Decon Solution (Solution contents listed on pg. 3 of 5)
Inorganic acids Heavy metals (i.e. mercury, lead, cadmium, etc.)	A or E
Pesticides, fungicides, herbicides Chlorinated phenols, dioxins, PCBs, Cyanides Ammonia and other nonacidic inorganic wastes	B or E
Solvents and organic compounds (i.e. trichloroethylene, chloroform, toluene, PBBs, and PCBs	A, C or E
Oily, greasy unspecified wastes	C or E
Inorganic bases Alkali and pH basic waste	D
General cleaning, removal of previous hazardous decon solution (this method is preferred by EPA and should suffice in most cases)	E

ATTACHMENT 4: DECONTAMINATION AREA ESTABLISHMENT AND METHODS

B. Decon

Solution	Content
A	Solution contains 5% sodium carbonate (Na_2CO_3) and 5% trisodium phosphate (Na_3PO_4). To 2 gallons water, add one pound of Na_2CO_3 (soda lime) and 1 lb. Na_3PO_4. Stir until evenly mixed.
B	Solution contains 10% calcium hypochlorite ($Ca(ClO)_2$). To 2 gallons water, add 2 lbs. $Ca(ClO)_2$. Stir with wooden or plastic stirrer until evenly mixed.
C	Solution contains 5% trisodium phosphate (Na_3PO_4). To 2 gallons water, add 1 lb. of Na_3PO_4. Stir until evenly mixed.

CAUTION D

Concentrated HCl is very corrosive.

D	Dilute solution of hydrochloric acid (HCl). To 2 gallons water, slowly add one-third (1/3) cup concentrated HCl. Stir with wood or plastic stirrer.
E	Solution contains dishwashing liquid or other household detergent such as Tide.

1.3 Decon Area Activation

The Decon Area shall be activated upon determination that the spilled materials warrant use of decon solutions. The Decon Area shall be initially activated prior to entry of the first team and equipment into the Hot Zone of the spill area. The individual(s) working in the decon area must be HAZWOPER trained and as few as one person can make up the decon team.

ATTACHMENT 4: DECONTAMINATION AREA ESTABLISHMENT AND METHODS

CAUTION 2.0

Contaminated personnel are prioritized as follows:

1. Damaged suits/PPE, internal contamination of person, injured personnel, or person with low air SCBA.
2. Person with least contaminated exterior surface of suit/PPE.
3. Person with most contaminated exterior surface of suite/PPE.

2.0 Hazardous Substances Decontamination Methods

2.1 Emergency Decontamination

2.1.1 Emergency decon consists of the immediate removal of contamination rom personnel without using formal decon methods.

2.1.2 The primary concerns for emergency decon are:

a. Preventing loss of life

b. Preventing more severe injuries

c. Preventing heat stress which could lead to more severe heat-related conditions or injuries

2.1.3 For person with life-threatening condition, medically treat first until stabilized then decontaminate.

2.1.4 For high contaminant exposure/injury risk to person, decontaminate first then medically treat.

2.1.5 For slightly injured person and if the victim can wait a short time, decontaminate first then treat.

2.2 Primary Decontamination

2.2.1 Primary decontamination is the initial decon of personnel on the scene as they are exiting the Hot Zone of the spill area.

2.2.2 HAZWOPER trained personnel acting as the decon team shall use the same level of PPE as the personnel within the Hot Zone unless determined that a lower level of PPE is acceptable.

ATTACHMENT 4: DECONTAMINATION AREA ESTABLISHMENT AND METHODS

2.2.3 Personnel exiting the Hot Zone shall:

a. Place any contaminated equipment in a plastic bag for cleaning after decon of person.

b. Step into first decon pool.

2.2.4 The decon team shall:

a. Use decon solution and rub on suit from head to toe with sponge or cloth; use brush on boots only, rinse from head to toe with decon solution in hand sprayer.

b. Have person being deconned lift one boot, rinse, and have person step into decon pool #2. Repeat with second foot.

c. In decon pool #2, use a soap solution to remove the decon solution; follow same procedure as in 2.2.4.a above; rinse each boot last as person steps from pool onto clean plastic sheeting.

2.2.5 Person exiting the decon pools shall remove PPE in following order and place in designated containers:

a. Outer boots

b. Outer gloves

c. Tape

d. Suit with attached boot, roll inside towards outside

e. Remove boot or suit with attached boot and place foot on clean step-off pad

f. Repeat with other foot

g. Remove inner gloves, if separate from suit

2.3 Secondary Decontamination

2.3.1 Secondary decon will consist of cleaning/deconning contaminated equipment, monitoring and inspecting PPE after primary decon to ensure it is free of contamination (except for disposable PPE).

2.3.2 If equipment/PPE is still contaminated, wash with the decon solution followed by the soap solution thoroughly rinse, and monitor/inspect for contamination.

2.4 Decontamination of Decon Personnel

2.4.1 Upon completion of decon of personnel exiting the Hot Zone, the decon personnel shall decon as follows:

a. Use decon pool with least level of contamination or use new pool.

b. Follow steps as outlined in 2.2.3 through 2.2.5.

ATTACHMENT 5: SPILL OR INCIDENTAL RELEASE CLEANUP PLAN

1.0 This plan shall only be used if the spill or incidental release:

1.1 Does not involve oil, chemicals, mixed waste, or hazardous waste of reportable quantities as determined by the Supervisor - Nuclear Chemistry Services.

1.2 Does not pose a threat of personnel exposure exceeding PELs.

1.3 Does not pose a threat of migration to the offsite environment.

1.4 Does not occur under environmental or physical circumstances which may introduce reactive, dangerous or chemical by-products (i.e., conditions of extreme temperatures, fire, steam, or where incompatible chemicals may be reacted and liberate toxics).

2.0 Use of appropriate PPE to prevent skin and eye contact shall be employed.

3.0 Initial response shall be to contain or minimize the spill. This may include:

3.1 Use of dikes, booms, and absorbents or overpacks

3.2 Covering nearby or other affected drains

3.3 Posting the area to prevent spreading of the spill by personnel.

4.0 Ensure all containerized materials are labeled as follows:

4.1 Nonhazardous Materials:

a. Date

b. Contents

c. Source

d. Contact person

e. Indicate "nonhazardous"

ATTACHMENT 5: SPILL OR INCIDENTAL RELEASE CLEANUP PLAN

4.2 Hazardous Materials - Small amounts of hazardous materials (typically less than 5 gallons):

a. Date

b. Contents

c. Source

d. Contact person

e. Indicate "hazardous waste" and consult NG-DB-00504, Hazardous and Nonhazardous Chemical Waste Management, for appropriate handling and labeling.

5.0 Hazardous waste materials shall be handled in accordance with NG-DB-00504, Hazardous and Nonhazardous Chemical Waste Management

6.0 Hazardous material cleanup personnel shall have received RCRA training in accordance with NG-DB-00504, Hazardous and Nonhazardous Chemical Waste Management.

7.0 Cleanup and Recovery Response Matrix

The spill limit indicated is a mitigation benchmark only and not an absolute limit for Incidental Response criteria. Contact Nuclear Chemistry Services for guidance when quantities exceed the spill limits indicated.

	Description	Spill Limit	Response
	WARNING 7.1 Although not listed as hazardous waste, Ethylene Glycol can be toxic. Adequate ventilation and skin/eye protection should be used, the TLV is 50 ppm.		
7.1	Ethylene Glycol	<25 gallons	Containerize, label as nonhazardous waste and remove to the CWSA or CWAA as appropriate.
7.2	Oils(Non PCB) and Gasoline or Diesel Fuel	<25 gallons and no intrusion offsite or into waterways	Containerize, label as nonhazardous waste and remove to the CWSA or CWAA as appropriate. Contact Nuclear Chemistry Services for quantities exceeding 25 gallons.

ATTACHMENT 5: SPILL OR INCIDENTAL RELEASE CLEANUP PLAN

NOTE 7.3

Many hydraulic fluids are chlorinated which may render them as "hazardous wastes." The MSDS should be consulted to ensure non-halogen status.

7.3	Non-Haloginated Hydraulic Fluid	<25 gallons	Containerize, label as nonhazardous waste and remove to the CWSA or CWAA as appropriate.
7.4	Nalco Dynacool 1383	N/A	Containerize if more than 10 gallons have spilled or tank is ruptured. Label as nonhazardous waste. Flush residual spill amounts of water to drain.

NOTE 7.5

If material is mixed with water, the solution is extremely caustic, a hazardous waste, and may require HAZWOPER response.

WARNING 7.5

Respiratory protection for dust generation should be used and contact with water should be avoided.

	Description	Spill Limit	Response
7.5	Lithium Hydroxide (caustic powders)	<100 pounds	Containerize, label as nonhazardous waste and remove to the CWSA or CWAA as appropriate

ATTACHMENT 5: SPILL OR INCIDENTAL RELEASE CLEANUP PLAN

Description		Spill Limit	Response
	WARNING 7.6 Respiratory protection for dust generation should be used. The TLV is 5 ppm, and can liberate SO_2 when in contact with acids. Mitigation for large spills can be found in ECG-04.		
7.6	Sodium Bisulfite-Anhydrous (or liquid)	<100 gallons	Containerize, label as nonhazardous waste and remove to the CWSA or CWAA as appropriate. At a 40% solution, 1096 gallons trigger EPA RQ for notifications.
7.7	Sodium Bromide (Nalco 1338)	<25 gallons	Containerize, label as nonhazardous waste and remove to the CWSA or CWAA as appropriate. No RQ is listed.
7.8	TPCW	<100 gallons	Containerize, label as nonhazardous waste and remove to the CWSA or CWAA as appropriate. At a 1200 ppm Nitrite Concentration, 9660 gallons trigger EPA RQ for notifications. A discussion of spill response requirements for neat TPCW chemicals and corresponding RQs can be found in ECG-04.
	WARNING 7.9 Fyrquel EHC fluid can liberate toxic gases when exposed to steam or elevated temperatures.		
7.9	Fyrquel EHC Fluid (at ambient temperature conditions)	<55 gallons	Reclaim if possible. Containerize waste and label as "non hazardous" waste. Remove to CWSA or CWAA as appropriate. No RQ listed.

ATTACHMENT 5: SPILL OR INCIDENTAL RELEASE CLEANUP PLAN

	Description	Spill Limit	Response
	WARNING 7.10 Material shall not come in contact with other chemicals; especially acids which could react to cause liberation of lethal chlorine gas.		
7.10	Sodium Hypochlorite	<25 gallons	Containerize, label as "nonhazardous" waste and remove to the CWSA or CWAA as appropriate. At a 15% solution, 785 gallons trigger EPA RQ for notifications.
	WARNING 7.11 Contact with corrosive materials shall be avoided. Adequate ventilation shall be used; TLV is 2 ppm.		
7.11	Battery Acid/ Electrolyte Solutions	<5 gallons	Containerize, label as "potentially hazardous waste" and remove to the CWSA or CWAA as appropriate. Up to 68 gallons spilled may trigger EPA RQ. Dependant upon specific acid spilled.
7.12	Paints and Solvents	<5 gallons	Containerize, label as "potentially hazardous waste" and remove to the CWAA or CWSA as appropriate. The RQ required to trigger EPA notifications is dependent upon specific contaminant. Contact Nuclear Chemistry Services if greater than 5 gallons is spilled.

ATTACHMENT 5: SPILL OR INCIDENTAL RELEASE CLEANUP PLAN

	Description	Spill Limit	Response
7.13	Records Management/ Photographic Materials	<1 pint	

7.13.1 Hazardous Waste (typically stored in volumes less than 18 oz.)

- Kodak Developer System Cleaner
- Kodak Liquid Developers Systems Cleaners
- Fedron
- 3M Ammonia Absorber Pak (virgin/unused)
- 3M CD-5 Developer (virgin/unused)
- 3M Type 028 Fix (virgin/unused)

Containerize, label as "potentially hazardous waste" and remove to the CWSA.

NOTE 7.13.2

Small quantities of spent material used in the Photographic Equipment denoted with an asterisk, may be flushed with a large volume of water.

7.13.2 Nonhazardous Waste

- Kodak Prostor Plus
- Kodak Prostor Plus Developer
- Kodak Fixer Wash System Cleaner
- 3M Type 028 Fix (used)*
- Diazorb Crystals (used)*
- 3M Ammonia Absorber Pak (used)*
- 3M (D-5 Developer (used))*
- Aqua Ammonia Solution 1 (used)*

Containerize, label as nonhazardous waste, and remove to the CWSA or CWAA as appropriate

ATTACHMENT 5: SPILL OR INCIDENTAL RELEASE CLEANUP PLAN

	Description	Spill Limit	Response
	• Aqua Ammonia Solution 2 (used)* • Aqua Ammonia Solution 1 (virgin/unused) • Aqua Ammonia Solution 2 (virgin/unused) • Diazorb Crystals (virgin/unused)		

NOTE 7.14

Safety may require air monitoring and special PPE prior to cleanup. ECG-04 includes TLV information for specific common laboratory chemicals.

7.14	Laboratory Reagents • Acids/Bases • Ethanolamine • 3-Methoxypropylamine • 100% Morpholine	< 1 liter	If no personnel hazard is present, containerize, label as "potentially hazardous waste" and remove to CWSA.
7.15	Component Cooling Water	< 100 gallons	Containerize, label as "potentially hazardous waste" and remove to the CWAA. At a 15% ppm solution of Hydrazine, 8000 gallons would trigger EPA notifications, however 8.7 ppb limit for NPDES permit.

ATTACHMENT 6: PERSONNEL PROTECTIVE EQUIPMENT COMPATIBILITY CHART

Personnel Protective Equipment	Effective Against
Butyl Gloves	Acids and Caustics Acetone Ammonia Gas Ammonia Hydroxide Benzene Cyclohexanone (e.g. GEM Gravure ink/thinner) EHC Fyrquel Hydraulic Fluid Hydrazine (Scav-Ox) Methyl Ethyl Ketone (MEK) Morpholine Nitrobenzene Nalco 7330 Nalco 7338 Nalco 92UM001 Nalco 352 Nitric Acid Sodium Bromide Sodium Hydroxide Sulfuric Acid
Nitrile/Neoprene	Acetic Acid Ammonia Gas Ammonium Hydroxide (29%) Butyl Acetate Cyclohexanol Diesel Fuel Ethanolamine (ETA) Ethyl Alcohol Gasoline Hydrazine (Scav-Ox) Hydrochloric Acid Hydrofluoric Acid Lithium Hydroxide Methoxypropylamine (MPA) - nitrile only Nalco 1355 (EDG Jacket Water) Nalco 1332 Nalco 8338 Nalco 9216 - nitrile only PCB Phenol Pre-Tect 9002 (2% DMA) Sulfuric Acid (25%) Sodium Bisulfite Sodium Bromide Sodium Hydroxide (50%) Sodium Hypochlorite

ATTACHMENT 6: PERSONNEL PROTECTIVE EQUIPMENT COMPATIBILITY CHART

Personnel Protective Equipment	Effective Against
Silver Shield Gloves (to be used only over another glove, do NOT use alone)	Acids and Caustics (Anything except Chloroform, Ethylamine, Methylamine)
Chemrel Suit/CPV Suits Barricade Suits or equivalent	Acetone Ammonia Gas Ammonium Hydroxide (28.8%) Carbon Disulfide Chlorine Gas Diethylamine Diesel Fuel Ethanolamine (ETA) Formaldehyde Gasoline n-Hexane Hydrazine Hydrochloric Acid (37%) Hydrofluoric Acid (50%) Methanol Methoxypropylamine (MPA) - nitrile only Methyl Bromide MEK (Methyl Ethyl Ketone) Mineral Spirits Morpholine Nalco 92UM001 Nalco 7330 Nalco 7338 Nalco 352 Nalco CA-926C Nitric Acid (70%) PCBs Sodium Bisulfite Sodium Bromide Sodium Hydroxide (40%) Sodium Hypochlorite Sulfuric Acid (16-98%) Toluene Trichlorobenzene

ATTACHMENT 6: PERSONNEL PROTECTIVE EQUIPMENT COMPATIBILITY CHART

Personnel Protective Equipment	Effective Against
Saranex Suit	Chlorine Gas Diesel Fuel Gasoline
Barricade Suits or equivalent	EHC Fyrquel Hydraulic Fluid Hydrochloric Acid (37%) Lithium Hydroxide Methanol Mineral Spirits Nalco 1332 Nalco 1355 Nalco 8338 Nitric Acid (70%) PCB Sodium Bromide Sodium Hydroxide (50%) Sulfuric Acid (16-98%)
Viton Gloves	1,1,1-Trichloroethane 1,2-Dichloroethane Benzene Carbon Tetrachloride Chloroform Cyclohexane Methylamine n-Hexane PCBs Sodium Bromide Toluene Trichloroethylene Xylene

COMMITMENTS

Section	Reference	Comments
6.2.11, 6.2.12	TERMS O 09590	Operators (Shift Manager or Unit Supervisor) shall secure/isolate Control Room Ventilation System and start the Control Room Emergency Ventilation System (with fresh air damper closed) in the event of a toxic gas release. If fumes from a toxic liquid release are detected in the Control Room atmosphere, the Shift Manager shall secure the fresh air damper to the Control Room Ventilation System.
Entire Procedure	NUREG 1.33	NUREG 1.33, Appendix A, F.18 states that typical safety-related activities, i.e. expected transients, should be covered by procedures. Specifically, these procedures are for combating emergencies and other significant events.