Attachment 24 to

GNRO-2012/00039

ER Reference - Entergy 2011c (EN-EV-112) "Chemical Control Program"

Procedure Contains NMM eB REFLIB Forms: YES ☒ NO ☐

Effective Date	Procedure Owner: Title: Site:	Donald Allen Farquharson HP/Chem Technical Specialist ENVY	Governance Owner: Title: Site:	Patrick Donahue Fleet Environmental Manager
09/06/2011				

Exception Date*	Site	Site Procedure Champion	Title
	ANO	Larry McCollum	Sr HP/Chem Spec (Nuc)
	BRP	N/A	
	GGNS	Rosie Bevily	HP/Chem Spec Iii (Nuc)
	IPEC	Barbara Homyk	Sr HP/Chem Spec (Nuc)
	JAF	Andy Marks	Chief Journeyman C&E Tech
	PLP	Joe Hager	Sr Environmental Spec (Nuc)
	PNPS	Paula Gerry	Technical Spec II
	RBS	Wayne Hilliard	HP/Chem Spec Iii (Nuc)
	VY	Don Farquharson	HP/Chem Spec
	W3	Brian Falgoust	Sr RP/Chem Spec
	NP	N/A	
	HQN	N/A	

Site and NMM Procedures Canceled or Superseded By This Revision

Process Applicability Exclusion: All Sites: ☐

Specific Sites: ANO ☐ BRP ☐ GGNS ☐ IPEC ☐ JAF ☒ PLP ☐ PNPS ☐ RBS ☐ VY ☐ W3 ☐ NP ☐

Change Statement

Revision 11 changes:

- **Step 5.9[1][j](i): Removed the requirement for electrically bonding flammable storage cabinets as this requirement is required for dispensing rather than storage.**
- **Step 5.10[1](h): Adds requirement to store flammables when unattended.**
- **Attachment 9.1: Added Control Room Habitability Review to the Personal Safety Aspects Section.**
- **Attachment 9.6: Removed need for review of grounding for flammable storage by Industrial Safety.**
- **Attachment 9.7: Deleted requirement to ground lockers as per vendor specific guidance.**

*Requires justification for the exception

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1.0 PURPOSE

NOTE

This procedure also fulfills the requirements of a Written Hazard Communication Plan as outlined in 29 CFR 1910.1200(e).

[1] This procedure establishes controls for: **[P-25165 & P-25171]**

(a) Those chemicals and materials containing chemicals, which may be harmful to plant systems or equipment, present a hazard to personnel, or generate a hazardous waste.

(b) Purchase, storage, issuance and usage of chemicals.

2.0 REFERENCES

[1] Entergy Nuclear

(a) NMM Procedure EN-EV-106, Waste Management Program

(b) NMM Procedure EN-EV-104, Waste Minimization Program

(c) NMM Procedure EN-EV-117, Air Emissions Management Program

[2] Entergy Nuclear North Reference

(a) NMM Procedure ENN-DC-161, Transient Combustible Program

[3] Industry References

(a) B&W Nuclear Service Company - Consumable Material Co-Op Database and Hard Copy

(b) EPRI NP-4449, Guidelines for Control of Expendable Products

(c) General Electric Document NEDC-31735P, BWR Operators Manual for Materials and Processes

(d) GE SIL #381, Control of Non-Approved Organic Cleaning Compounds and Other Materials in BWR's

(e) GE SIL #396, Qualification of Chemical Decontamination Solutions and Procedures for Reactor Primary and Auxiliary Systems

2.0[3] Cont

(f) INPO 88-021, Guidelines for Chemistry at Nuclear Power Stations

(g) INPO Good Practice CY-703, Control of Chemicals in Nuclear Power Plants

(h) National Fire Protection Administration 704-1985, Identification System for Fire Hazards of Materials

(i) Tech Manual 457002121, Volume 1 – Instructions Manual for Models 201 and 501 Environmental Gas Chromatograph and Continuous Gas Monitor

[4] Regulatory References

(a) 10CFR20, Standards for Protection Against Radiation (Appendix G.I.C.7 & II.S1)

(b) 10CFR61.56 Waste Characteristics, Paragraphs (4), (5) and (6)

(c) OSHA 29CFR1910.1200, Hazard Communication

(d) Regulatory Guide 1.36, February 23, 1973, "Nonmetallic Thermal Insulation for Austenitic Stainless Steel"

(e) Regulatory Guide 1.37, March 16, 1973, "Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants"

(f) Regulatory Guide 1.78, Assumptions for Evaluating Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release

(g) 1910.106 of OHSA Standard, Flammable and Combustible liquids

(h) 1910.106(d)(3)(ii)(a) of OHSA Standard, Hazard Materials, Flammable and Combustible Liquids

[5] Arkansas Nuclear One

(a) ANO Procedure 5510.300, "Material Technical Evaluations"

(b) Commitment No. P-10958 Letter 25 AUG82 #OCNA088220, NRC to AP&L, closure of Open Item 313/8108-03: Control of Toxic Liquids in Radiologically Controlled Areas.

2.0[5] Cont

[6] Grand Gulf Nuclear Station

(1) Procedure 01-S-07-13, Cleaning Processes

(2) Procedure 01-S-07-37, Control of Work for Penetrations, Painting, Snubbers and Insulation

(3) Procedure 01-S-08-22, Operating Guidelines for the Use of Polyethylene High Integrity Containers (Attachments I, II)

(4) Procedure 10-S-03-2, Responses to Fires (Attachments II, III, IV)

(5) Hazard Chemical Evaluation Relative to Control Room Habitability Engineering Report No. GGNS-91-0005

[7] Pilgrim Nuclear Power Station

(a) PNPS Procedure 1.4.39, Control of Painting in the Reactor Building

[8] River Bend Station

(a) RBS Updated Safety Analysis Report Tables 2.2-5 and 2.2-7

[9] Vermont Yankee

(a) None.

[10] Waterford 3

(a) Letter C-CS-9270-286, CE Acceptable Materials, dated March 10, 1981

(b) Tech Manual 457002121, Vol. 1 - Instruction Manual for Models 201 and 501 Environmental Gas Chromatograph and Continuous Gas Monitor

(c) W3 Procedure CE-001-008, Inventory and Control of Chemicals and Reagents

(d) W3 Procedure UNT-007-060, Control of Loose Items

[11] Palisades

(a) Westinghouse Electric Corporations, Steam Generator Reliability Program, Consumables control, Program Evaluation, NSD-JL-B-5167

3.0 DEFINITIONS

[1] Acadia Database – An electronic database that may used for compliance with this procedure.

[2] Alternate Chemical Application Approval – A request to use a chemical in an application other than as approved. (Refer to Section 5.4)

[3] Approved Chemical List (ACL) –

(a) List of chemicals that have been approved for use by the analysis and/or review processes of this procedure.

(1) Attachment 9.8 of this procedure contains general instructions for accessing the ENS ACL database.

(2) At IPEC, the ACL may be accessed via the Indian Point home page under Information.

(3) The ACL at JAF and VYNPS may be accessed through Acadia Viewer from the station home page under *Applications*.

(4) For access to the ACL at PNPS, contact the Site Chemical Control Coordinator.

[4] Bar-Coding - a mechanism that may be used to track chemicals that is used inside the Controlled Access Area (CAA), Radiologically Control Area (RCA) and/or the Power Block and is stamped on the container label and is tracked via computer.

[5] Chemical - any solid, gas or liquid that could be a personnel or equipment hazard if improperly handled, stored or disposed, or that would cause corrosion of plant materials if introduced into plant systems. Examples of chemicals include, but are not limited to the following:

•Abrasives used for sandblasting and cleaning

•Absorbents

•Adhesives

•Aerosol cans

•Air sampling tubes (example: Draeger air sample tubes)

•Bakerbond Speeddisk ® Oil & Grease Filters

3.0[5] cont

- Borax
- Boric Acid
- Chemistry Samples
- Cleaning Agents
- Coatings
- Compressed gas cylinders
- Crayons
- Cutting Fluids
- Desiccants
- Detergents
- Dishwashing detergent/liquid
- Dye Penetrants/Developers
- Etching Agents
- Fire equipment
- Food preparation supplies such as oil, grease, PAM kept in office, kitchen area
- Fuels (i.e., non-nuclear fuels)
- Gaskets, valve stem packing, etc. of a permanent nature which are required for plant operations
- Glues
- Herbicides
- Inks
- Insecticides
- Insulation

3.0[5] cont

- Hydraulic Fluids
- Kits and packages containing chemicals
- Laboratory Chemicals
- Leak Detection Fluids
- Lubricants
- Markers
- Medical Supplies
- Micrographics supplies
- Office Supplies
- Paints
- Personal effects such as perfumes, colognes, mouthwash, toothpaste, etc.
- Products used in servicing elevators by qualified vendors and Entergy line/transformer crews
- Qualified contractor/exterminators herbicides and insecticides approved by Chemistry
- Resin
- Sealant
- Solders
- Solvents
- Spill Kits
- Tapes
- Tools and portable equipment/machinery containing chemicals in the CAA
- Welding Rods
- Wrapping Materials
- Others as determined by the SCCC

3.0 cont

[6] Chemicals Approved With Exception –

(a) A chemical that has been temporarily approved for use with strict restrictions by the analysis and/or review processes of this procedure or

(b) A chemical approved in situations when the material's composition is not known or is known to be above plant specifications or

(c) A chemical used for a limited time only.

(d) Chemicals approved in this manner are an exception to the normal process.

(e) Refer to Section 5.5.

[7] Chemical Storage Area –

(a) Includes but not limited to, any area were chemicals are stored (lockers, cages (stationary or portable), trailers, general work areas, office areas, vehicles/carts).

(b) Designated as a storage area by the Department Chemical Control Coordinator (DCCC).

(c) Approved by the Site Chemical Control Coordinator (SCCC) and if applicable the Chemistry Manager.

(d) Refer to Section 5.9.

[8] Chemical Use Data Sheet (or similar informational device) - mechanism utilized to provide chemical users with such information as:

(a) Chemical Use Classification

(b) Storage codes/colors

(c) Chemical approval application

(d) Chemical use restrictions

(e) Disposal requirements

(f) Comments as appropriate.

3.0 cont

[9] Chemical Use Request (CUR) - mechanism used to request approval to:

(a) Introduce a new chemical on-site.

(b) Have a chemical re-evaluated for use in areas other than as approved. (Refer to Section 5.4 - Alternate Chemical Applications).

(c) Change to a different manufacturer brand, product formulation or container size of a chemical approved.

(d) Document chemicals approved with exceptions. (Refer to Section 5.5 – Chemical Exception Approvals)

[10] Controlled Access Area (CAA)/ Radiologically Controlled Area (RCA) – any area where access is controlled for the purpose of protecting personnel from radiation and radioactive material.

[11] Critical Use Area (as defined in Section 2.0[3](c) –

(a) Those areas, components or materials directly or indirectly contacting reactor coolant water.

(b) Safety-related parts or systems.

(c) Parts whose functional integrity is essential for maintaining reactor operation.

[12] Exempted Chemicals –

(a) Chemicals that are exempt from the labeling requirements of this procedure after initial review by the Site Chemical Control Coordinator (SCCC). (Refer to Sections 5.2[4] and 5.2[5])

(b) Chemicals exempt from the Chemical Control Program. (Refer to Section 5.2[4])

3.0 cont

NOTE

To determine if a chemical is classified as an "exempted chemical", review the Approved Chemical List (ACL), or contact the Site Chemical Control Coordinator (SCCC) or Department Chemical Control Coordinator (DCCC)

[13] Material Safety Data Sheet (MSDS) - An information sheet describing the chemical and physical characteristics of a substance or a mixture of substances.

(a) Entergy Nuclear South Specifics:

NOTE

3E provides MSDS services for the Entergy Nuclear South sites and there is a 24 hours/day – 7 days/week MSDS fax on demand available by calling 1-800-711-5918.

- MSDS's for chemicals located in the ACL database are normally available on the 3E MSDS database.
- **IF** the MSDS is not available in the 3E database, **THEN** contact the SCCC.
- **IF** the SCCC is not available and the situation is urgent, **THEN** call 3E.
- Employees may refer to Attachment 9.8 for general instructions on how to access the 3E MSDS database.

(b) Pilgrim Nuclear Power Station Specifics:

- **IF** the MSDS is not available in the ACL database, **THEN** contact the SCCC.
- If the ACL is unavailable, an MSDS can be obtained in an emergency by calling CHEMTREC at (800) 424-9300 or by contacting the SCCC.
- Employees may refer to Attachment 9.8 for general instructions on how to access the ACL database.

3.0[13] cont

(c) FitzPatrick and Indian Point Specifics:

- For copy of the MSDS, contact the SCCC.

(d) Vermont Yankee Specifics:

- Refer to Attachment 9.8 or contact the SCCC.

[14] OSHA Labeling – Hazardous chemical containers that are labeled, tagged or marked with the:

(a) Identity of the hazardous chemical,

(b) Appropriate hazard warnings, and

(c) Name and address of chemical manufacturer, importer or other responsible party.

[15] Plant System –

(a) Safety-related systems,

(b) Systems or components that directly contact the reactor coolant or

(c) Make-up to reactor coolant or any part of the nuclear steam supply system.

[16] Power Block –

(a) Arkansas Nuclear One (ANO) - Reactor Buildings, Reactor Auxiliary Buildings, Turbine Buildings, Intake structure, Blackout Diesel Building, and Emergency Diesel Fuel Oil Storage Vault.

(b) Grand Gulf Nuclear Station (GGNS) - all elevations of the following buildings: Control Building, Water Treatment Building, Areas in the CAA.

(c) Indian Point Energy Center (IPEC) – All of the Protected Area except Office Areas and the Security Command Post.

(d) James A. Fitzpatrick (JAF) – Reactor Building, Turbine Building and Radwaste Building.

(e) Pilgrim Nuclear Power Station (PNPS) – All of the Protected Area except Office Buildings, O&M Building (non-RCA) and the Executive Building.

3.0[16] cont

(f) Vermont Yankee (VY) - All of the Protected Area except the Administrative Building, Construction Office Building, New Warehouse, South Warehouse, North Warehouse and Gate 2.

(g) River Bend Station (RBS) - all elevations of the following buildings: Turbine Building, Reactor Building, Diesel Generator Building, Auxiliary Building, All Plant Tunnels, Radwaste Building, excluding Auxiliary Control Room, Fuel Building, Normal Switchgear Building, Water Treatment Building, Standby Cooling Tower, Control Building, excluding Main Control Room.

(h) Waterford 3 (W3) - areas of the plant site that contribute to basic power production to include the Reactor Containment Building, Reactor Auxiliary Building, Turbine Generator Building, Fuel Handling Building and Condensate Polishing Building.

(i) Palisades (PLP)- All of the Protected Area except the Administrative Building, Construction Office Building, Warehouses and Security Command Posts/Building.

[17] Site – All property owned or controlled by Entergy Nuclear (includes Administrative and Training facilities).

[18] Volatile Organic Compounds (VOCs) - emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors. VOCs are emitted by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions.

[19] Waste Chemical – chemical that has been used and can no longer serve its' intended purpose or a chemical that is in a condition that cannot be used.

4.0 RESPONSIBILITIES

[1] Chemistry/Environmental Focus Group – are responsible for:

(a) The maintenance and interpretation of this procedure.

(b) The approval of any revisions or deviations from this procedure.

[2] Chemistry Managers- are responsible for:

(a) Implementation and control of the Chemical Control Program at their site and are assisted by Site Chemical Control Coordinators (SCCC).

(b) Designating the SCCC.

NOTE

At IPEC and PNPS the Radiation Protection department coordinates offsite waste shipments of surplus or partially used chemicals for disposal.

(c) Coordinating offsite waste shipments of surplus or partially used chemicals for disposal.

[3] Site Chemical Control Coordinators (SCCC) - are responsible for:

(a) Reviewing and approving chemicals to be used on-site.

(b) Ensuring a Material Safety Data Sheet (MSDS) is available for chemicals listed on the Approved Chemical List (ACL).

(c) Making recommendations for control of inventory to minimize the amount and number of approved chemicals on-site.

(d) Ensuring access to the ACL is available.

(e) Updating changes to the ACL.

(f) Performing periodic inspections of the plant site, including chemical storage areas, to verify program compliance.

(g) Notifying appropriate chemical user departments of changes to the ACL.

(h) Review and approve inspection forms from the Department Chemical Control Coordinators (DCCC) to complete periodic inspections of their chemical storage areas.

(i) Approving the number of onsite chemical storage locations.

4.0[3] cont

(j) Maintaining a list of chemical storage locker locations and the associated department owners.

(k) Obtain site Fire Protection concurrence for changes in permanently located Flammable Liquid Storage Cabinets inventory or location.

[4] Department Manager/Superintendents - are responsible for:

(a) Ensuring that only approved chemicals, as defined in Section 3.0[3], are ordered and used on-site.

(b) Coordinating with the SCCC to ensure that chemicals received on-site, by whatever purchase method, are properly labeled, stored and issued in accordance with this procedure and the Chemical Use Data Sheet (or similar informational device) on the ACL or other location specified by SCCC.

(c) Ensuring proper disposal of unused chemicals or empty containers as directed by the Chemical Use Data Sheet (or similar informational device) on the ACL (or other location specified by SCCC) or site environmental personnel.

(d) Ensuring that employees are aware of and comply with the use, handling, safety, disposal, labeling, storage, and other restrictions and requirements given on the Chemical Use Data Sheet (or similar informational device) and/or MSDS.

(e) Ensuring that a Chemical Use Request (CUR) is initiated whenever:

- A new chemical is to be introduced on-site.
- A change is made to a different manufacturer brand, product formulation or container size for a chemical already approved.
- An approved chemical be used in a manner other than as approved. (Refer to Section 5.4 - Alternate Chemical Applications)

(f) Providing adequate storage for chemicals issued to their section.

(g) Obtaining approval for department's chemical storage locations. (Refer to Section 5.9 – Chemical Storage)

(h) Ensuring that monthly inspections are performed in their designated areas. (Refer to Section 5.9 – Chemical Storage).

(i) Incurring costs for handling and disposal of unused chemicals and containers, including associated warehouse costs when applicable.

4.0[4] cont

(j) Ensuring that chemicals transported to and from job sites are properly labeled and in approved containers.

(k) Notifying the SCCC when a chemical is no longer used or needed on-site.

(l) Serving as or appointing a Department Chemical Control Coordinator.

(m) Informing the SCCC of any changes in designation of the DCCC.

[5] Department Chemical Control Coordinators (DCCC) - are responsible for:

(a) Performing monthly inspections of approved chemical storage areas/lockers.

(b) Resolving discrepancies involving the department's use or storage of chemicals identified during chemical control walk downs, audits or inspections.

(c) Serving as a point of contact for the SCCC and department personnel.

(d) Controlling department's chemical storage area(s).

(e) Other duties in Section 4.0[4] as assigned by department supervision.

[6] Site Industrial Safety Specialist - is responsible for evaluating chemicals with a Health Rating of 3 or 4 from an industrial hygiene concern perspective.

[7] Site Personnel - are responsible for:

(a) Being aware of and complying with the use, handling, safety, disposal, labeling, storage and other restrictions and requirements given on the Chemical Use Data Sheet (or similar informational device) on the ACL (or other location specified by SCCC) and/or MSDS.

(b) Ensuring that chemicals in their possession are not misused.

[8] Contract Managers or Entergy Supervisors - are responsible for:

(a) Contractors and resource sharing employee's compliance with this procedure.

(b) Following Section 5.11 for control of contractors and resource sharing employee's chemicals.

(c) Following Section 5.9 for storage of contractors and resource sharing employee's chemicals.

4.0[8] cont

[9] Contractors/Resources Sharing Employee - are responsible for:

(a) Obtaining approval from Environmental/Chemistry prior to removing or disposing of excess, used or unused materials/chemicals.

(b) Being aware of and complying with the use, handling, safety, disposal, labeling, storage and other restrictions and requirements given on the Chemical Use Data Sheet (or similar informational device) on the ACL (or other location specified by SCCC) and/or MSDS.

5.0 DETAILS

5.1 PRECAUTIONS AND LIMITATIONS

None

5.2 GENERAL

[1] Entergy personnel and contractors/resource sharing employees are to refer to the Chemical Use Data Sheet (or similar informational device) on the ACL (or other location specified by SCCC) or the MSDS when directed by this procedure.

[2] Entergy personnel and contractors/resources sharing employees are to refer to:

(a) Section 5.3 for instructions on purchasing chemicals.

(b) Section 5.4 for using chemicals in an application other than as approved. (Alternate Chemical Applications)

(c) Section 5.5 for purchasing chemicals for special applications or other unique situations. (Chemical Exception Approvals)

(d) Section 5.7 for deleting chemicals from the ACL.

(e) Section 5.8 for labeling chemicals received through the Warehouse and other locations.

(f) Section 5.9 for chemical storage.

(g) Section 5.10 for chemical usage.

(h) Section 5.11 for controlling contractor/resource sharing employee chemicals.

(i) Section 5.12 for dispositioning surplus chemicals.

(j) Section 5.13 for managing waste chemicals.

(k) Section 5.14 for disposal of chemicals.

(l) Section 5.16 for training requirements associated with the chemical control program.

5.2 cont

[3] The SCCC is to refer to:

(a) Section 5.4 for using chemicals in an application other than as approved. (Alternate Chemical Applications)

(b) Section 5.5 for purchasing chemicals for special applications or other unique situations. (Chemical Exception Approvals)

(c) Section 5.6 for reviewing CURs.

(d) Section 5.7 for deleting chemicals from the ACL.

(e) Section 5.15 for inspection and enforcement activities associated with the chemical control program.

NOTE

ALL CHEMICALS on-site, unless exempted per Sections 5.2[4] and 5.2[5] or the Chemical Use Data Sheet (or similar informational device) located on the ACL or other location specified by SCCC, must be labeled.

In designated areas where chemicals are received by the site and stored prior to issuance such as warehouses, vendor stocking areas and other areas designated by the SCCC, the chemical may be unlabeled until issued. All chemicals in these designated areas shall be stored in accordance with Attachment 9.9 (Chemical Storage Guidance) to prevent incompatible chemical reactions.

The SCCC has the option to place chemicals on hold until all required information can be obtained to make an evaluation.

[4] The following chemicals are exempted from the Chemical Control Program. However, OSHA labeling, MSDS requirements, chemical storage guidance in Attachment 9.9, and restrictions apply to these chemical products as directed below.

(a) Air sampling tubes (example: Draeger air sample tubes) – MSDS not required.

(b) Bakerbond Speeddisk ® Oil & Grease Filters – MSDS not required.

(c) Chemistry Samples –

- Exempt from MSDS/OSHA requirements.
- Label container with type of sample (reactor water, equipment drain, etc.).

5.2[4] cont

(d) Elevator Vendor's products used in servicing plant elevators under a contract and approved by Chemistry.

- Must have MSDS' on file with Site Chemical Control Coordinator.
- Ensure manufacturer information is legible.
- Ensure secondary container has manufacturer information.

(e) Food and food preparation supplies, kept in office or kitchen areas –

- Exempt from MSDS requirements.
- Not to be taken into the CAA without permission from the SCCC.
- Not to be used on any plant system.
- Contact the SCCC for disposal of any aerosol/compressed air cans.

NOTE

Herbicides and insecticides used by a qualified contractor/exterminator and approved by Chemistry are not exempt from the Chemical Control Program at VYNPS due to the State of Vermont Pesticide Reporting Requirements.

(f) Herbicides and pesticides used by qualified contractor and approved by Chemistry/Environmental.

- Must have MSDS' on file with Site Chemical Control Coordinator.
- Ensure manufacturer information is legible.
- Ensure secondary container has manufacturer information.

(g) Entergy line/transformer crews controlled under a contract and approved by Chemistry.

- Exempt from MSDS requirements.
- Ensure manufacturer information is legible.
- Ensure secondary container has manufacturer information.

5.2[4] Cont

(h) Exterminator Contractors (such as Orkin or Terminex)

- Must have MSDS' on file with Site Chemical Control Coordinator.
- Ensure manufacturer information is legible.
- Ensure secondary container has manufacturer information.

(i) Medical supplies – except for chemicals already in the CCP such as clorox, sodium hydroxide, etc.

- Exempt from MSDS requirements.
- Ensure manufacturer information is legible.

(j) Personal effects such as perfumes, colognes, toothpaste, shaving cream, etc.

- Exempt from MSDS requirement.
- Not be taken into the CAA without permission from the SCCC.
- Not to be used on any plant system.
- Contact the SCCC for disposal of any aerosol/compressed air cans.

(k) Plant Samples - being collected for testing or disposal

- Exempt from MSDS/OSHA labeling requirements.
- Label container with type of sample (oil, grease, etc.), system number and department/persons name.

(l) Other products as determined by the SCCC.

[5] The following chemicals are exempted from chemical control labeling after initial review. However, OSHA labeling requirements and chemical storage guidance in Attachment 9.9 would apply as noted below. The end users are to refer to the Chemical Use Data Sheet (or similar informational device) on the ACL (or other location specified by SCCC) for authorized use, restrictions, disposal and other requirements.

(a) Abrasives used for sandblasting and cleaning (OSHA labeling required)

(b) Borax and boric acid controlled by plant procedures (OSHA labeling required)

(c) Compressed gas cylinders (OSHA labeling required)

5.2[5] cont

(d) Fire equipment (OSHA labeling required)

(e) Gasket, valve stem packing, etc. and other products of a permanent nature which are required for plant operation are excluded only IF controlled by equipment specifications or other plant programs.

(f) Laboratory chemicals

(g) Micrographic supplies

(h) Office supplies

(i) Ion Exchange Resin (OSHA labeling required)

(j) Spill kits (OSHA labeling required)

NOTE

All tapes must be approved for use on plant systems. Non-nuclear Grade Duct Tape is not allowed on-site.

(k) Tapes

(l) Welding rods

(m) Other products as determined by the SCCC and designated on the ACL.

5.3 CHEMICAL PURCHASES [P-17802, P-17805, P18106, P-18107, P-18108 & QAPM B.4]

[1] Entergy personnel, contractors and resource sharing employees are to refer to the Chemical Use Data Sheet (or similar informational device) on the ACL (or other location specified by SCCC) when directed by this procedure.

NOTE

Chemical products received as part of a kit or package are to be evaluated and labeled per the requirements of this procedure.

[2] Entergy personnel, contractors and resource sharing employees purchasing chemicals are to:

(a) Review the ACL to determine **IF** the chemical is already approved or **IF** a suitable alternative exists.

5.3[2] cont

(b) **IF** the chemical is on the ACL, and is to be used in an application as approved and is the same manufacturer brand, product formulation and container size, **THEN**:

- Ensure that the product information is properly listed on the material request form, field order request form or automated reorder form.

(c) **IF** the chemical is not on the ACL, or is a different manufacturer brand, product formulation or container size, and no suitable alternative exists, **THEN**:

- Complete Part A of the CUR Form shown in Attachment 9.1.
- Obtain a MSDS and/or other technical information on the chemical from the vendor or manufacturer.

> **NOTE**
>
> After the Chemical Use Request (CUR) and other required information is received by the SCCC, a minimum of five (5) working days may be required for the review to be completed. Chemicals being used on primary and secondary systems may require a longer period of time. The ONLY exception is if the chemical is required to prevent plant shutdown.

- Forward the CUR Form, MSDS and other technical information to the SCCC for review and approval via electronically, hand carried or interoffice mail.
- Obtain SCCC approval prior to ordering chemical.
- All chemicals must be purchased with a purchase order (PO) or per a negotiated contract or as excepted by the Chemistry Manager for emergent work.
- Entergy Contract Managers are responsible for ensuring new chemicals brought on site by a contractor are approved per EN-EV-112.

(d) **IF** the chemical is on the ACL and is to be used in an application other than as approved, **THEN** refer to Section 5.4. (Alternate Chemical Applications)

(e) **IF** the chemical is to be used in special applications and for limited duration, **THEN** refer to Section 5.5. (Chemical Exception Approvals)

5.3[2] cont

(f) Prior to ordering chemicals, ensure:

(1) That the chemical, as defined in Section 3.0[5], has been approved for use on-site.

(2) That chemical reorders are of the same manufacturer brand, product formulation and container size currently in stock.

(3) **IF** chemical is to be used as a **Class I** chemical (Critical Use Area), **THEN** perform the following:

- Include in the PO or contract used to purchase chemicals the applicable specifications from Attachment 9.3.
- Class 1 Chemicals shall be purchased using the procurement process established in EN-MP-111, "Inventory Control", EN-MP-117, "Standardized Procurement Process", and EN-DC-313, "Procurement Engineering Process".
- **IF** vendor will not provide agreement to specifications in Attachment 9.3, **THEN** as an alternate, the chemical can be purchased, placed on QC hold and a sample taken and have testing performed, usually at requestors expense.
- Obtain nuclear fuels group approval on all new Class I chemicals used for reactor coolant.

[3] For approval of chemicals after normal working hours or when the SCCC is not on-site, contact the Chemistry/Environmental Department.

5.4 ALTERNATE CHEMICAL APPLICATIONS

[1] Unless otherwise specified by the SCCC, Entergy personnel, contractors and resource sharing employees, prior to using a chemical in applications other than as approved, are to:

(a) Complete Part A of the CUR Form shown in Attachment 9.1.

(b) Forward the CUR Form to the SCCC for review and approval via electronically, hand carried or interoffice mail.

(c) Obtain SCCC approval prior to using the chemical in an alternate application.

(d) For approval of chemicals after normal working hours or when the SCCC is not on-site, contact the Chemistry/Environmental Department.

5.4 cont

[2] Unless otherwise specified by the SCCC, Entergy personnel, contractors and resource sharing employees using chemicals in an alternate application are to:

(a) Ensure chemical labeling is correct.

(b) Notify the SCCC upon completion of the work requiring the chemical.

[3] The SCCC, upon approval of an alternate chemical application, is to:

(a) Ensure that the alternate application did not change chemical labeling requirements (e.g. chemical use classification restrictions).

(b) **IF** labeling requirements change, **THEN** notify the appropriate chemical user departments.

(c) Maintain documentation of chemicals approved in an alternate application.

(d) Investigate use of chemicals approved for use in an alternate application for which notification of completion has not been received.

5.5 CHEMICAL EXCEPTION APPROVALS

[1] Unless otherwise specified by the SCCC, Entergy personnel, contractors and resource sharing employees, prior to purchasing chemicals for special applications are to:

(a) Complete Part A to the CUR Form shown in Attachment 9.1.

(b) Obtain a MSDS and other technical information on the chemical from the vendor or manufacturer.

(c) Retain a copy of the MSDS.

(d) Forward the CUR Form, MSDS and technical information to the SCCC for review and approval via electronically, hand carried or interoffice mail.

(e) Obtain approval prior to introducing chemical on-site.

(f) For approval after normal working hours or when the SCCC is not on-site, contact the Chemistry/ Environmental Department.

5.5 cont

[2] Unless otherwise specified by the SCCC, Entergy personnel, contractors and resource sharing employees using chemicals approved with exceptions are to:

(a) Ensure the special issue documentation or label accompanies the chemical at all times.

(b) Notify the SCCC upon completion of the work requiring chemicals approved with exception.

[3] The SCCC is to:

(a) Maintain documentation of chemicals approved with exceptions.

(b) Investigate use of chemicals approved with exception for which notification of completion has not been received.

5.6 REVIEW OF CHEMICAL USE REQUESTS **[P-10958, P-17802, P-17805, P-18106, P-18107, P-18108, QAPM Table 1.D.3 & QAPM Table 1.D.4]**

[1] The SCCC, upon receipt of a CUR, evaluates the chemical according to the following criteria as applicable:

(a) References (and associated guidelines) shown in Section 2.0, as applicable

(b) Personnel safety criteria as shown in Attachment 9.2

(c) Industrial hygiene concerns in conjunction with site industrial safety specialist for chemicals with a Health Rating of 3 or 4

(d) Safety-related structures, systems and components and austenitic stainless steel criteria and other operational considerations

(e) Contaminant limits shown in Attachment 9.3, unless exempted per site engineering review process or vendor recommendation

(f) At BWR sites, chemicals, including those that emit gaseous vapors (VOCs), that could have a detrimental effect on the Standby Gas Train (SBGT) filters

(g) At JAF and IPEC, refer to EN-EV-117 regarding Volatile Organic Compound (VOC) content

(h) Compatibility with electrical and plastic components

(i) Products containing Teflon, including Teflon tapes

(j) Radwaste processing and disposal criteria

5.6[1] cont

(k) Wastewater processing and discharge criteria

(l) Hazardous waste minimization criteria in accordance with Sections 2.0[1](b), 2.0[4](a) and 2.0[4](b)

(m) Chemicals, including those that emit gaseous vapors, which could activate toxic gas monitors in the Control Room in accordance with Section 2.0[4](f) and 2.0[6](e)

(n) Prohibition of lubricants containing MoS_2 (molybdenum disulfide) for bolting [LO-LAR-2008-0048-20] [RC07.2029.32] [LO-LAR-2009-244-10].

NOTE

At PNPS products containing molybdenum disulfide are banned from entering Entergy property.

[2] **IF** approved, the SCCC **THEN**:

(a) Classifies the chemical as either:

- CLASS I - Chemicals may be used on-site and in the CAA/RCA and/or Power Block and in direct contact with plant systems (primary and secondary steam and water systems) under normal operating conditions, such as high temperatures and radiation flux. These chemicals are **NOT** required to be removed from surfaces prior to returning systems to service.

- CLASS II - Chemicals may be used on-site and in the CAA/RCA and/or Power Block and in direct contact with plant systems (primary and secondary steam and water systems), without detrimental effects, **BUT** are to be removed to the maximum extent practicable from internal piping and equipment surfaces prior to returning to service. At **BWR** sites, do **NOT** flush or drain these chemicals to Radwaste. At **All Sites**, do **NOT** allow down Storm Drains or Outfalls.

- CLASS III - Chemicals may be used on-site and in the CAA/RCA and/or Power Block but **NOT** in direct contact with primary and secondary steam and water systems. At **BWR** sites, do **NOT** flush or drain these chemicals to Radwaste. At **All Sites**, do **NOT** allow down Storm Drains or Outfalls.

5.6[2] cont

- CLASS IV - Chemicals that may be used on-site but are excluded/ restricted from use within the CAA/RCA and/or Power Block or on any components to be installed within the CAA and/or Power Block. At **All Sites**, do **NOT** allow down Storm Drains or Outfalls.

> **NOTE**
>
> Examples of chemicals to consider as a Class V are oxidizers, oxidizing acids, reactives, those with special use restrictions, and those containing volatile organic compounds (VOCs).

- CLASS V - Chemicals that are approved with special restrictions in which the users are to consult the Chemical Use Data Sheet (or similar informational device) for specified restrictions or the Chemistry Department, as appropriate. At **BWR** sites, do **NOT** flush or drain these chemicals to Radwaste. At **All Sites**, do **NOT** allow down Storm Drains or Outfalls.

- Determines the following:

> **NOTE**
>
> For those chemicals with a Health Rating of 3 or 4, Industrial Safety should be included in the chemical use review process. Industrial Safety may also be contacted any time questions arise.

- NFPA rating OR IF no NFPA rating use HMIS rating OR IF neither rating system are indicated on MSDS: rate chemical hazard per NFPA definitions (attachment 9.4).
- Storage classification utilizing the guidance in Attachment 9.4.
- Additional use restrictions.
- Special conditions or comments.

(b) Obtains a peer review to ensure that the chemical was properly classified. Peer review must be performed by an individual who is familiar with this procedure and the site's chemical control program.

(c) Completes Part B to the CUR Form and notifies the requester of approval/disapproval.

5.6[2] cont

(d) Adds chemical to the ACL using information from the CUR form.

(e) Files a copy of the CUR, MSDS and other technical information.

5.7 DELETED CHEMICALS

[1] Personnel, when a chemical is no longer used or needed on-site, are to notify the SCCC, using the Chemical Deletion Form shown in Attachment 9.5.

[2] The SCCC, upon receipt of the Chemical Deletion Form, is to:

(a) Evaluate the Deletion request.

(b) If approved, delete the chemical from the ACL.

(c) Notify appropriate departments of the voided status of the chemical.

[3] Department personnel are to ensure that the chemical is:

(a) Not issued

(b) Not reordered

(c) Surplused or disposed in accordance with Sections 5.12 and 5.14.

[4] Annually the SCCC shall instruct the site DCCCs to identify approved chemicals in their respective departments that are no longer required and can be deleted.

(a) Any superfluous chemicals identified will be documented as deleted using attachment 9.5.

5.8 RECEIVING AND LABELING OF CHEMICALS [QAPM B.6]

NOTE

ALL CHEMICALS on-site, unless exempted per Sections 5.2[4] and 5.2[5] or the Chemical Use Data Sheet (or similar informational device) located on the ACL or other location specified by SCCC, must be labeled.

In designated areas where chemicals are received by site and stored prior to issuance such as warehouses, vendor stocking areas and other areas designated by SCCC, the chemical may be unlabeled until issued. All chemicals in these designated areas shall be stored in accordance with Attachment 9.9, Chemical Storage Guidance, to prevent incompatible chemical reactions.

The SCCC has the option to place chemicals on hold until all required information can be obtained to make an evaluation.

[1] Entergy personnel, contractors and resource sharing employees receiving or bringing chemicals on-site covered under this procedure, are to:

NOTE

Acadia at VY and JAF contains a business rule that only allows the print labels for approved chemicals Acadia provided labels have at a minimum: ACL Chemical Number, the name of the chemical, the manufacturer and their telephone number, Hazard Ratings, Use Code, Storage Code, Bar Code, and PPE icons.

NOTE

At a minimum, the chemical control labels should contain ACL Chemical Number, Chemical Use Classification/Code, Chemical Name, Storage Code and other information as directed by the SCCC such as protective equipment.

(a) Label chemicals in accordance with the information specified in the Chemical Use Data Sheet (or similar informational device) on the ACL or other location specified by SCCC,

(b) Notify the SCCC regarding questions on labeling requirements.

(c) Ensure the chemical control label does not cover product information on the material/chemical to the greatest extent possible.

5.9 CHEMICAL STORAGE [QAPM B.7]

[1] Supervisors, DCCC and Contract Managers responsible for chemical storage locations inside the CAA/RCA and Power Block areas, outside the Power Block and temporary outage/non-outage work locations are to:

NOTE

Ensure storage lockers are not in close proximity to important nuclear items. **[ANSI N45.2.2-1972, Section 6.3.3]**

At VY, flammable chemical storage areas must be approved by the Fire Protection Department.

(a) Obtain the SCCC's approval for chemical storage areas/lockers by completing and routing the Designated Chemical Storage Area Form shown in Attachment 9.6.

(1) A change in the location of any storage locker requires that security and safety be informed in order that they determine if the change will impede or impact safety or security per EN-NS-220.

(b) Signage on the chemical storage lockers shall include the owner department name, a unique identifying number, and other information as directed by the SCCC.

(c) Inform the SCCC of any chemical storage areas/lockers changes (e.g. locker no longer on-site, locker moved to a different location).

(d) Ensure chemicals in storage are either used or removed upon expiration, or made unavailable for issuance and/or use.

NOTE

This fleet procedure gives the SCCC specific guidance, as did previous ENS regional procedure, on when to classify a chemical as green, white, red or gray. Therefore, the same chemical may be found on-site with two different storage labels until the chemical can be re-labeled.

(e) Store chemicals together based on:

- The storage code or background color of the chemical label shown below.
- Guidance on the Chemical Use Data Sheet (or similar informational device) on the ACL (or other location specified by SCCC) or the MSDS, as applicable to each site.

5.9[1](e) cont

- Guidance in Attachments 9.4 and 9.9.
- Chemical Storage Codes and Colors

Storage Colors	Storage Code	Chemical Type
Red	FL	Flammable
Green	CA	Corrosives/Acids
White	CB	Corrosives/Bases
Yellow	OX/RX	Oxidizers/Reactives
Gray	GS	General Storage

(f) Unless otherwise specified by fire protection procedures or the SCCC, small quantities of chemical containers in a shop, bathrooms, office spaces, and similar areas are not required to be stored in lockers (Flammable or otherwise) nor subject to monthly inspections.

(1) This exception should only be used for approved chemicals that are in use or need to be pre-staged in limited amounts (e.g. flammable white board cleaners in conference rooms or glass cleaners for BREs).

(2) This does not apply to the Power Block.

(g) In mixed (i.e. potentially incompatible chemical classes) storage areas provide secondary containment containers for chemicals that could react if leaks occur. See attachment 9.9 for guidance.

(h) Provide appropriate containment for chemicals and oils to prevent spills.

(i) Perform and document inspections on the Chemical Storage Area Inspection Form shown in Attachment 9.7 at a frequency specified by the SCCC such that the storage areas are inspected at least monthly

(j) **ENSURE** flammable storage lockers meet the specific locker manufacturer requirements and the associated OSHA requirements.

(1) Cabinets for the storage of flammable and combustible liquids such as gasoline and diesel fuel shall meet the requirements of OSHA 1910.106(d)(3).

5.10 CHEMICAL STORAGE [ANSI N45.2-1]

[1] Entergy personnel, contractors and resource sharing employees using chemicals inside the CAA/RCA and/or Power Block are to:

(a) Ensure that the chemical(s) is on the ACL or in the ACADIA database as applicable to each site and approved for use on the job.

(b) If needed, review the Chemical Use Data Sheet (or similar informational device) and/or MSDS for chemical use, restrictions, disposal, safety concerns and PPE requirements.

(c) Notify the Control Room, prior to use, if the chemical contains Volatile Organic Compounds (VOC), as applicable to each site.

NOTE

To determine if a chemical contains Volatile Organic Compounds (VOC), review the Chemical Use Data Sheet (or similar informational device) or MSDS.

Normally, Chemical Use Classification V (5) indicates a chemical may contain VOC's.

(d) Go to the appropriate issue location to acquire needed quantity of chemical.

NOTE

The bar-code reader at VYNPS is used in during monthly DCCC chemical storage inspections to determine if stored chemicals are approved.

(e) **IF** using bar code, personnel are to **THEN** go to the appropriate issue location to acquire needed quantity of chemical and ensure that either the tool room attendant (if present) or actual chemical user:

(1) Ensures that the chemical is on the ACL or in the ACADIA database as applicable to each site.

(2) Ensures that the chemical has not expired.

5.10[1](e) Cont

(3) Scans the bar code or equivalent number on the chemical label into the computer.

(4) Enters the following information into the computer:

- User name and keycard badge number
- Date chemical issued
- Amount of chemical
- Other applicable quality assurance or administrative requirements, as appropriate.

(f) Minimize the quantity of chemical used inside the CAA/RCA.

(g) **IF** chemical is transferred to another container, **THEN** apply a chemical control label to the secondary container with the information specified on the primary container label.

(h) Flammable materials that are not being attended to (including breaks and meals) are to be properly stored in a flammable locker.

(i) Remove chemicals from the work areas either upon job completion or at the end of each shift, whichever is sooner, unless otherwise specified on the Chemical Use Data Sheet (or similar informational device) or by the SCCC.

(j) Inspect work areas for spills prior to work completion and clean as necessary.

(k) Return chemicals to the appropriate issue/storage location either upon job completion or at the end of each shift, whichever is sooner, unless otherwise specified on the Chemical Use Data Sheet (or similar informational device) or by the SCCC.

(l) Refer to the Chemical Use Data Sheet (or similar informational device) on the ACL (or other location specified by SCCC) or contact the site environmental representative or Radiation Protection (PNPS only) for guidance on disposal of unused chemicals or empty containers.

[2] Entergy personnel, contractors and resource sharing employees using chemicals outside the CAA/RCA and/or Power Block are to:

(a) Ensure that the chemical(s) is on the ACL and approved for use on the job.

5.10[2] cont

(b) If needed, review the Chemical Use Data Sheet (or similar informational device) and/or MSDS for chemical use, restrictions, disposal, safety concerns and PPE requirements.

(c) Go to the appropriate issue location to acquire needed quantity of chemical.

(d) Ensure that the chemical has not expired.

(e) **IF** chemical is transferred to another container, **THEN** apply a label to the secondary container with the information specified on the primary chemical container label.

(f) Remove chemicals from the work areas either upon job completion or at the end of each shift, whichever is sooner unless otherwise specified on the Chemical Use Data Sheet (or similar informational device) or by the SCCC.

(g) Inspect work areas for spills prior to work completion and clean as necessary.

(h) Return chemicals to the appropriate issue/storage location either upon job completion or at the end of each shift, whichever is sooner unless otherwise specified on the Chemical Use Data Sheet (or similar informational device).

(i) Refer to the Chemical Use Data Sheet (or similar informational device) on the ACL (or other location specified by SCCC) or contact the site environmental representative or Radiation Protection (PNPS only) for guidance on disposal of unused chemicals or empty containers.

5.11 CONTROL OF CONTRACTOR/RESOURCE SHARING EMPLOYEE CHEMICALS **[ANSI N45.2-1]**

[1] Contract Managers or Entergy supervision are to:

(a) Obtain from the contractor or resource sharing employee **PRIOR** to introducing the chemicals on-site:

- A list of ALL the chemicals as defined in section 3.0[5]
- Container sizes of all the chemicals
- MSDS' for all the chemicals
- Other information as directed by the SCCC

5.11[1] cont

(b) Review the ACL to determine if the chemical is:

- Approved or if a suitable alternative is already approved, and
- To be used in the approved application, and
- The same manufacturer brand, product formulation and container size as the chemical approved.

(c) Review Sections 5.2[4] and 5.2[5] to determine if the chemicals are exempt for either the Chemical Control Program or from the labeling requirements of the Chemical Control Program.

(d) Complete a CUR for chemicals:

- Not approved
- Not approved for the application
- Not the same manufacturer brand, product formulation and container size.

(e) Forward to the SCCC:

- The list of all chemicals including container sizes.
- MSDS with the Chemical Use Data Sheet (or similar informational device) attached for the chemicals approved for use on-site or exempted chemicals.
- CUR packages for chemical not approved for use on-site.

NOTE

After the Chemical Use Request (CUR) and other required information is received by the SCCC, a minimum of five (5) working days should be required for the review to be completed. Chemicals being used on primary and secondary systems may require a longer period of time. The ONLY exception is if the chemical is required to prevent plant shutdown.

(f) Ensure the contractor/resources sharing employee's chemical is approved **Prior** to bringing on-site.

(g) Inspect the chemicals brought on-site to ensure labeling requirements per this procedure and the Chemical Use Data Sheet (or similar informational device) are followed.

5.11[1] cont

(h) Obtain approval for contractor/resource sharing employee chemical storage location(s) by routing a completed Designated Chemical Storage Area Form shown in Attachment 9.6 to the SCCC for each storage location.

NOTE

Contract Managers or Entergy supervision is responsible for costs associated with disposal of excess, used or unused materials/ chemicals.

(i) Obtain approval from Environmental/Chemistry prior to removing or disposing of excess, used or unused materials/chemicals.

(j) Coordinate the disposal of waste chemicals produced by the contractor/ resource sharing employee with the site environmental representative.

5.12 SURPLUS CHEMICALS

[1] If not restricted by plant procedures and when feasible, departments with surplus chemicals in usable condition can coordinate with Materials to:

(a) Transfer these chemicals to other Entergy organizations.

(b) Sell as surplus to recover the initial cost and to minimize waste generation.

(c) Maintain these chemicals in good condition to perform their intended use.

5.13 WASTE CHEMICALS

[1] Label and place waste chemicals in designated chemical collection areas or containers or as directed by site environmental lead.

[2] Label waste chemicals with the following minimum labeling requirements:

(a) Name or type of product

(b) Date

(c) Responsible person

[3] Provide the site environmental lead with a listing of the waste chemicals and amounts.

5.13 cont

[4] Waste chemicals will be handled in accordance with Section 2.0[1] (a) (NMM Procedure EV-106, Waste Management Program).

5.14 DISPOSAL OF CHEMICALS

[1] Departments possessing surplus chemicals in poor or deteriorated condition, or chemicals which have been declared wastes, are to:

(a) Notify the site environmental representative or Radiation Protection (PNPS & VYNPS only) for disposal guidance.

(b) Ensure that department or project budgets include costs for disposal of chemicals during the year, including warehouse costs, when feasible.

5.15 CHEMICAL CONTROL PROGRAM INSPECTION/ENFORCEMENT **[ANSI N45.2.2-1972]**

[1] The SCCC is to:

(a) Perform and document periodic inspections on the Chemical Storage Area Inspection Form shown in Attachment 9.7 to verify that chemicals are properly stored and used in accordance with this procedure.

(b) Investigate suspected deviations from this procedure.

(c) Review and retain per EN-AD- 103 storage inspection forms (attachment 9.7) submitted by DCCCs and other submitted form attachments from this procedure as appropriate.

5.16 TRAINING **[QAPM A.5.b]**

[1] Planners, maintenance supervisors and other supervisors of employees using chemicals are to verify:

(a) Employees are provided with information and training on hazards in their work area in accordance with Worker-Right-to-Know requirements specified in OSHA 1910.1200.

(b) Employees receive training at the following frequency, either through information handouts, required reading, or pre-job safety meetings:

- At the time of initial assignment
- Whenever a new hazard is introduced into their work area.
- Annually

5.16[1] cont

(c) That the training includes the following:
- Any operations in the work area where chemicals are present.
- Location and availability of MSDS's.
- General requirements of this program.

6.0 INTERFACES

None

7.0 RECORDS

[1] The following attachment is considered Quality Records upon completion and shall be retained per EN-AD-103:

(a) Attachment 9.7, Chemical Storage Area Inspection Form

8.0 SITE SPECIFIC COMMENTS

Step	Site	Document	Document Section	Commitment Number or Reference
5.3, 5.6		10CFR20	Appendix G.1.C.7	P-17802
5.3, 5.6		10CFR20	Appendix G.II.S1	P-17805
5.3, 5.6		10CFR61	Paragraph 56.a.4	P-18106
5.3, 5.6		10CFR61	Paragraph 56.a.5	P-18107
5.3, 5.6		10CFR61	Paragraph 56.a.6	P-18108
5.10		ANSI N45.2-1	2.2	None
5.9.1		ANSI N45.2.2-1972	6.3.3	None
5.15		ANSI N45.2.2-1972	6.4.1	None
5.16		QAPM	A.5.b	None
5.3		QAPM	B.4	None
5.8		QAPM	B.6	None
5.9		QAPM	B.7	None
5.6		QAPM	Table 1.D.3	None
5.6		QAPM	Table 1.D.4	None
5.6	ANO	OCNA088220		P-10958
All	GGNS	GE SIL #381, Rec. Act. (1)		P-25165
All	GGNS	GE SIL #396-S1, R.A.S1		P-25171
5.6[1](n)	JAF	License renewal Application		LO-LAR-2008-0048-20
5.6[1](n)	PLP	LRA, Letter 3/25/05 (NMC to		LO-LAR-2009-244-10
5.6[1](n)	PNPS	LRA Amendment 5, dated July		RC07.2029.32

9.0 ATTACHMENTS

9.1 Chemical Use Request Form (Typical)
9.2 National Fire Protection Association Codes (Typical)
9.3 Chemical Contaminant Limits
9.4 Chemical Storage Classification Guide (Typical)
9.5 Chemical Deletion Form (Typical)
9.6 Designated Chemical Storage Area Form
9.7 Chemical Storage Area Inspection Form
9.8 Chemical Database Accessing (Typical)
9.9 Chemical Storage Guidance (Typical)

ATTACHMENT 9.1 CHEMICAL USE REQUEST FORM

SHEET 1 of 3

PART A (to be completed by Requestor)

Type of Request: (attach MSDS & technical information)

☐ Chemical Purchase - Warehouse Stock/Non-warehouse Stock ☐ Alternate Application for an Approved Chemical

☐ Chemical Exception ☐ Contractor/Vendor Chemical ☐ Chemical from Another Entergy Nuclear Site

Chemical/Product Name:

Cat. ID: ☐ N/A	Typical Container size:	Material state: ☐ Solid ☐ Liquid ☐ Gas ☐ Aerosol ☐ Other (name)

	Manufacturer Name ☐ See attached MSDS (required)	Vendor/Distributor
Parts No.		
Company Name		
Address		
Phone No.		

Use Information

1. System Name: ☐ N/A	2. System Number: ☐ N/A	3. Safety Related part or system? ☐ Yes ☐ No

4. Intended use in detail

5. Basis for Use (vendor specified, ER, procedure requirement, Work Order #, etc.) if applicable: ☐ N/A

6. Is an equivalent chemical and/or a non-hazardous or less hazardous chemical already approved for this application? **(Review the Approved Chemical List)**	☐ Yes ☐ No
7. Is this chemical replacing another chemical? **If yes**, list chemical, chemical number and reason for replacement.	☐ Yes ☐ No

8. Be used in a **Power Block**? ☐ Yes ☐ No	9. Be used in **Control Room**? ☐ Yes ☐ No	10. Be used in **RCA/CAA**? ☐ Yes ☐ No

11. Be used on a component, piping, valve, etc that **will be** or **is installed** in the PB/RCA/CAA? ☐ Yes ☐ No

12. Be used on internal or external surfaces of plant piping? ☐ Yes [**If Yes,** ☐ Internal ☐ External] ☐ No

13. **List Make-up of piping** (such as Stainless Steel, Carbon Steel, Copper, etc)

14. Come in contact with any plant system(s)? ☐ Yes [**If Yes,** list system names and numbers] ☐ No

15. Come in contact with Reactor Coolant/Reactor Coolant Makeup? ☐ Yes ☐ No

16. PWR – Come in contact with Secondary System? ☐ Yes ☐ No ☐ N/A

17. Be used in Containment or Drywell? ☐ Yes [**If yes,** circle one that applies] ☐ No

18. Be flushed / drained down Equipment or Floor drains in PB/ RCA/CAA? **(BWR only)** ☐ Yes ☐ No ☐ N/A

19. Be used on electrical equipment, copper/brass alloys, control panels, circuit boards, gasket/rubber material? ☐ Yes [**If yes,** circle ones that apply] ☐ No

20. Be drained / flushed to drains outside the Power Block or to drains that could lead outside the Power Block - Storm Drains, Outfalls, Sewage Treatment Plant? ☐ Yes [**If yes,** circle ones that apply] ☐ No

Department	Name (print)	Phone ext	Date:

ATTACHMENT 9.1 **CHEMICAL USE REQUEST FORM**

SHEET 2 of 3

Chemical Use Request Form (cont'd)						
PART B (to be completed by Site Chemical Control Coordinator)						
Chemical Number:						
Chemical/Product Name:						☐ same as Part A
NFPA Rating:						
Health:		Flammability:		Reactivity:		Other:
Environmental Impacts (Consult with Site Environmental Lead)						
Use of chemical requires regulatory approval?						☐ Yes ☐ No
Date of regulatory approval:						
Will chemical quantities trigger new EPCRA reporting requirements?						☐ Yes ☐ No
Personal Safety Impacts and Control Room Habitability						
Health Hazard Index 3 or 4 requires review and approval by:						☐ Yes ☐ No
Safety Lead for Personal Safety(Print/Sign/Date)						
Engineering for CR Habitability (Print/Sign/Date):						
Use & Storage Class Assignments						
Chemical Use Class:	☐ I (Unrestricted, use anywhere) Must have Fuels Group Approval for RCS					
	☐ II (Allowed in PB and/or CAA, must be removed from internal surfaces)					
	☐ III (Allowed in PB and/or CAA, no contact allowed with plant systems)					
	☐ IV (Allowed on-site, not in PB and/or CAA)					
	☐ V (Special restrictions or specific application)					
Storage Code & Color:		Color	Code	Chemical Type		
	☐	Red	FL	Flammables		
	☐	Green	CA	Corrosives/Acids		
	☐	White	CB	Corrosives/Bases		
	☐	Yellow	OX/RX	Oxidizers/Reactives		
	☐	Gray	GS	General Storage		
Use Codes						
Application Codes:	☐ 1. Housekeeping					
	☐ 2. Hand/personnel cleaning					
	☐ 3. Decon use					
	☐ 4. Maintenance shop use only					
	☐ 5. Designed application/vendor instructions					
	☐ 6. Pest control					
	☐ 7. Electronics/electrical circuit use only					
	☐ 8. Non-Radiologically Controlled Area use only					
	☐ 9. Field maintenance					
	☐ 10. Special (Specified in comments or as stated on Chemical Use Data Sheet or similar informational device)					
System Restrictions:	☐ 1. No contact with plant systems or components					
	☐ 2. No contact with system fluids					
	☐ 3. No contact with system internals					
	☐ 4. No contact with NSSS					
	☐ 5. Ensure no ingress to any system					
	☐ 6. Do not flush down plant or floor drains					
	☐ 7. No contact with plant structures					
	☐ 8. Do not use on control boards					
	☐ 9. Notify Site Chemical Control Coordinator prior to use					
	☐ 10. Special (Specified in comments or as stated on Chemical Use Data Sheet or similar informational device)					

ATTACHMENT 9.1 — CHEMICAL USE REQUEST FORM

SHEET 3 of 3

Chemical Use Request Form (cont'd)		
PART B (to be completed by Site Chemical Control Coordinator)		
Use Codes		
Material Restrictions:	☐ 1. Not to be used on stainless steel or nickel	
	☐ 2. Not to be used on aluminum	
	☐ 3. Not to be used on magnesium	
	☐ 4. Not to be used on concrete	
	☐ 5. Not to be used on rubber gaskets, teflon, or plastics	
	☐ 6. Not to be used on thermoplastics	
	☐ 7. Not to be used with oxide or reducing agents	
	☐ 8. Not to be used on copper or copper alloys	
	☐ 9. Use only as directed	
	☐ 10. As stated on Chemical Use Data Sheet (or similar informational device)	
Cleanup Requirements:	☐ 1. Surface must be wiped clean immediately after use	
	☐ 2. Must be removed prior to operations	
	☐ 3. Must be rinsed and wiped dry prior to operation	
	☐ 4. Remove all traces prior to operation	
	☐ 5. Rinse prior to operation	
	☐ 6. Rinse with acetone then demin water prior to use	
	☐ 7. Remove containers after use	
	☐ 8. Remove any unnecessary product upon completion	
	☐ 9. Contact Chemistry for proper disposal guidance	
	☐ 10. As stated on Chemical Use Data Sheet (or similar informational device)	
Industrial Hygiene:	☐ 1. PPE requirements	
	☐ 2. Industrial hygiene monitoring	
	☐ 3. Respiratory protection	
	☐ 4. Not applicable	
Additional Use Requirements		
Restrictions:		
Comments:		
Disposal: (This information is to be provided by the Site Environmental Lead)		
	Potential hazardous waste?	☐ Yes ☐ No
Disposal requirements:		
Authorization		
Approved By: (SCCC)		
	Name/Signature (written or electronic)	Date
Initials of Peer Reviewer:	*Approved* ☐	*Disapproved* ☐

ATTACHMENT 9.2 NATIONAL FIRE PROTECTION ASSOCIATION CODES (TYPICAL)

SHEET 1 of 2

National Fire Protection Association system of coding which describes the hazard categories for a chemical substance associated with a fire is based on three general categories and five levels within the categories from zero (0) to four (4). Zero (0) indicates no hazard and four (4) indicates highest level of hazard.

•HEALTH HAZARDS (health hazard in fire fighting)

a. **4** (Deadly) - indicates material is too dangerous for fire fighters to be exposed. Requires special protective clothing and breathing apparatus to protect against inhalation or skin contact.

b. **3** (Extremely Hazardous) - indicates materials are extremely hazardous to health, but fire areas may be entered with extreme care. Full protective clothing and SCBA should be used. No skin surface should be exposed.

c. **2** (Hazardous) - materials may be hazardous to health, but fire areas may be entered freely with normal fire turn-out gear and SCBA.

d. **1** (Slightly Hazardous) - materials that are only slightly hazardous to health

e. **0** (Normal Material) - materials that on exposure under fire conditions would offer no health hazard beyond that of ordinary combustible material.

•FLAMMABILITY HAZARDS (susceptibility to burning)

a.**4** (Flash Point <73° F) - very flammable gases or very volatile flammable liquids.

b.**3** (Flash Point <100° F) - materials that can be ignited under almost all normal temperature conditions. Water may be ineffective to extinguish because of the low flash point.

c.**2** (Flash Point <200° F) - materials which must be moderately heated before ignition occurs. Water spray may be used to extinguish the fire because the material can be cooled below its flash point.

d.**1** (Flash Point >200° F) - materials which must be pre-heated before ignition can occur.

e.**0** (Will Not Burn) - materials which do not burn.

ATTACHMENT 9.2 NATIONAL FIRE PROTECTION ASSOCIATION CODES (TYPICAL)
SHEET 2 of 2

- **REACTIVITY HAZARDS (relative degrees of hazard based upon susceptibility of materials to release energy either by themselves or in combination with other materials)**

  a.**4** (May Detonate) - materials that are readily capable of detonation or explosive decomposition at normal temperatures and pressures

  b.**3** (Shock and Heat May Detonate) - materials that, when heated and under confinement, are capable of detonation or explosive decomposition and that may react violently with water.

  c.**2** (Violent Chemical Change) - materials that undergo a violent chemical change at elevated temperatures and pressures, but do not detonate.

  d.**1** (Unstable If Heated) - materials that are normally stable but may become unstable in combination with other materials or at elevated temperatures and pressures.

  b. **0** (Stable) - materials that are normally stable and do not present any reactivity hazard to fire fighters.

- ***SPECIAL HAZARDS***

  a. Oxidizer - OXY

  b. Acid - ACID

  c. Alkali - ALK

  d. Corrosive - COR

ATTACHMENT 9.3 **CHEMICAL CONTAMINANT LIMITS**

SHEET 1 of 3

BOILING WATER REACTOR (BWR) CONTAMINANT PARAMETER LIMITS

Parameter	Limits
Total Halogens (including leachable chlorides)	450 ppm
Leachable Chlorides	100 ppm
Sulfur	630 ppm
Metals (Pb, Hg, Cd, Sn, Sb, As, & Bi)	Not in formulation, and less than 200 ppm each/500 ppm total
Total Nitrite	10 ppm
Total Nitrate	820 ppm

Note 1: The limits for valve packing and other solid materials refers to the leachable quantity for each impurity

Note 2: General Electric Document NEAC-31735P, BWR Operators Manual for Materials and Processes have defined materials acceptable for use in Critical Use Areas (e.g., Nuclear Quality materials). These are found in Appendix A and Specification D50YP12, Revision 2 or later.

Critical Use Area, as defined in General Electric Document NEAC-31735P, BWR Operators Manual for Materials and Processes:

- Those areas, components or materials directly or indirectly contacting reactor coolant water
- Safety-related parts or systems
- Parts whose functional integrity is essential for maintaining reactor operation

Certification of materials may be obtained for specific batches or lots of materials or may be general. Vendor certification based upon acceptable ASTM test methods may be used to document chemical compatibility. Most often vendor Certificate of Compliance reports are used to document test results, but some materials may require periodic testing.

It is not to be assumed that a material may have the maximum amounts of all the potentially corrosive contaminants simultaneously. If the total halogens are at 450 ppm, the total sulfur, nitrate and nitrite must be < 1 ppm. The potentially corrosive contaminants must be considered simultaneously or collectively. Use the calculation below or the nomograph on page 2 of this attachment to determine it the material meets nuclear grade standards.

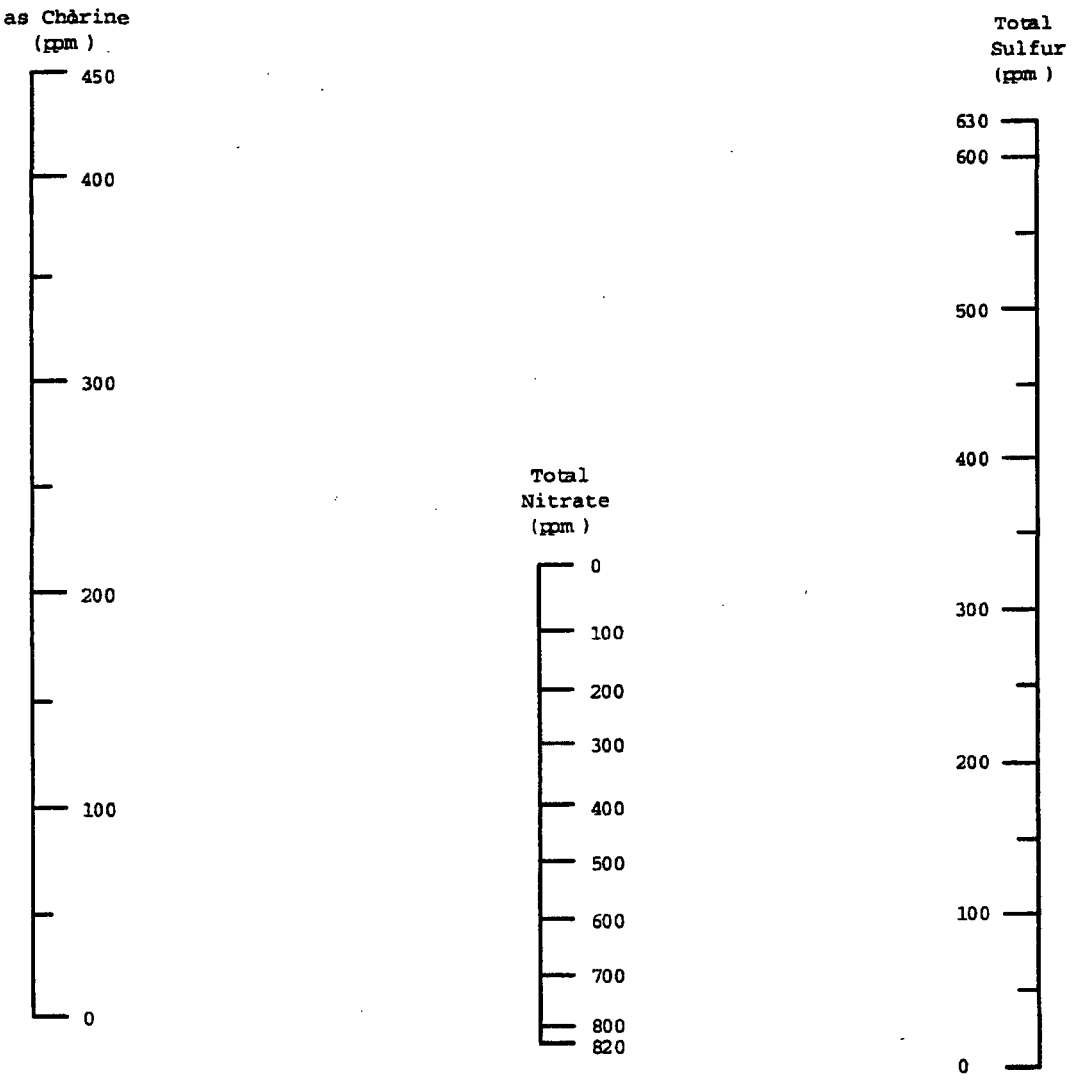
$$\frac{\text{ppm Halogens}}{35.453} + \frac{\text{ppm Sulfur}}{48.096} + \frac{\text{ppm Nitrates}}{62.004} < 13.2$$

NOTE: IF limits in this table changes, notify purchasing of changes so PO's can be updated with requirements.

ATTACHMENT 9.3 — CHEMICAL CONTAMINANT LIMITS

SHEET 2 of 3

BOILING WATER REACTOR (BWR) CONTAMINANT PARAMETER LIMITS



ATTACHMENT 9.3 CHEMICAL CONTAMINANT LIMITS

SHEET 3 of 3

PRESSURIZED WATER RECTOR (PWR) CONTAMINANT PARAMETER LIMITS

Contaminant	Limit (ppm)
Fluoride	500
Chloride	500
Sulfur	500
Leachable Fluoride	200
Leachable Chloride	200
Leachable Sulfate	200
Arsenic	200
Bismuth	200
Cadmium	200
Copper	200
Lead	100
Mercury	2
Antimony	200
Gallium	200
Indium	200
Tin	200
Zinc	200
Sodium (Secondary Side Only)	500

NOTE: IF limits in this table changes, notify purchasing of changes so PO's can be updated with requirements

ATTACHMENT 9.4 CHEMICAL STORAGE CLASSIFICATION GUIDE (TYPICAL)

SHEET 1 of 2

This provides guidance to the SCCC for classification of chemicals for storage and is to be used when assigning color coded storage classification for chemicals as outlined in this procedure.

- **STORAGE CLASSIFICATIONS**

1. NMM Procedure EN-EV-112 contains five color coded storage classifications:

   a. Red (FL) Flammable

   b. Green (CA) Corrosives/Acids

   c. White (CB) Corrosive/Bases

   d. Yellow (OX/RX)Oxidizers

   e. Gray (GS) General storage

2. Use the Material Safety Data Sheet (MSDS) primarily to determine the storage code classifications. Other technical and chemical information may be used if current and applicable to the chemical being reviewed.

3. Use the most hazardous characteristic of the chemical to assign the storage code classification.

- **NFPA RATING**

NOTE

MSDS sections are not always arranged in the same order or numbered according to content. NFPA ratings are preferred (HMIS ratings may differ from NFPA rating). If the MSDS only has HMIS ratings or no NFPA information, compare the MSDS information with Attachment 9.2 in this procedure and Page 2 of this Attachment (9.4) to determine the NFPA rating.

1. Review the MSDS' Fire Protection or Flammability section for flammability classification. This section normally contains flashpoints and flammable limits. Compare the flashpoint limit with the information on Page 2 of this Attachment (9.4). Also, consider site fire protection requirements.

2. Review the MSDS' Physical and Chemical Properties section for properties that could affect corrosivity. This section normally contains information on pH. Compare the pH limit with the information on Page 2 of this Attachment (9.4).

3. Review the MSDS' Stability and Reactivity section for incompatibilities. Listing the incompatibilities in the restriction or comment section of the Chemical Use Data Sheet (or similar informational device) will help with the safe storage of the chemical. Attachment 9.9 of this procedure gives guidance on incompatibilities.

4. Review the MSDS' NFPA rating section for any special hazard label warning. Listing the special hazards in the restriction or comment section of the Chemical Use Data Sheet (or similar informational device) will help with safe usage of the chemical.

ATTACHMENT 9.4 **CHEMICAL STORAGE CLASSIFICATION GUIDE (TYPICAL)**

SHEET 2 of 2

NFPA:	**Health:**	**Flammability**	**Reactivity:**	**Other**

Storage Classification

Storage Color	Storage Code	Chemical Type	Storage Requirements
Red	FL	Flammables (Flashpoint <140° F, NFPA Fire Rating 3 or 4) OR per site's Fire Protection Program requirements	Store in flammable locker OR per the Chemical Use Data Sheet (or similar informational device) instructions.
Green	CA	Corrosives/Acids (pH ≤2)	Store separately from other chemicals when not in use OR Provide a secondary containment container, such that if the chemical container should break or leak, the chemical would be contained in the secondary containment container Refer to Attachment 9.9 for compatibility guidance
White	CB	Corrosives/Bases (pH ≥12)	Same as CA
Yellow	OX/RX	Oxidizer (normally stated on MSDS)	Same as CA
Yellow	OX/RX	Reactive (normally stated on MSDS)	Same as CA
Gray	GS	General Storage, Fire Rating 1 or 2, pH 3 – 11, FP >140 °F OR per site's Fire Protection Program requirements	May be stored with red, green, white and yellow labeled chemicals provided there are no compatibility issues. Refer to Attachment 9.9 for compatibility guidance

ATTACHMENT 9.5 **CHEMICAL DELETION FORM (TYPICAL)**

SHEET 1 of 1

Chemical Deletion Form		
Chemical Information:		
Chemical Number:		
Chemical/Product Name:		
Stock code (if applicable):		
Manufacturer & Vendor/Distributor Information:		
	Manufacturer (required)	Vendor/Distributor
Part number:		
Company Name:		
Address:		
Reason for Deletion		
Requested By:		
	Name/Signature	Date
Reviewed By: (Cognizant Supervisor)		
	Name/Signature	Date
Chemistry Evaluation:		
Review Comments:		
Authorization		
	Approved ☐	Disapproved ☐
Approved By: (SCCC)		
	Name/Signature	Date
		Provide a copy of this form to appropriate users!

ATTACHMENT 9.6 **DESIGNATED CHEMICAL STORAGE AREA FORM (TYPICAL)**

SHEET 1 of 1

Designated Chemical Storage Area Form				
Requestor Information				
Department:				
Storage Area Location:				
Type of Area Requested:			☐ Permanent ☐ Temporary	
Expected Duration (Temporary only):			☐ Weeks ☐ Months	
Requested Storage Class Assignments				
Storage Code & Color:		Color	Code	Chemical Type
	☐	Red	FL	Flammables(*** ENSURE Fire Protection concurrence as well as locker vendor requirements and OSHA requirements)**
	☐	Green	CA	Corrosives/Acids
	☐	White	CB	Corrosives/Bases
	☐	Yellow	OX/RX	Oxidizers/Reactives
	☐	Gray	GS	General Storage
Chemical Storage Area Comments				
Requested by (print):			Title:	
Phone ext.:		Date:		
Route Request to Fire Protection/Security/ Safety/ SCCC as appropriate for concurrence/approval:				
*Fire Protection Concurrence for Flammables and liquid fuels:				
Print/Signature/Date				
Security concurrence if appropriate:				
Print/Signature/Date				
Safety concurrence if appropriate:				
Print/Signature/Date				
Authorization (SCCC Chemistry)			Approved ☐	Disapproved ☐
Print/Signature/Date				

ATTACHMENT 9.7 CHEMICAL STORAGE AREA INSPECTION FORM

Department:	**Descriptive Location:**	**Month: _____; Year:_____**
DCCC:	**Storage Area ID(Unique Number):**	**Cabinet Type:**

DCCC: Items Out of Compliance: If corrected; document in this report, **IF NOT corrected**, document in this report and write a CR. Deficiencies should be fixed by the DCCC if possible – call SCCC for assistance.

Inspection Criteria	Results	Comments/Corrective Actions
1. **Locker:**		
a. **Ensure** that the storage area inspected is Approved Chemical Storage and that the owner department and any other signage are correct.	☐ SAT ☐ UNSAT ☐ N/A	
b. **Ensure** that the storage area is of adequate size to hold all the chemicals (> 75% full is a rough upper limit)?	☐ SAT ☐ UNSAT ☐ N/A	
c. **Ensure** shelves are clean (no oil grease, etc.) and/or covered with clean absorbent cloth?	☐ SAT ☐ UNSAT ☐ N/A	
d. **Ensure** Flammable locker is free of excessive combustible materials.	☐ SAT ☐ UNSAT ☐ N/A	
e. **Ensure** refrigerator/Freezer for storing chemicals is designed, constructed and approved for this purpose.	☐ SAT ☐ UNSAT ☐ N/A	
2. **Local Work Area:**		
a.**Ensure** chemicals are not stored outside storage area/cabinet (e.g. inspect top of cabinet, work benches, and surrounding area).	☐ SAT ☐ UNSAT ☐ N/A	
3. **Chemical Containers:**		
a. **Ensure** all chemical materials are approved.	☐ SAT ☐ UNSAT ☐ N/A	
b. **Ensure** all containers have approved labels and that the labels are legible.	☐ SAT ☐ UNSAT ☐ N/A	
c. **Ensure** chemical material containers are not leaking and that lids are secured in place.	☐ SAT ☐ UNSAT ☐ N/A	
d. **Ensure** that chemical storage classes are separate (see attachment 9.4 and, if appropriate, 9.9 of EN-EV-112).	☐ SAT ☐ UNSAT ☐ N/A	
e. **Ensure** that chemicals have not expired.	☐ SAT ☐ UNSAT ☐ N/A	
4. **Ensure** all chemical tubes and small chemical containers that need labels on a lanyard to remain attached have them.	☐ SAT ☐ UNSAT ☐ N/A	

☐ **additional documentation is attached**

Inspector (Print/Sign /Date):		
SCCC 's REVIEW		
SCCC (Print/Sign/Date)		

ATTACHMENT 9.8 CHEMICAL DATABASE ACCESSING (TYPICAL)

SHEET 1 of 7

- **ENTERGY NUCLEAR SOUTH APPROVED CHEMICAL LIST ACCESS INSTRUCTIONS**

a. Sign onto the Local Area Network.

> **NOTE**
>
> If you do not have a Local Area Network ID or a Personal Computer, call the Information Services Help Desk or Chemistry personnel for assistance.

b. Select Program → Nuclear Corporate Applications →"CCP X.X".

c. Select "Login as Guest".

d. Select "Options", "Maintain Chemical", select plant site.

e. When the '"Search for Chemicals" screen appears, enter the known information and select "OK".

> **NOTE**
>
> If "There is no records that match search criteria" appears, select OK.
> On the menu bar select Refresh → Search.
> On "Search for Chemicals" screen enter more generic information such as oil, grease, lubricant, paint, etc.

f. After the "List of Chemicals" appears, double click on the chemical of interest to view the Chemical Use Data Sheet (or similar informational device).

g. Select "Print" on menu bar to print out the Chemical Use Data Sheet (or similar informational device).

h. Report any problems to the SCCC.

ATTACHMENT 9.8 **CHEMICAL DATABASE ACCESSING (TYPICAL)**

SHEET 2 of 7

- **ENTERGY NUCLEAR SOUTH MATERIAL SAFETY DATA SHEET INSTRUCTIONS (3E DATABASE)**

  a. Sign onto the Local Area Network.

  b. Select Program → Nuclear Corporate Applications →"CCP X.X".

  c. Select "Login as Guest".

  d. Select MSDS.

  e. Click on "(M)SDS" from tool bar.

  f. Under Search for, chose a search criteria such as product name, manufacturer etc.

  g. Select "Contains, Equals or Begins With" as necessary.

  h. Enter product name, manufacturer etc. in the right hand box and click "Search".

  i. Double click Adobe Acrobat for product name of MSDS needed.

  j. Click "View" to obtain copy of MSDS or email/fax as desired.

  k. Report any problems to the SCCC.

- **PILGRIM MATERIAL SAFETY DATA SHEET INSTRUCTIONS**

  a. Sign onto the Local Area Network.

  b. Select ENN Apps → PNPS → "MSDS View Station".

  c. When the "Search" screen appears, enter the known information and select "Search".

  d. To obtain a MSDS after the list of chemicals appears, double click on the chemical of interest and select "Print" on the menu bar.

  e. To view the Chemical Control label after the list of chemicals appears, highlight the chemical of interest and select the "Secondary Label" button on the top left-hand toolbar corner.

  f. Report any problems to the SCCC.

- **VERMONT YANKEE MATERIAL SAFETY DATA SHEET INSTRUCTIONS**

  a. Sign onto the Local Area Network.

  b. Open Internet Explorer application.

  c. From the Entergy Nuclear NE Home page → Select Vermont Yankee → Applications → Acadia

  d. When the "Acadia Viewer" page appears, enter the required information and click the "Search" button.

  e. When the search is complete, find the desired chemical and double click the date in the MSDS column. The MSDS will be displayed in a viewer. Use the application's "PRINT" feature to obtain the required number of copies.

  f. To view pertinent safety/usage information, including the chemical label, click on the link in the Chemical Name column.

  g. Report any problems to the SCCC.

- **PALISADES MATERIAL SAFETY DATA SHEET INSTRUCTIONS**

  a. Sign onto the Local Area Network.

  b. Open Internet Explorer Application.

  c. Select Palisade home page

  d. Select department on the links on the left

  e. Select Industrial Safety

ATTACHMENT 9.8 **CHEMICAL DATABASE ACCESSING (TYPICAL)**

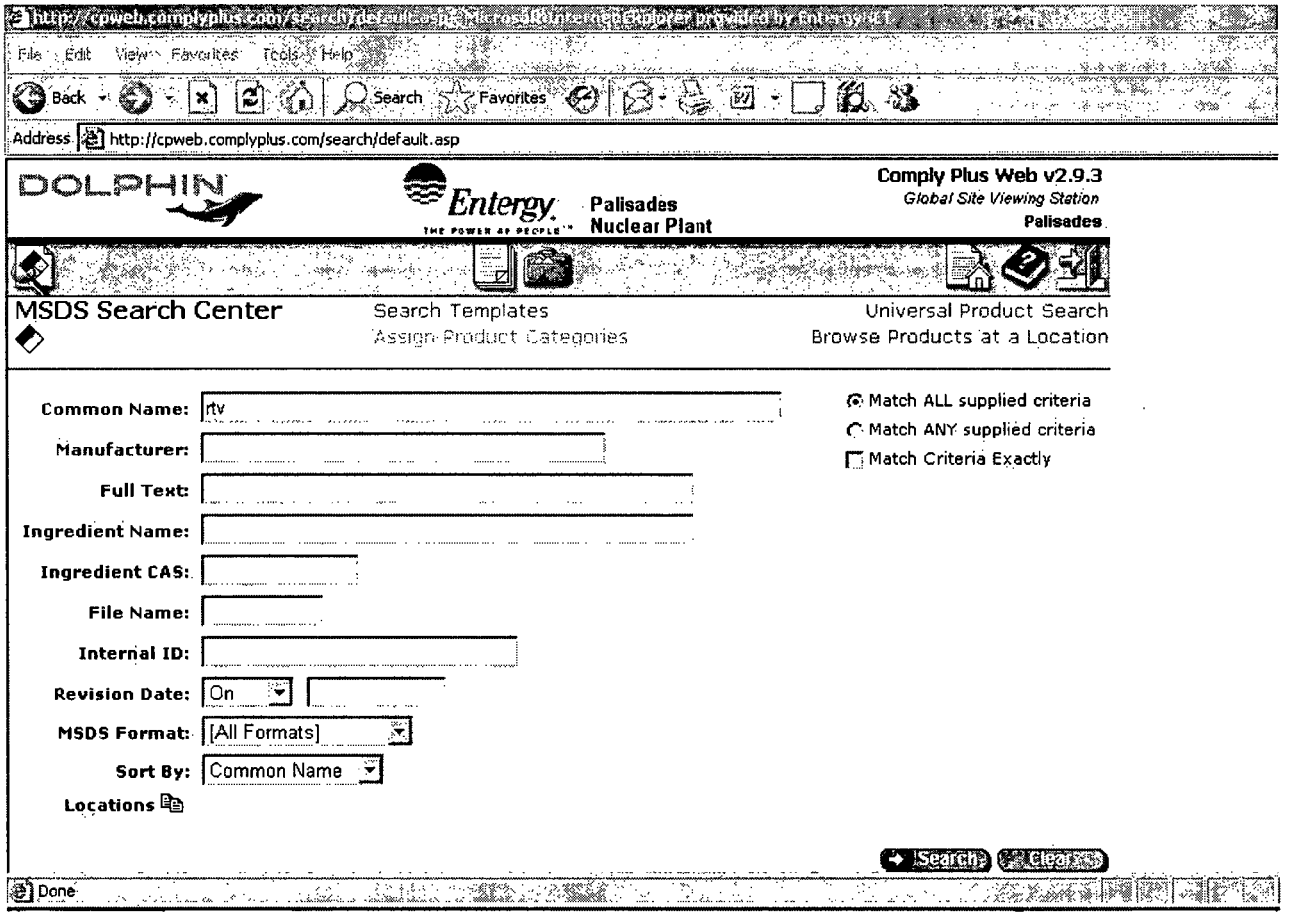
SHEET 4 of 7

f. Scroll to bottom to select dolphin

g. Select Palisades under Site

h. Push the login button

Enter your search criteria in the Common Name and/or Manufacturer Fields and click on the ***Search*** button. The system can find MSDSs by partial word match, so you only need to type a single word or a word fragment to retrieve the desired MSDS. If a particular product has another way of referring to it, a synonym can be added to the MSDS which can be used in searches.

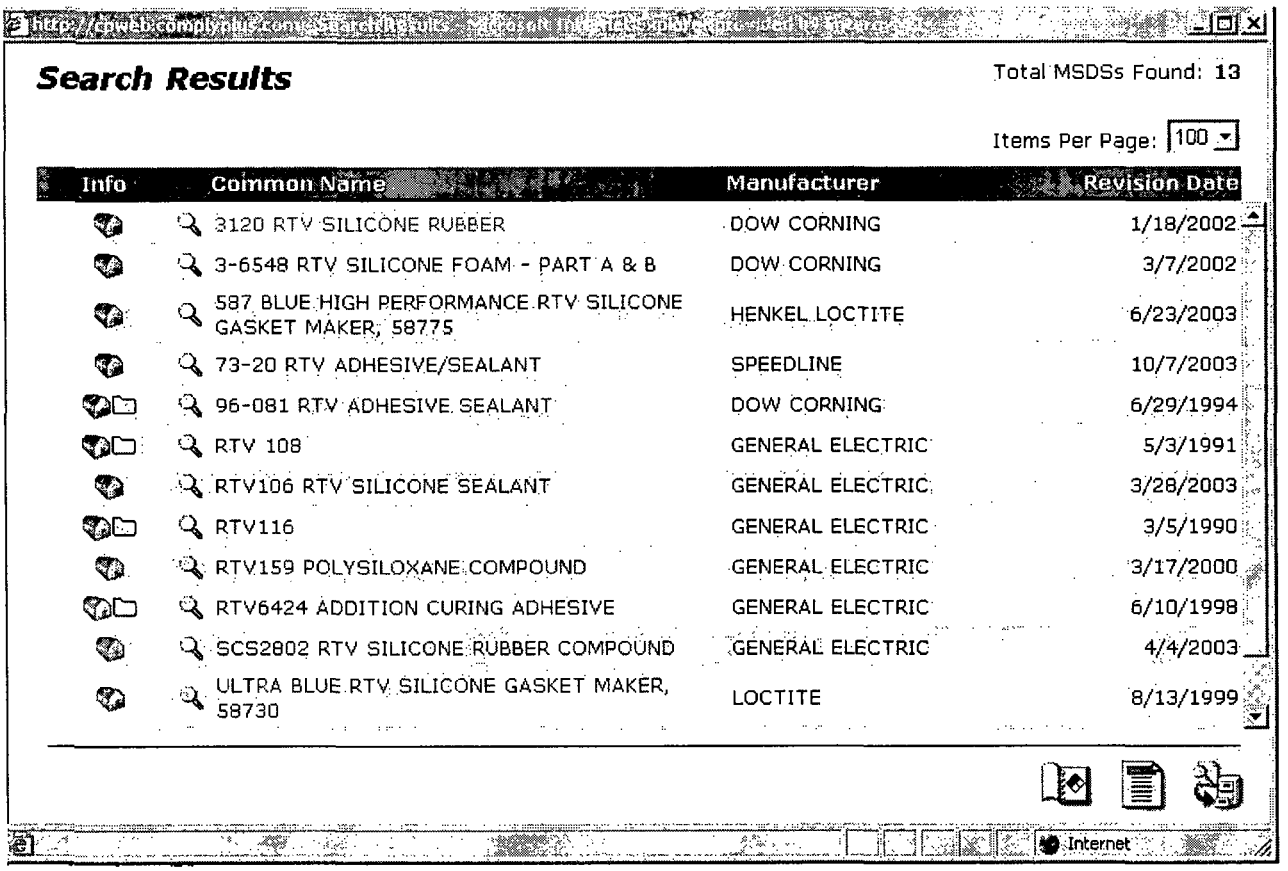


For example, enter the word "rtv" in the Common Name text box and click on the ***Search*** button.

ATTACHMENT 9.8 **CHEMICAL DATABASE ACCESSING (TYPICAL)**

SHEET 5 of 7

If any MSDSs matching your search are found in the database, they will be shown in the search result area on the screen. Clicking on the magnifying glass for a particular MSDS opens a separate window (which preserves your search screen), retrieves that record, and displays it in the window.



Search Results

Total MSDSs Found: **13**

Items Per Page: 100

Info	Common Name	Manufacturer	Revision Date
	3120 RTV SILICONE RUBBER	DOW CORNING	1/18/2002
	3-6548 RTV SILICONE FOAM - PART A & B	DOW CORNING	3/7/2002
	587 BLUE HIGH PERFORMANCE RTV SILICONE GASKET MAKER, 58775	HENKEL LOCTITE	6/23/2003
	73-20 RTV ADHESIVE/SEALANT	SPEEDLINE	10/7/2003
	96-081 RTV ADHESIVE SEALANT	DOW CORNING	6/29/1994
	RTV 108	GENERAL ELECTRIC	5/3/1991
	RTV106 RTV SILICONE SEALANT	GENERAL ELECTRIC	3/28/2003
	RTV116	GENERAL ELECTRIC	3/5/1990
	RTV159 POLYSILOXANE COMPOUND	GENERAL ELECTRIC	3/17/2000
	RTV6424 ADDITION CURING ADHESIVE	GENERAL ELECTRIC	6/10/1998
	SCS2802 RTV SILICONE RUBBER COMPOUND	GENERAL ELECTRIC	4/4/2003
	ULTRA BLUE RTV SILICONE GASKET MAKER, 58730	LOCTITE	8/13/1999

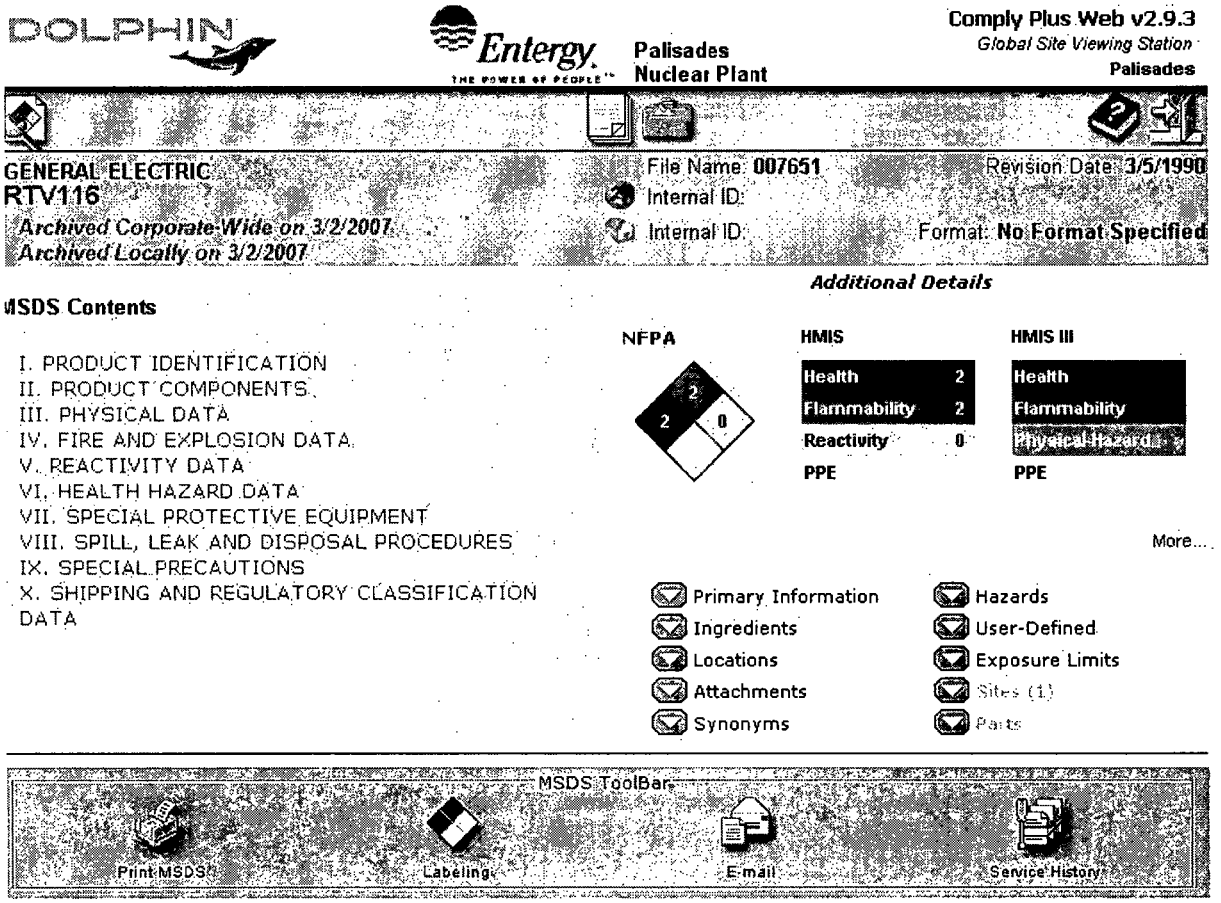
Internet

Click on the small magnifying glass for RTV116

ATTACHMENT 9.8 **CHEMICAL DATABASE ACCESSING (TYPICAL)**

SHEET 6 of 7

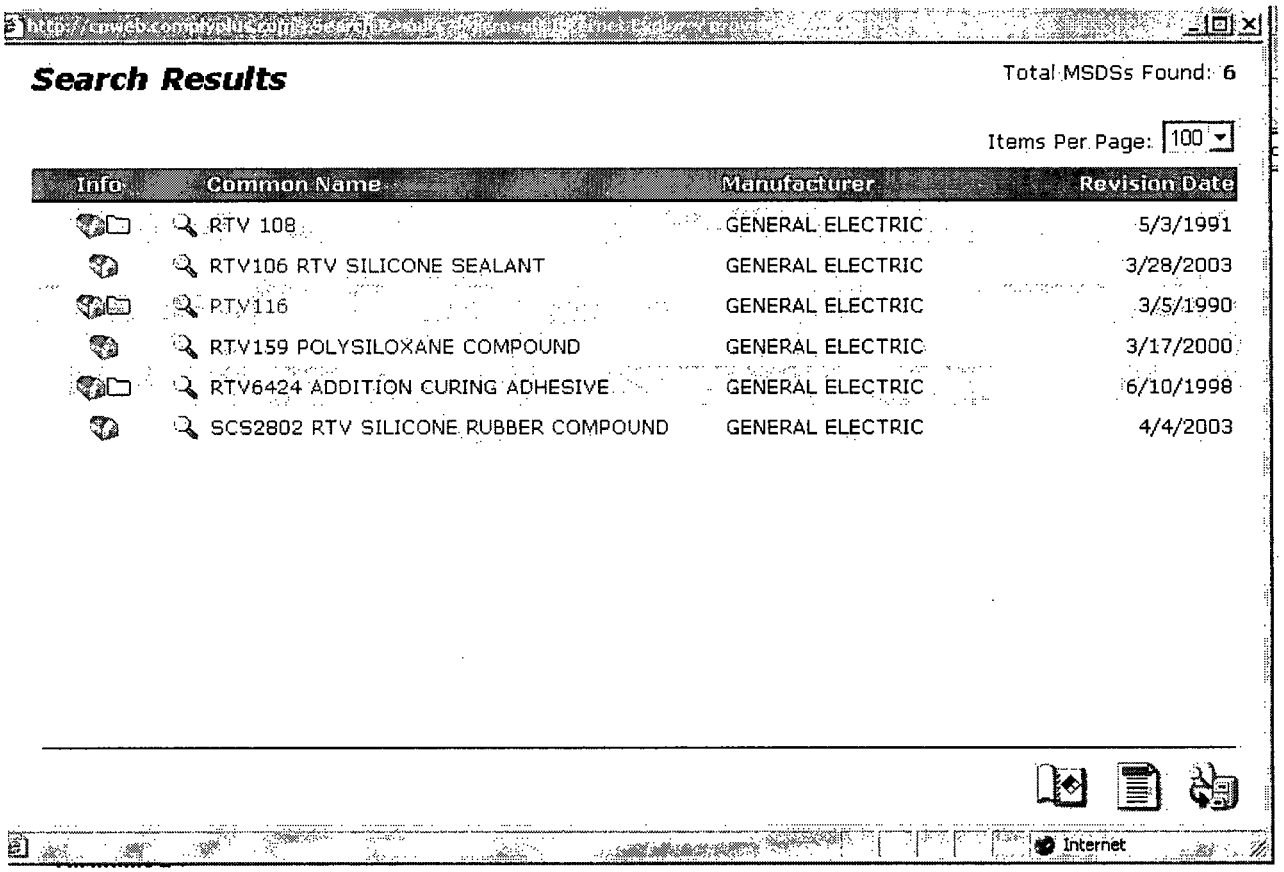
After the MSDS is loaded to the screen, to navigate or search for information contained within the MSDS, click on the MSDS Contents link to the desired section. Click on any of the blue arrow links to see additional information associated with the MSDS.



ATTACHMENT 9.8 **CHEMICAL DATABASE ACCESSING (TYPICAL)**

SHEET 7 of 7

By adding the Manufacturer Name to the search criteria, this will narrow down the number of MSDSs that will be displayed. For example, add "ge" in the Manufacturer text box and click on the ***Search*** button. The number of MSDSs displayed dropped from 16 to 6.



Search Results

Total MSDSs Found: 6

Items Per Page: 100

Info	Common Name	Manufacturer	Revision Date
	RTV 108	GENERAL ELECTRIC	5/3/1991
	RTV106 RTV SILICONE SEALANT	GENERAL ELECTRIC	3/28/2003
	RTV116	GENERAL ELECTRIC	3/5/1990
	RTV159 POLYSILOXANE COMPOUND	GENERAL ELECTRIC	3/17/2000
	RTV6424 ADDITION CURING ADHESIVE	GENERAL ELECTRIC	6/10/1998
	SCS2802 RTV SILICONE RUBBER COMPOUND	GENERAL ELECTRIC	4/4/2003

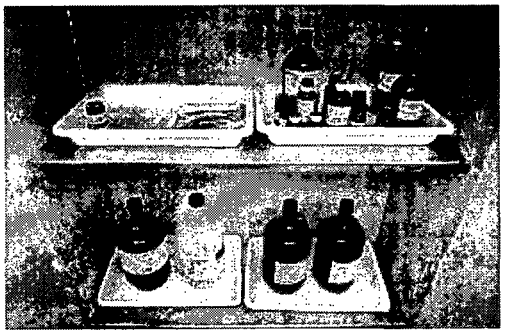
Internet

ATTACHMENT 9.9 **CHEMICAL STORAGE GUIDANCE (TYPICAL)**

SHEET 1 of 7

Chemical Storage

- In general, chemicals should be separated according to the following categories:
  1. Solvents, which include flammable/combustible liquids and halogenated hydrocarbons (e.g., acetone, benzene, ethers, alcohols) **Note:** Glacial acetic acid should be stored as a flammable liquid.
  2. Inorganic mineral acids (e.g., nitric, sulfuric, hydrochloric, and perchloric acids).
  3. Bases (e.g., sodium hydroxide, ammonium hydroxide).
  4. Oxidizers.
  5. Poisons.
  6. Explosives or unstable reactives, such as picric acid. Store separately in flammable storage cabinets.
- Ensure that caps and lids on all chemical containers are tightly closed to prevent evaporation of contents.
- Storage should not be in an area likely to be flooded, or in the vicinity of a floor drain.
- Housekeeping in the storage area must be neat and orderly.
- Consider storing hazardous liquid chemicals in drip trays that are chemically resistant. Example is shown below.

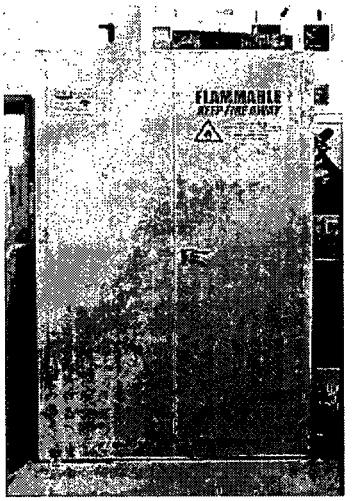


- Avoid storing chemicals on work benches, countertops or other surfaces except for those currently being used.
- All containers to which hazardous materials are transferred must be labeled with the identity of the substance and its hazards. Be aware that some containers (i.e., squeeze bottles and Nalgene bottles) have varying resistances to different chemicals.
- Limit the amount of chemicals stored to the minimum required.
- Avoid exposure of chemicals to heat or direct sunlight. This may lead to the deterioration of storage containers as well as the degradation of the chemicals.

ATTACHMENT 9.9 **CHEMICAL STORAGE GUIDANCE (TYPICAL)**

SHEET 2 of 7

- Use approved corrosive storage cabinets (constructed of chemically resistant components) for storing acids and bases.
- Use flammable storage cabinets to store flammable liquids as shown below.



- Do not store chemicals in refrigerators used for food storage. Refrigerators used for storing either chemicals or food must be appropriately labeled.

- Refrigerators and freezers for storing flammable liquids (including ethanol) must be designed, constructed and approved for that purpose. Domestic refrigerator/freezers as well as units that have been modified to remove spark sources are not acceptable alternatives.

ATTACHMENT 9.9 CHEMICAL STORAGE GUIDANCE (TYPICAL)
SHEET 3 of 7

Storage According to Hazard Classes

- **Acids**
  1. Segregate acids from reactive metals such as sodium, potassium, magnesium, etc.
  2. Segregate oxidizing acids from organic acids, flammable and combustible materials.
  3. Segregate acids from chemicals which could generate toxic or flammable gases upon contact, such as sodium cyanide, iron sulfide, calcium carbide, etc.
  4. Segregate acids from bases.
- **Bases**
  1. Segregate bases from acids, metals, explosives, organic peroxides and easily ignitable materials.
- **Solvents (Flammable and Halogenated Solvents)**
  1. Store in approved safety cans or cabinets.
  2. Segregate from oxidizing acids and oxidizers.
  3. Keep away from any source of ignition: heat, sparks, or open flames.
- **Oxidizers**
  1. Store in a cool, dry place.
  2. Keep away from combustible and flammable materials.
  3. Keep away from reducing agents such as zinc, alkali metals, and formic acid.
- **Cyanides**
  1. Segregate from acids and oxidizers.
- **Water Reactive Chemicals**
  1. Store in a cool, dry place away from any water source.
  2. Make certain that a Class D fire extinguisher is available in case of fire.
- **Pyrophoric Substance**
  1. Materials which will react with the air to ignite when exposed, e.g., white phosphorus.
  2. Store in a cool, dry place making provisions for an airtight seal.
- **Light Sensitive Chemicals**
  1. Store in amber bottles in a cool, dry, dark place.
- **Peroxide Forming Chemicals**
  1. Store in airtight containers in a dark, cool, and dry place.
  2. Label containers with receiving, opening, and disposal dates.

3. Periodically test for the presence of peroxides.

- **Toxic Chemicals**

1. Store according to the nature of the chemical, using appropriate security where necessary.

Know the Properties of the Chemicals Used

The chemical incompatibilities discussed below are by no means exhaustive. As a result, it is important for personnel to thoroughly research the properties of the chemicals they are using. Material Safety Data Sheets (MSDSs) have sections on chemical incompatibility.

- The following incompatibility matrix and table contains examples of incompatible chemicals:

Chemical Incompatibility Matrix

	Acids, Inorganic	Acids, Oxidizing	Acids, Organic	Alkalis (Bases)	Oxidizers	Poisons, Inorganic	Poisons, Organic	Water Reactives	Organic Solvents
Acids, Inorganic			X	X		X	X	X	X
Acids, Oxidizing			X	X		X	X	X	X
Acids, Organic	X	X		X	X	X	X	X	
Alkalis (Bases)	X	X	X				X	X	X
Oxidizers			X				X	X	X
Poisons, Inorganic	X	X	X				X	X	X
Poisons, Organic	X	X	X	X	X	X			
Water Reactives	X	X	X	X	X	X			
Organic Solvents	X	X		X	X	X			

X = Not compatible (do not store together)

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CHEMICAL	KEEP OUT OF CONTACT WITH
Acetic Acid	Chromic acid, nitric acid, hydroxyl compounds, ethylene glycol, perchloric acid, peroxides, permanganates
Acetone	Concentrated nitric and sulfuric acid mixtures, and strong bases
Acetylene	Chlorine, bromine, copper, fluorine, silver, mercury
Alkali Metals	Water, carbon tetrachloride or other chlorinated hydrocarbons, carbon dioxide, the halogens
Ammonia, anhydrous	Mercury, chlorine, calcium hypochlorite, iodine, bromine, hydrofluoric acid
Ammonium Nitrate	Acids, metal powders, flammable liquids, chlorates, nitrites, sulfur, finely divided organic or combustible materials
Aniline	Nitric acid, hydrogen peroxide
Arsenic materials	Any reducing agent
Azides	Acids
Bromine	Same as chlorine
Calcium Oxide	Water
Carbon (activated)	Calcium hypochlorite, all oxidizing agents
Carbon tetrachloride	Sodium
Chlorates	Ammonium salts, acids, metal powders, sulfur, finely divided organic or combustible materials
Chromic Acid and Chromium trioxide	Acetic acid, naphthalene, camphor, glycerol, glycerin, turpentine, alcohol, flammable liquids in general
Chlorine	Ammonia, acetylene, butadiene, butane, methane, propane (or other petroleum gases), hydrogen, sodium carbide, turpentine, benzene, finely divided metals

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CHEMICAL	KEEP OUT OF CONTACT WITH
Chlorine Dioxide	Ammonia, methane, phosphine, hydrogen sulfide
Copper	Acetylene, hydrogen peroxide
Cumene Hydroperoxide	Acids, organic or inorganic
Cyanides	Acids
Flammable Liquids	Ammonium nitrate, chromic acid, hydrogen peroxide, nitric acid, sodium peroxide, halogens
Hydrocarbons	Fluorine, chlorine, bromine, chromic acid, sodium peroxide
Hydrocyanic Acid	Nitric acid, alkali
Hydrofluoric Acid	Ammonia, aqueous or anhydrous
Hydrogen Peroxide	Copper, chromium, iron, most metals or their salts, alcohols, acetone, organic materials, aniline, nitromethane, flammable liquids
Hydrogen Sulfide	Fuming nitric acid, other acids, oxidizing gases, acetylene, ammonia (aqueous or anhydrous), hydrogen
Hypochlorites	Acids, activated carbon
Iodine	Acetylene, ammonia (aqueous or anhydrous), hydrogen
Mercury	Acetylene, fulminic acid, ammonia
Nitrates	Sulfuric acid
Nitric Acid (concentrated)	Acetic acid, aniline, chromic acid, hydrocyanic acid, hydrogen sulfide, sulfuric acid, flammable liquids, flammable gases, copper, brass, any heavy metals
Nitrites	Acids
Nitroparaffins	Inorganic bases, amines

ATTACHMENT 9.9 CHEMICAL STORAGE GUIDANCE (TYPICAL)
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CHEMICAL	KEEP OUT OF CONTACT WITH
Oxalic Acid	Silver, mercury
Oxygen	Oils, grease, hydrogen; flammable liquids, solids, or gases
Perchloric Acid	Acetic anhydride, bismuth and its alloys, alcohol, paper, wood, grease and oils
Peroxides, organic	Acids (organic or mineral), avoid friction, store cold
Phosphorus (white)	Air, oxygen, alkalis, reducing agents
Potassium	Carbon tetrachloride, carbon dioxide, water
Potassium chlorate and perchlorate	Sulfuric and other acids
Potassium Permanganate	Glycerin, ethylene glycol, benzaldehyde, sulfuric acid
Selenides	Reducing agents
Silver	Acetylene, oxalic acid, tartaric acid, ammonium compounds, fulminic acid
Sodium	Carbon tetrachloride, carbon dioxide, water
Sodium nitrite	Ammonium nitrate and other ammonium salts
Sodium Peroxide	Ethyl or methyl alcohol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulfide, glycerin, ethylene glycol, ethyl acetate, methyl acetate, furfural
Sulfides	Acids
Sulfuric Acid	Nitric acid, potassium chlorate, potassium perchlorate, potassium permanganate (or compounds with similar light metals, such as sodium, lithium, etc.)
Tellurides	Reducing agents