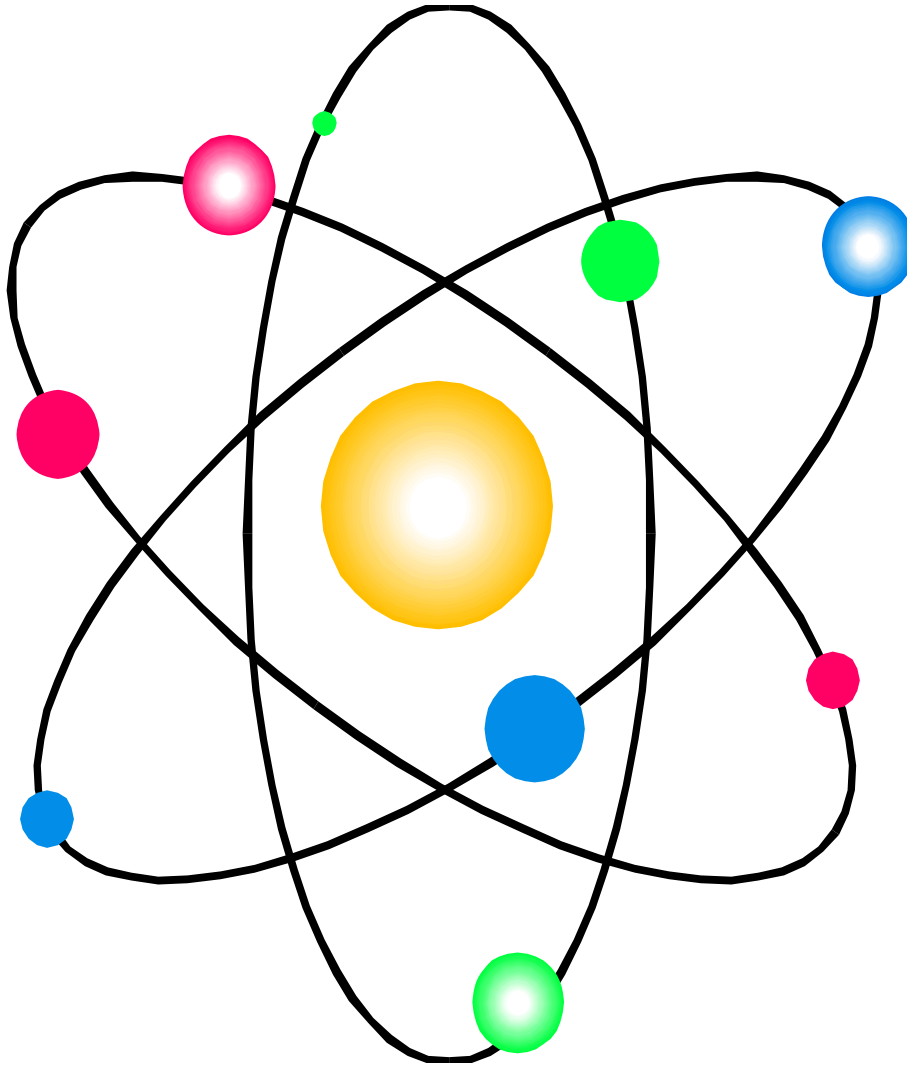


# Exelon Common Site-Specific Study Guide

Rev. 0



**This student guidebook is provided as a ready reference only to note Exelon Stations site-specific items.**

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## **STC, KENNETT SQUARE AND CANTERA**

### **Important Phone Numbers**

All Emergencies at STC, Kennett Square and Cantera 9911

At Cantera follow-up calls should also be made to (630) 393-7301 and (630) 657-2202

## **COMMON ITEMS FOR ALL EXELON NUCLEAR STATIONS**

**Applies to Braidwood, Byron, Clinton, Dresden, LaSalle, Limerick, Oyster Creek, Peach Bottom, Quad Cities Stations and Three Mile Island**

### **NUCLEAR POWER STATION OVERVIEW**

Issue reports are used for reporting, documenting, and evaluating problems at Exelon Stations.

- Establishing and maintaining a good Safety Culture is essential to the safe operation of our nuclear facilities. A good safety culture helps ensure that safety related issues at these facilities receive due priority in view of their importance.
- Two industry recognized attributes of a good Safety Culture are being sufficiently self-critical and having a questioning attitude
  - *Self-critical* is defined as: “Exhibiting open communication and a questioning attitude, while embracing the opportunity to learn through the open recognition of problems and deficiencies.” In a self-critical organization, employees are free to raise Safety and Compliance issues and concerns without fear of retaliation.
  - A *questioning attitude* is also a part of a sufficiently self-critical organization. Having a questioning attitude infers that:
    - Work is approached in a cautious, questioning manner
    - Tasks are not pursued in the face of uncertainty
    - Past performance is considered during the performance of duties
    - Personnel are alert for unusual conditions in the workplace
    - Questions raised are pursued and resolved

### **Radio Frequency Interference (RFI)**

RFI is caused by the signals transmitted from **two-way radios, two-way pagers, cell or cordless telephones**. The signals can be transmitted by the communication device anytime it is turned on. RFI signals can cause sensitive plant equipment to react when we don't want them to.

**All two-way pagers and cellular phones are restricted from being used and/or on in all power block areas, including the Circ. Water Pump House, River Screen House, and other areas where RF sensitive equipment may be present.**

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At all times individuals are to refrain from using radio transmitting devices within designated 'NO RADIO ZONES'. These are usually identified with unique markings and signs.

### **Sensitive Plant Equipment**

Sensitive equipment is located in numerous areas of the plant and changes to equipment configuration could affect plant operations and safety. Be alert and knowledgeable of equipment in your work area. Loitering by workers is not permitted.

### **Protected Pathways**

Protected Pathways are established to protect vital equipment when maintenance is performed on other similar equipment. Protected pathways may also be established for equipment when similar vital equipment is non-functional, for instance an important pump fails during testing. One example when a protected path may be used would be as follows: A plant has two emergency diesels. The diesels are used for emergency power to combat accidents or safely shut the plant down when offsite power is lost. One diesel will be taken out of service for a 5 Year Overhaul. The other diesel would be established as protected path to keep it available for safe shutdown or emergencies while the first diesel is out of service. Protected Paths are marked by cones, barriers, signs, tape or other similar devices. Do NOT work on equipment that is posted protected path. If you must go near protected equipment, contact your supervisor and operations. Maintain a distance of at least two feet away from protected equipment adhering to the 2 Foot Zone Human Performance Fundamental.

## **Exelon Corporation Industrial Safety Program (IS) Policy**

### Vision & Value

- Safety – for our employees, our customers and our communities.

### Exelon's Safety Policy (SA-AC-01)

- Exelon will operate in a manner that protects its employees, contractors, customers and the general public.
- We will foster a culture where everyone believes that accidents are preventable.
- Each employee understands their responsibility for maintaining a safe workplace.
- Each employee recognizes and accepts his/her right and obligation to correct unsafe conditions and behaviors.

Each business unit, including Exelon Nuclear, establishes appropriate people, processes, programs and training to support the program

## **Exelon Nuclear Industrial Safety Program (SA-AA-11)**

Designated "Functional Area" with Corporate & Site Governance, Oversight and Support.

- Complete and comprehensive (i.e., people, policies, processes, and training)
- Structured to fit Exelon Nuclear Management Model.

- 
- Outlines the activities needed to provide a safe working environment and improve safety performance while complying with regulatory requirements.
  - Assigns individual accountabilities and responsibilities across all functional areas and organizations.
  - Focuses on engineering controls, administrative controls, and fundamental behaviors to prevent events and injuries

#### Maintaining Commitment

- Strong safety focus established at the highest levels of the Site & Corporate Organization.
- Expectation that safety is everyone's number one priority is continuously reinforced by all levels of management.
- Injuries, significant "near miss" events, and fundamental behaviors that are essential to event free operation are reviewed and reinforced by Site and Corporate Senior Management during the daily Plant Status calls.
- Industrial Safety issues and activities are routinely reviewed and discussed during Station "Plan of the Day" meetings

#### Engaging the Workforce

- "Site Safety Committee's comprised of management and non-management employees are established to solicit employee input.
- All employees are encouraged to raise any and all safety issues or concerns to their Supervisor, and the Corrective Action Program (CAP) is used to ensure thorough resolution.

#### Vehicle Use Around High Voltage Equipment

- OPERATE any vehicle or mechanical equipment capable of having parts of its structure elevated near exposed energized overhead lines so that a clearance of 10 ft. is maintained for 50 kV or less. If the voltage is higher than 50kV, the clearance shall be increased 4 in. for every 10kV over that voltage. Refer to SA-AA-129 for additional detail.

## **Environmental Awareness**

### **OBJECTIVES**

All employees and badged personnel at Exelon Nuclear Facilities will be able to:

- Explain the importance of conformity with the environmental policy, procedures and the Environmental Management System (EMS);
- Explain the actual or potential environmental impacts associated with their job and the environmental benefits of improved personal performance;
- Explain the potential consequences of departure from specified procedures; and
- Understand that they are responsible to ensure visitors under their escort conduct their activities in a manner that is consistent with the environmental policy, procedures and the Environmental Management System.

## Exelon's Commitment to the Environment

To support our commitment Exelon has:

- Established a comprehensive Environment Policy
- Institutionalized an Environmental Management System
- Established environmental performance improvement goals and objectives
- Adopted a sustainable resource management program of reduce, reuse, recycle and recover where practical.

## Exelon's Environment Policy

- Reinforces Exelon's commitment to constantly improve its environmental performance.
- Establishes full compliance with environmental regulations as the minimum level of acceptable performance.
- Ensures, that we will strive for leadership in environmental management and that we will partner with the communities we serve, to preserve, restore and enhance the environment.
- Requires that we utilize natural resources more efficiently.



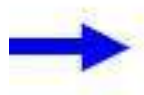
## Exelon's Environment Policy Implementation

This policy shall be implemented by establishing and maintaining:

- Annual objectives and targets for measuring and improving environmental performance.
- An independent Compliance Audit Program and an independent EMS Conformance Audit Program.
- Support for the development of low impact energy resources and energy efficiency.
- Training programs for employees and contractors to educate them about their environmental responsibilities.
- Support for environmental public policy based on sound science and economic analysis.

## Potential Regulatory Impacts

Ensure Regulatory Compliance



- Environmental regulations govern many business activities and are becoming increasingly more challenging.
- Environmental Regulators have significant influence over our ability to operate.
- Complying with regulatory requirements can help limit potential impacts to the environment.
- Failure to operate in full compliance with regulations can result in civil and criminal action with fines exceeding \$1,000,000 per incident.
- Maintaining a positive working relationship with regulators, such as the US EPA can be a valuable asset when their support is needed for making permit changes.



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## **Benefits of Environmental Programs**

Reduce Environment Risk through:

- Developing and maintaining Spill Response Plans;
- Training personnel who handle or use chemicals and petroleum products in the requirements of the Oil Pollution Prevention Regulations (40 CFR 112);
- Maintaining spill response equipment and supplies; and
- Reporting all observed chemical or petroleum spills to the Main Control Room

Minimize potential stormwater impacts, as required by the stations surface water permits (NPDES), by:

- Developing and maintaining a Preparedness Prevention and Contingency (PPC) Plan.
- Ensure the PPC plan includes:
  - Engineering control devices (e.g., secondary spill containment)
  - Spill Kits
  - Good Housekeeping Practices
  - Soil and Erosion Control Measures
  - Cover materials stored outside
- Ensuring only authorized releases occur into the Stormwater Systems (e.g., fire hydrant flushes, irrigation systems foundation dewatering, etc.)
- Contacting the control room before releasing any material into the stormwater system.
- Reporting all observed releases to the control room.

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## **Environmental Performance and You**

All employees and badged personnel environmental responsibilities include:

- Ensuring compliance with applicable environmental laws and regulations;
- awareness of the environmental impacts of your work and how to minimize them;
- understanding the Significant Environmental Aspects (SEAs) associated with your work;
- mitigating environmental risks associated with your work;
- understanding and following the applicable procedures;
- maintaining your own training and qualifications;
- identifying and managing environmental risks;
- building positive relationships with the community;
- reporting potential and active environmental risks, including spills and other damage;
- practicing proper housekeeping;
- minimizing waste;
- conserving energy; and
- ensuring any visitors you are escorting conduct their activities in accordance with the environmental policy, procedures and the requirements of the environmental management system

### **Key Points**

- Exelon's vision for the future depends on improving environmental performance.
- Compliance with all applicable laws, regulations, and other commitments is the minimum performance expectation.
- Each employee and badged contractor shares responsibility for the environment and can make a difference.
- Each employee and badged contractor reports environmental risks and share ideas for improving environmental performance.

## Chemicals/Controlled Materials

Guidance on the use of chemicals and controlled materials is contained in Exelon procedures EN-MA-501 (for East sites) and EN-MW-501 (for West Sites). Requirements of these procedures include:

- Only approved chemicals and controlled materials with an approved MSDS (Material Safety Data Sheet) shall be used. Chemicals must be processed through warehouse system to be classified for plant use and verify MSDS. **No chemicals** can be brought into plant in tool boxes, gang boxes or trucks
- All users must know the hazards of the products they are using or to which they may be exposed. REVIEW the MSDS as it contains information such as hazards, permissible exposure levels, protective equipment requirements, handling, storage, and disposal requirements. Now where the MSDSs are located at your station.
- Failure to properly handle chemicals/controlled materials can result in harm to **both workers AND plant systems and components.**
- Chemicals/controlled materials must be properly labeled in accordance with site requirements. Labels identify both where the chemical/controlled material may be used and also the hazards associated with the chemical/controlled material.
- Distinguish hazardous waste from radioactively contaminated hazardous waste (mixed waste) to ensure proper handling. Identify mixed hazardous/radioactive waste as such.
- Understand what disposal restrictions apply to chemical/controlled material.
- Do **NOT** throw anything into general trash unless you are certain it is permissible to do so.
- Do **NOT** put chemicals/controlled materials into any drains. Plant drains are recycled, any chemical contamination of drain system can damage plant systems
- Examples of color-coded tags are used to identify where chemicals can be used are below (Review site-specific procedures for specific labeling used at your station):

### CLASS 1

**USE: Product has been approved for unrestricted use on stainless steel and nickel alloys.**  
**DISPOSAL: Product is compatible with Radwaste processing and is approved for disposal to floor drains.**

Class 1 - Green Tag

### CLASS 2

**USE: Product has been approved for unrestricted use on stainless steel and nickel alloys.**  
**DISPOSAL: Product is restricted from floor drain Disposal. Specific disposal methods determined by the Environmental Specialist.**

Class 2 - Yellow Tag

### CLASS 3

**USE: Product is restricted from use on stainless steel and nickel alloys.**  
**DISPOSAL: Product is restricted from floor drain Disposal. Specific disposal methods determined by the Environmental Specialist.**

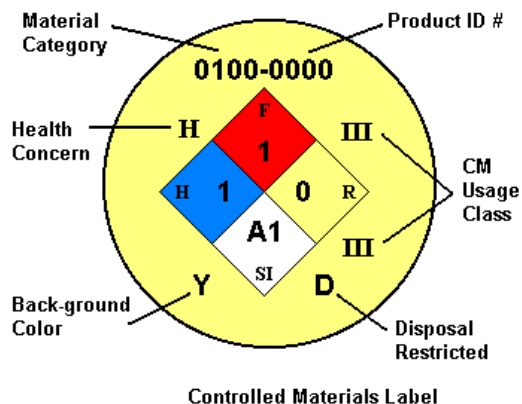
Class 3 - Orange Tag

### CLASS 4

**USE: Use outside the plant only.**  
**DISPOSAL: Specific disposal methods determined by the Environmental Specialist.**

Class 4 - Red Tag

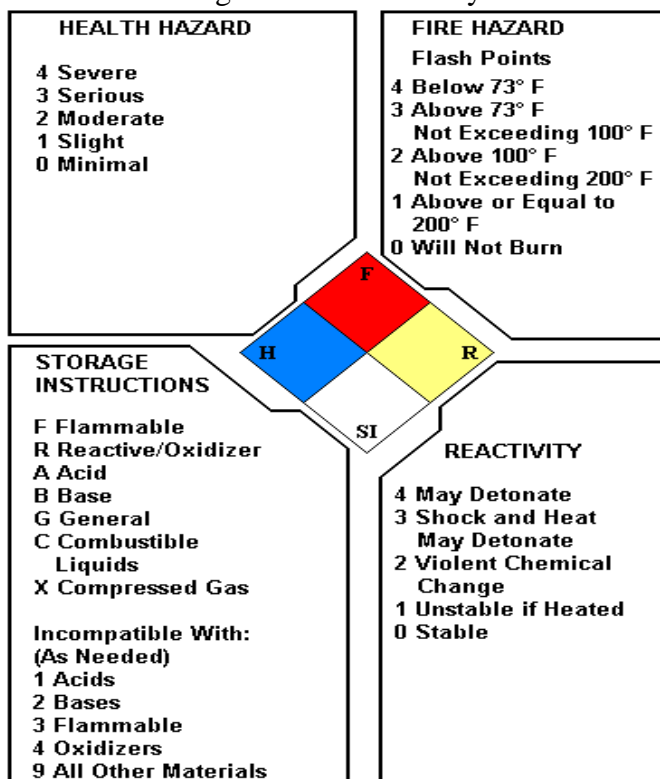
- These circles tell the user where the material can be used. Below is an example of the circle:



- Below are the different color codes and a corresponding description of where the chemicals/controlled material may be used:

Usage #	Label Color	Classification
I	B = Blue	Critical system use
II	G = Green	Critical system use but must remove from the component (i.e. wipe off) in accordance with manufactures recommendations prior to system heat up.
III	Y = Yellow	RCA use but not for critical system use and cannot be used on austenitic stainless steel, or inconel components that come into contact with primary coolant
IV	O = Orange	Office / Lab / Control Room / Outside Power Block - No RCA.
V	R = Red	Outside power block use only

- hazard ratings are determined by the below criteria:



- If you do not understand an MSDS or label information, seek assistance from your supervisor.

## Nuclear Cyber Security

Following 911, the nuclear industry focused on implementing physical security measures at the nation's nuclear power plants. With the implementation of physical security measures complete, regulators then focused on improving nuclear cyber security.

The Nuclear Energy Institute (NEI) generated NEI 04-04, Guidelines for the Implementation of a Nuclear Cyber Security Program. Exelon's Chief Nuclear Officer (CNO) and all other nuclear utility CNOs agreed to develop & implement a standardized cyber security program in accordance with NEI 04-04.

Cyber security is about protecting Exelon Nuclear's **critical digital assets**.

What is a Critical Digital Asset (CDA)?

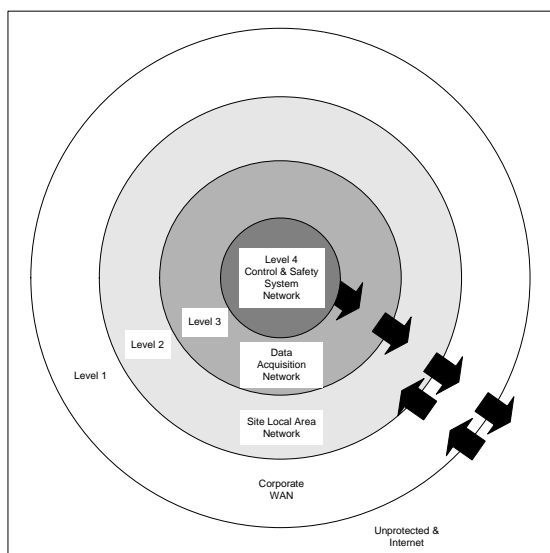
A **CDA** is a **digital device** that plays a role in the operation or maintenance of a **critical system** and can impact the functioning of that **critical system**. A **critical system** is any system that is nuclear significant (i.e., important to safety, security, or emergency response), required for continuity of power, or select business/efficiency assets. A CDA may be a component or a subsystem of a critical system, may itself be a critical system, or may have permanently installed direct communication pathway to a critical system (either hard-wired or wireless).

The cyber security assessments conducted by Exelon evaluated the **critical design parameters** of each station's CDAs. The **critical design parameters** evaluated are:

- Physical location (protected area, vital area, etc.) and
- Network location (Control & safety system network, data acquisition network, local area network, or corporate wide area network).

The cyber security assessments found the following:

- On the average, an Exelon site has 500 CDAs
- Most new instrumentation upgrades involve digital technology
- New Plant designs have a significant number of digital components that represent potential CDAs and as such the role of cyber security plays in our day-to-day work will only increase.



The defensive model of cyber security employs the recognition of four distinct access levels of Exelon's network infrastructure:

- Level 1: The Wide Area Network (WAN) that connects Exelon sites to one another
- Level 2: The local area network (LAN) that connects desktop users at each site
- Level 3: The data acquisition network (Comprised chiefly of the plant process computer system network and associated components that collect plant system data. No plant control is allowed in this level).
- Level 4: The control & safety system network (This network includes all plant control systems. CDAs that may exist in

Level 4 are considered to be “isolated” if no network connectivity exists with another system outside of Level 4).

**CC-AA-14, Cyber Security Program Description** describes our cyber security program.

**CC-AA-213, Nuclear Cyber Security Program**, provides steps and guidance for maintaining cyber-security in levels 3, and 4.

Exelon relies on the Business Services Company (BSC) to provide security in levels 1 and 2. All employees are granted access to levels 1 & 2. Care in these levels will assist in protecting levels 3 & 4.

The level of Cyber Security of a Critical Digital Asset can be negatively impacted by the inadvertent actions of authorized users. These types of errors are a significant contributor to cyber risk. Care should be taken to understand the results of any changes to CDAs so that adequate Cyber Security is maintained, as designed.

**What can we, as individuals do to support cyber security?**

- **Be careful with your passwords**
  - Change your password frequently (every 90 days)
  - Choose strong passwords
    - Avoid common sequences (e.g., Jan01, abc123, etc)
    - Passwords should be at least 8 characters in length.
    - Use a combination of alphabetic, numeric, upper and lower case and non-alphabetic characters
    - Don't use birthdays, names, user IDs, or any other code that could be easy to guess.
    - Avoid "generic" passwords
    - Do NOT share your passwords with anyone,
- **Scan media** you load onto company digital assets (computers, PDAs, etc.).
  - From thumb drives, CDs, external drives, etc.
- **Secure CDA related Laptops** and Log-Off when you are not using or stop working with a cyber asset.
- **Use care when interacting with Internet or downloaded materials** so as to avoid infection of computing resources.
- **Contact your supervisor** if you are assigned to conduct design work, maintenance, or testing on a critical digital asset, you MAY need more training.

## **FIRE PROTECTION**

### **COMPENSATORY FIRE WATCH**

OP-MA/MW-201-007 defines Compensatory Measure Fire Watch as observation of a specific location for the purpose of detecting and reporting any fire or fire hazards when a fire protection structures, systems or components (i.e. detection or suppression systems) is degraded or inoperable.

- Have you had a PJB with your supervisor on expectations while performing Compensatory Fire Watch?
- **ENSURE** you are performing the fire watch in the correct area.

- What are you looking for while performing a Fire Watch?
  - Conditions likely to cause a fire or affect the severity of a fire, such as leaks, spills, accumulations of combustibles, equipment storage, or faulty equipment
  - Immediately **REPORT** the discovery of smoke or fire to the Control Room, and then **ATTEMPT** to **EXTINGUISH** the fire only if it is obviously within your capacity
- Do you know your **TARGET TIME**?
  - Intervals between consecutive inspections of the specified location **shall not** exceed 75 minutes.
- Do you have the following paper work with you?
  - A copy of the appropriate attachments from OP-MA/MW-201-007 for the area(s) you are inspecting.
- When can I stop performing the fire watch?
  - Once you are properly relieved
  - Once Operations Shift Management Terminates the Fire Watch
- What actions do you take if you can't complete the Fire Watch?
  - **IMMEDIATELY NOTIFY SHIFT MANAGEMENT**

### **FIRE PROTECTION EQUIPMENT ACCESSIBILITY**

Everywhere you look on site there is equipment for Fire Protection. This equipment shall be accessible at all times (**unless impaired/controlled per OP-MA/MW-201-007, Fire Protection System Impairment Control procedure**). **ENSURE** equipment, tools, cords, etc., being staged or stored, do **not** block or impede access or egress from any area, present a tripping hazard, or limit view or accessibility to:

- Fire extinguishers
- Fire Hose Stations
- Fire Control Panels
- Emergency Light Battery Packs
- Fire Equipment Cage Lockers

### **TRANSIENT COMBUSTIBLES**

OP-AA-201-009 "CONTROL OF TRANSIENT COMBUSTIBLE MATERIAL" applies if you are carrying any combustible material or any combustible and flammable liquid by hand, cart, forklift or any other portable method into critical areas.

- When is a Transient Combustible Permit (TCP) required?
  - The material will be left unattended in a **SAFETY RELATED** building.
  - The material will be placed in large piles to create a source from which it can be drawn
  - If staging large quantities of material listed as a Minor Transient Combustible (OP-AA-201-009, Attachment 15)
  - Material is a flammable gas
  - Material not kept in metal containers with self-closing lids or lids maintained in the closed position.
- Where can I **NOT** store Transient Combustibles?
  - Staging or storing transient combustible materials directly adjacent to the surface of the door is **PROHIBITED**

- Staging transient combustible materials in a manner that restricts access/egress paths block access to fire protection equipment or other plant equipment, or interferes with emergency lighting illumination is **PROHIBITED**.
- Staging or storing transient combustible materials within fifteen (15) feet of a PCB transformer, inside or beneath stairwells, or under scaffolds in areas provided with automatic sprinkler protection is **PROHIBITED**.
- Staging of **exposed** Class A combustible material directly beneath horizontal cable trays, and immediately adjacent to (i.e., within approximately three (3) feet) vertical cable tray risers, live electrical components (i.e., transformers, switchgear, motor control centers, etc.) and instrument racks, is **PROHIBITED**.
- What are some special precautions during storage of Transient Combustibles?
  - Transient combustible material may be staged or stored under scaffolds that do **not** block the automatic sprinkler protection spray pattern (i.e. open scaffold picks, etc.)
  - Garbage cans shall be either flame tamer or metal cans with lids on them.
- What is the Requestor's responsibility?
  - The Requester shall post a copy of the approved TCP form at the job site and **ENSURE** any special requirements or compensatory measures are adhered to.
  - **If** an extension is required, **then** the Requestor shall **FORWARD** the TCP form to the Fire Marshal for approval.
  - **When** work involving the transient combustible is complete and the material is removed from the plant area, **then** the responsible individual shall:
    - **Ensure the transient combustible material is removed as required.**
    - **Remove the TCP after removal of the transient combustible from the plant area.**
    - **Sign** the "Material Removed" line on the original TCP, **then status the ATI as complete, if applicable.**
    - **Return the original TCP to the Fire Marshall or (Designee)**
- The Fire Marshal (or Designee) shall **REVIEW the TCP** for completeness and accuracy.

## **HOT WORK ACTIVITIES**

- **NOTIFY** the Operations Supervisor of the intent to perform the hot work activities and **OBTAIN** verbal permission to proceed.
- **VERIFY** combustibles are protected within 35 feet of hot work activities and spark containment is in place.
- **VERIFY** a fire watch is in place and a fire extinguisher is available.
- **FIRE WATCH** duties:
  - **NO** other duties are performed that would cause distractions
  - **TRAINED** in the use of fire extinguishers
  - **FAMILIAR** with reporting a fire
  - **SHALL** know stay time after hot work is completed (30 minutes)
  - **ENSURE** that all the fire blankets remain in proper position and combustibles remain covered
  - **STOP WORK IF AREA DOES NOT MEET REQUIREMENTS SET FORTH IN OP-AA-201-004**

*Additional information can be located in OP-AA-201-004 Fire Prevention for Hot Work*

## **RADIATION WORKER TRAINING**

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## **Dosimetry**

Personnel who do not frequently access the site will deposit their Thermoluminescent Dosimetry (TLD) at the Radiation Protection (RP) Office at the end of their visit. TLD's will be re-issued by RP upon the next visit.

Do NOT put the TLD through the x-ray machine.

## **FITNESS FOR DUTY**

If the Fitness for Duty concern is received in the form of an allegation of a past occurrence, rather than an immediate behavioral concern, contact Human Resources or the Security Department for guidance.

## **FATIGUE MANAGEMENT AND WORK HOUR LIMITS**

### **LS-AA-119, Fatigue Management and Work Hour Limits**

Establishes requirements for managing worker fatigue and controlling work hours in compliance with 10CFR26 (The Fatigue Rule).

- All badged workers fall under the requirements of fatigue management.
- Workers who perform covered work (work on systems, structures, and components considered high safety significance) under the Fatigue Rule, must comply with the work hour limits required under the Rule.

### **Self-Declarations of Fatigue**

All workers under the fatigue rule have the right to self-declare fatigue if they feel they are too fatigued to perform their assigned duties effectively or safely.

- Workers should make this declaration to their supervision.
- The individual will be removed from duty as soon as practicable and be required to complete documentation of the self-declaration.
- A fatigue assessment may be performed following the self declaration at the discretion of the supervisor. The fatigue assessment may determine that:
  - The individual is fatigued and must be sent home for a 10 hour (minimum) break.
  - The individual is NOT fatigued and may perform covered work.
  - The individual is NOT fatigued and may perform non-covered work only.
  - The individual is NOT fatigued but may require additional oversight to perform work.
- If an individual undergoes a fatigue assessment and is found to be fit, but disagrees, the individual may:
  - Request a second fatigue assessment.
  - Pursue other management paths to resolution.
- If an individual refuses a fatigue assessment, the individual:
  - Will be considered fatigued will be removed from duty.
  - Shall be subject to disciplinary action and possible removal from unescorted access

## Work Hour Limits

Individuals who perform covered work must comply with the work hour limits of 10CFR26. Exelon generally applies these limits to the following workers unless specifically exempted:

- Operations (Equipment Operators, Reactor Operators, Control Room Supervisors, and Shift Managers)
- Maintenance (Technicians, and FLSs)
- Chemistry and Rad Protection (Technicians)
- Outage support and supplemental workforce members and FLSs (who perform maintenance activities)
- Fire Brigade Leaders and Advisors
- Security

Limits that always apply to covered workers are as follows:

Maximum work hours:

- 16 hours of any 24 hour period
- 26 hours of any 48 hour period
- 72 hours of any 7 day period (168 hours)

Minimum Break (time between scheduled work periods):

- 10 hrs between work periods (except 8 hrs may be used to accommodate scheduled shift rotations)
- 34 hour break at least every 9 days

Minimum day off requirements are specified based on work group, shift length, and whether in an outage or non-outage period. The minimum day off requirements are as follows:

On-Line Required Minimum Days Off (averaged over not more than 6 weeks)			
Group	8 hr shift	10 hr shift	12 hr shift
Maintenance	1 day off/week	2 days off/week	2 days off/week
Ops, RP, Chem, FBL	1 day off/week	2 days off/week	2.5 days off/week
Security	1 day off/week	2 days off/week	3 days off/week

Outage Required Minimum Days Off	
Group	8, 10, or 12 hr shift
Maintenance	1 day off in any 7 day period (rolling 7 days)
Ops, RP, Chem, FBL	3 days off in each successive (non-rolling) 15-day period
Security	4 days off in each successive (non-rolling) 15-day period

## Unscheduled Work

Due to the complexity of the rule, covered workers should NOT accept any unscheduled work without first verifying with their supervisors that they will NOT exceed any of the work hour limits.

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## **BORIC ACID CORROSION CONTROL PROGRAM AT PRESSURIZED WATER REACTOR (PWR) SITES (BRAIDWOOD, BYRON, THREE MILE ISLAND)**

Why do we have a Boric Acid Corrosion Control Program?

- Industry events have revealed instances of corrosion of plant components valves, vessels, man ways, etc. due to exposure to borated water. The most notable event was the Davis Besse Reactor Head Degradation Event. Approximately 6” of the reactor head was corroded away due to exposure to borated water / boric acid leakage over a long period of time. Valve and pump bolting has also been corroded away due to exposure to borated water and boric acid.

What is boric acid and what does it do?

- Boric acid is a chemical that is used to control reactivity in Pressurized Water Reactors. It is present in Reactor Coolant Systems. Boric acid is added to the water contained in the reactor coolant system and other supporting systems.
- When external leakage of boric acid exists, there is the potential that the boric acid deposits and borated water can cause corrosion of plant equipment when exposed to borated water and boric acid deposits.
- Boric acid is mildly corrosive and is generally not a personnel safety issue. However, when leakage onto plant equipment occurs over an extended period of time, degradation can occur. Components fabricated from carbon and low alloy steels are much more susceptible to corrosion than stainless steel materials.

What does boric acid leakage look like?

- Boric acid leakage can be in the form of wet or dry deposits. Although drips, and / or streams may be present, in most cases the boric acid deposits may be wet (no drips) or dry (no moisture).
- Boric acid deposits are usually white in color and may look like snow or popcorn. However, in some cases the deposits may be discolored (brown, tan, or pink). This is an indication of the potential for corrosion of plant equipment.

What are the typical locations boric acid leakage can be found?

- The typical locations for borated water and boric acid leakage are valve packing, instrumentation fittings, valve body to bonnet connections, and pump seals.
- It is also important that components and surfaces that are affected by the leakage (target components such as piping, floors, walls, supports, etc. that are below the leaking component) are identified if possible.

What actions do you take if you observe Boric Acid Leakage?

- Notify your Supervisor.
- Do not touch the boric acid or leaking water. The boric acid is likely to be radioactively contaminated.
- If leakage is active and is dripping on other components or surfaces, notify the Shift Manager and request that a catch containment be installed until corrective actions can be implemented. Notify Radiation Protection so the spread of contamination can be minimized.
- Generate an Issue Report if possible. If not contact the Site Boric Acid Corrosion Control Program Owner so the issue can be investigated. Reference procedure ER-AP-331-1004 and Issue Report 229446.

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## **BRAIDWOOD**

### **NUCLEAR POWER STATION OVERVIEW**

#### **Braidwood Important Phone Numbers**

Emergency	2211
Security	2330
Radiation Protection	2241
Site Nurse	4204

### **FIRE PROTECTION**

#### **Gaseous Suppression System Safety**

Several areas at Braidwood are protected by gaseous suppression systems. These areas require personnel to be aware of the special precautions required for any entry into an area protected by a gaseous suppression system (i.e. CO<sub>2</sub> and Halon), in order that work/entry in these areas may be performed in a safe efficient manner.

The areas listed below are protected by gaseous suppression systems. Any entry/work in these areas is subject to the requirements as set forth in BwAP 1100-21.

- Upper Cable Spreading Rooms - Halon 1301 and CO<sub>2</sub>.
- Lower Cable Spreading Rooms - CO<sub>2</sub>.
- Diesel Generator and Day Tank Rooms - CO<sub>2</sub>.
- Electrical Cable Tunnels - CO<sub>2</sub>.
- Diesel Driven Auxiliary Feedwater Pump and Day Tank Rooms - CO<sub>2</sub>.
- Braidwood Station QA Vault - Halon 1301.
- CEC/ENC QA Vault-Halon 1301.
- Comstock QA Vault - Halon 1301.
- Getschow QA Vault - Halon 1301.

If you will be performing work in any of these areas you must be aware of the following precautions:

- Do not use radios within 4 feet of smoke detectors.
- Entry beyond 5 feet into Upper Cable Spreading Rooms 1EE2 and 2EE2 requires use of an emergency escape breathing apparatus, available from Radiation Protection.
- Do not enter any room in which the alarm horn is sounding.
- System CO<sub>2</sub> has been scented with wintergreen. If a wintergreen odor is detected, leave the area immediately.

In the event of a pre-discharge alarm, or system actuation:

- Leave the area immediately, in a calm but quick manner. (CO<sub>2</sub> pre-discharge times were developed based upon actual exit times.)
- Be aware that a discharge will create a great deal of noise and will greatly limit visibility.
- Avoid passing through nozzle spray paths.

---

Section C.2.d, of BwAP 1100-21, provides examples of work that may require the gaseous suppression system to be taken out of service. The Station Fire Marshal, or designee, may be contacted for further guidance.

### **Visual Warning Lights for Plant Alarms**

#### Functional Description

The red beacons (strobe lights) located in the Auxiliary and Turbine Buildings are interlocked with the Public Address (PA) system and are designed to alert plant personnel working in high noise areas of several types of consequential plant conditions. The beacons are actuated by use of the Site Fire Alarm, Site Assembly Alarm, or use of the Emergency Page function from the PA system. These differ from the red strobe lights in Unit 1 and Unit 2 containment, which are manually actuated from the main control room when a containment evacuation is necessary.

## **EMERGENCY RESPONSE/PREPAREDNESS**

### **Braidwood Assembly Areas**

- Maintenance Shop Elev. 401
- Unit 1 Turbine Building Trackway Elev. 401
- Unit 2 Turbine Building Trackway Elev. 401
- OSC Elev. 451 (Access)
- TSC Elev. 451 (Access)
- Control Room Elev. 451
- If you are in training, the Training Building is also an assembly area.

## **SECURITY TRAINING**

### **Braidwood Policy Memo BR-052**

The purpose of this policy is to communicate senior management expectations regarding proper behaviors that are to be demonstrated while visiting at Braidwood Station. The behaviors as identified in this policy are not all-inclusive, and are not intended to replace any requirements as set forth in Exelon or Braidwood specific procedures and standards.

This policy applies to all Exelon employees, contractors and visitors at Braidwood Station not engaged in manual labor activities. This briefing should be provided to personnel upon first time visits or when lapse time has exceeded three months. This policy excludes Nuclear Regulatory Commission/Illinois Emergency Management Agency personnel.

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## Expectations Briefing

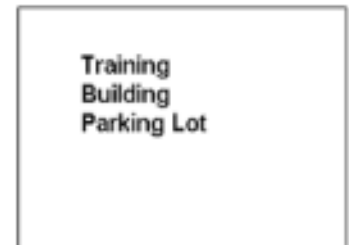
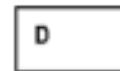
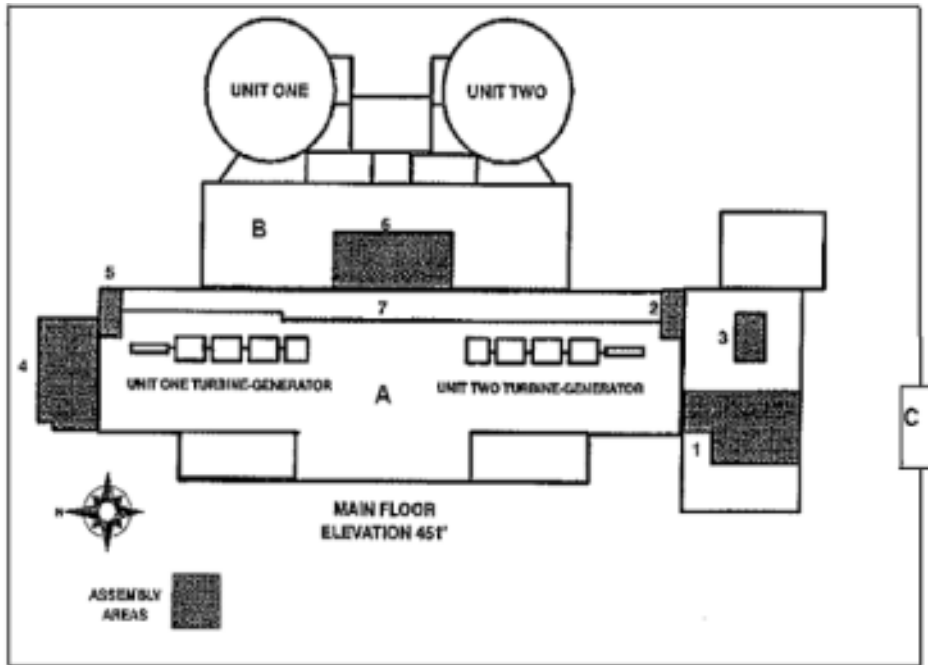
At Braidwood Station our work is never so urgent, nor our schedule so important, that work cannot be performed safely. The majority of personnel injuries are due to at risk behaviors, not the work environment. Taking unnecessary risks while performing a task, as well as unawareness to surroundings can lead to serious and potentially fatal consequences.

- Welcome to Braidwood Station where SAFETY is the way we THINK, WORK, and LIVE. (See policy BR-015 and SPM-008.)
- Any condition, which could be adverse to quality, is to be immediately reported to station supervision.
- Use of cell phones inside the power block is prohibited. (See policy BR-032.)
- When processing through all security and fire doors, ensure they are secured prior to leaving the area.
- Handrails shall be used when traversing stairways.
- Walk on sidewalks or designated pathways.
- Approved footwear must be worn.
- Limit casual conversation while traversing the power block to prevent distraction from immediate surroundings (e.g. low hanging pipe supports).
- Piping and equipment can be extremely hot, keep a safe distance away.
- Smoking is ONLY allowed in designated areas. (See policy BR-051.)
- When attending station meetings or training sessions, pagers, cell phones and Blackberries will be placed in vibrate modes.
- It is expected that all personnel stop when faced with uncertainty. Do not proceed until resolved with supervision.
- Personnel are expected to take action to stop unsafe jobs and unsafe behaviors they observe at the station.
- In case of an injury, illness or near miss, stop work immediately, and place equipment in a safe stable condition. If a serious injury has occurred, notify the Control Room at extension 2211.
- Bollard Safety, do not walk in or around security bollards. Adhere to signs posted.

## **RADIATION WORKER TRAINING**

**Braidwood Hose Control Procedure: BWAP 575-2**

**BRAIDWOOD**



- |   |                                  |
|---|----------------------------------|
| 1. Maintenance Shop El. 401             | A. Turbine Building              |
| 2. Unit 2 Turbine Bldg Trackway El. 401 | B. Auxiliary Building            |
| 3. OSC El. 451 (Access)                 | C. Main Access Facility          |
| 4. TSC El. 451 (Access)                 | D. Drug Screening Reporting Site |
| 5. Unit 1 Turbine Bldg Trackway El. 401 |                                  |
| 6. Control Room El. 451                 |                                  |
| 7. Pathway to TSC                       |                                  |

**Notes:**

Normally accessible RCA's at Braidwood are contained within the Auxiliary Building and the Containment Buildings.

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# **BYRON**

## **NUCLEAR POWER STATION OVERVIEW**

### **Byron Important Phone Numbers**

Emergency	2211
Security	2943
Radiation Protection	2241
Site Nurse	4204

## **FIRE PROTECTION**

### **Gaseous Suppression System Safety**

Several areas at Byron are protected by gaseous suppression systems. These areas require personnel to be aware of the special precautions required for any entry into an area protected by a gaseous suppression system (i.e. CO<sub>2</sub>, Halon, and FM200), in order that work/entry in these areas may be performed in a safe efficient manner.

- The areas listed below are protected by gaseous suppression systems.
- Upper Cable Spreading Rooms - Halon 1301 and CO<sub>2</sub> as a Back-up
- Lower Cable Spreading Rooms - CO<sub>2</sub>.
- Diesel Generator and Day Tank Rooms - CO<sub>2</sub>.
- Electrical Cable Tunnels - CO<sub>2</sub>.
- Diesel Driven Auxiliary Feedwater Pump (B) and Day Tank Rooms - CO<sub>2</sub>.
- *SX M/U pumps and day-tank rooms.*
  
- Byron Station QA Vault (Service Building)- Halon 1301.
- New QA Vault Room (Outside Protected Area)- FM 200
- Training Building Simulator - Halon 1301
- Training Building Computer Room- Halon 1301

#### Work Area Precautions:

- Do not use two way radios in the vicinity of the Halon Control Panels and some detectors
- Entry into Upper Cable Spreading Rooms 1EE2 and 2EE2 requires donning a Breathing Air Apparatus.
- Do not enter any room in which the alarm horn is sounding.
- The CO<sub>2</sub> system contains wintergreen vials, which burst upon a CO<sub>2</sub> actuation. If a wintergreen odor is detected, leave the area immediately.

## **EMERGENCY RESPONSE/PREPAREDNESS**

### **Byron Assembly Areas**

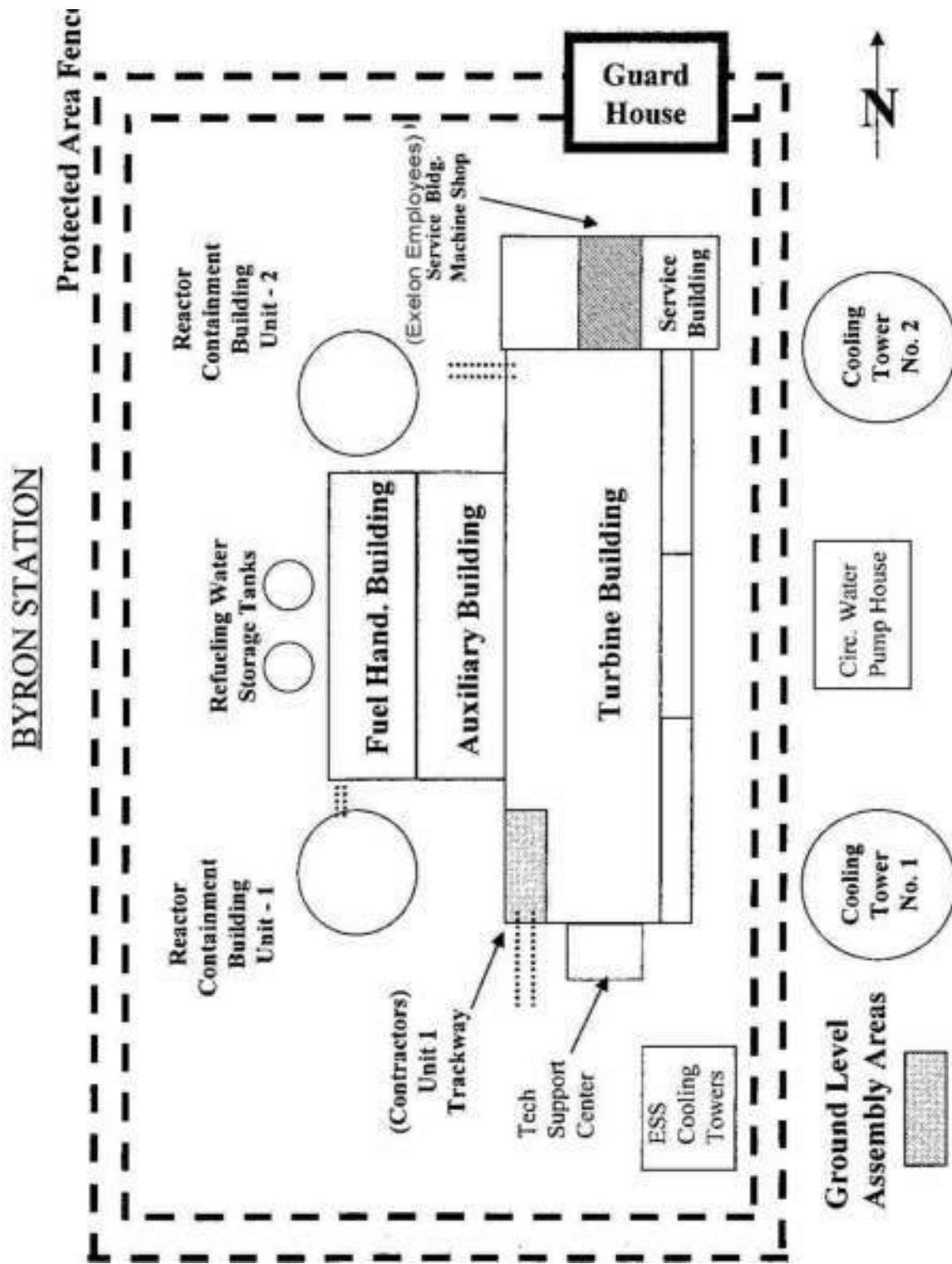
Service Building Machine Shop

Unit 1 Turbine Building Trackway

If you are in training, the training building is also an assembly area.

## **RADIATION WORKER TRAINING**

**Byron Hose Control Procedure: BAP 575-2**



**Notes:**

Normally accessible RCA's at Byron are contained within the Auxiliary Building and the Containment Buildings. Drug Screening Reporting Site is located in the Training Building.

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## CLINTON

### NUCLEAR POWER STATION OVERVIEW

#### Clinton Important Phone Numbers

Emergency (Plant, non-medical)	3329, 2211
Emergency (OCA)	3333
Medical Emergency	3333
Security	2941
Radiation Protection	3227
Site Nurse	4204

#### Public Address System

CPS also uses a Public Announcement system known as a Gaitronics that allows plant personnel to contact the Main Control Room, Security, etc. in emergency situations. Depress the 'Page' button to summon the department that you need (also inform them what line, 1-4 to use). Use of the Gaitronics is **NOT** approved for routine business.

## SECURITY

#### Protected Area Access

Normal access is through the Main Access Facility (MAF). The Operations Gate House (OGH) is currently only used for security, facilities and deliveries personnel and CPS uses a door instead of a turnstile to access the Protected Area at the OGH. Only one person may access the Protected Area through this door at a time. The door must be closed and secured by each person.

## INDUSTRIAL SAFETY

#### Severe Weather Actions

- If you see any severe weather, call Security at 3333.
- Announcements are made over the site communication systems and a whistle is sounded for personnel outdoors. **When the siren sounds**, enter the nearest building and **follow any instructions provided**.
- Personnel in buildings other than the power block should go to the designated "Tornado Warning Shelter Area" in the center of that building. The Admin Building personnel should go the first floor RP area. **Do not leave the building you are in** unless your building does **not** have a designated internal shelter area. Only then would you go to another building.
- Stay in the shelter until an "all clear" announcement is made.
- Personnel who are outdoors and unable to reach indoor shelter should seek refuge in low-lying areas such as ditches, culverts, etc.

## FIRE PROTECTION

CPS has Carbon Dioxide total flooding suppression systems in the Diesel Generator rooms and the Main Generator Exciter in the Turbine Building. Both are equipped with a wintergreen odorizer.

## **CLINTON (CONTINUED)**

### **EMERGENCY RESPONSE/PREPAREDNESS**

#### **Clinton Assembly Areas (Also see site map)**

Service Building MMC OWC Maintenance & Modification Contractor Outage Work Center  
762' Radwaste Building-Contractor Break Area

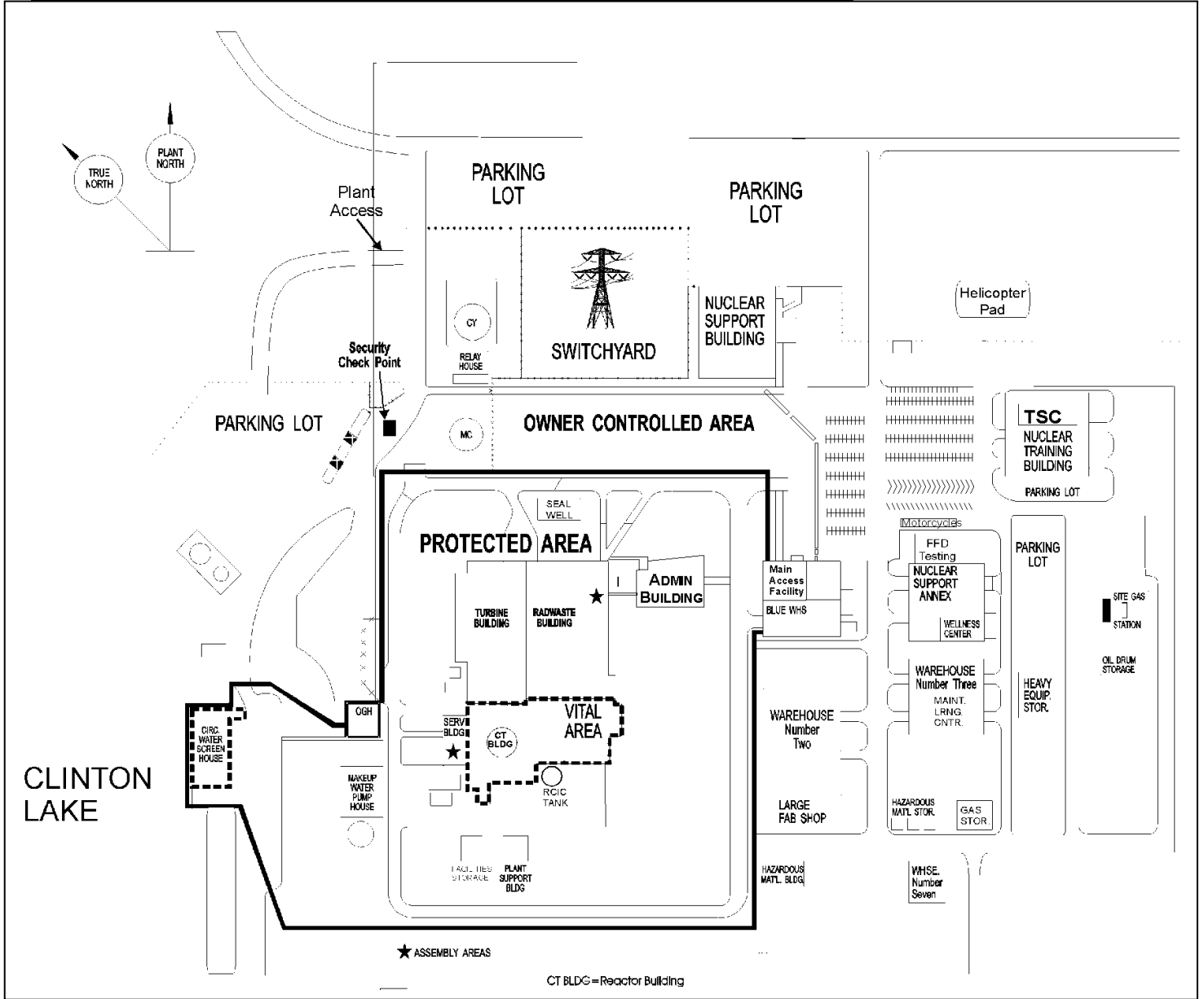
### **RADIATION WORKER TRAINING**

It is expected that Radworkers check electronic dosimetry at a minimum of every 15 minutes.

Tools painted purple are to be used only in the RCA and are not to be removed from the RCA.

**Clinton Hose Control Procedure:** CPS 1019.11

# CLINTON POWER STATION – SITE MAP DRESDEN



NOTE: Normally accessible RCA's at CPS are contained within the Turbine Building; Vital Areas: Auxiliary, Fuel, Control and Containment Buildings; and the majority of the Radwaste Building.

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## **DRESDEN**

### **NUCLEAR POWER STATION OVERVIEW**

#### **Dresden Important Phone Numbers**

Emergency	2211
Security	2218
Radiation Protection	2241, 2253
Site Nurse	4204

## **SECURITY**

### **Visitor Escort**

- The far left-hand turnstile should be used for escorts and visitors exiting the station.
- Both the escort and the visitor are to use the same turnstile – visitor **MUST** exit first.
  - If the escort is not exiting the station, please note that the escort responsibilities do not end until the escort ensures that the visitor has successfully processed through the turnstile.

### **Security Access Checkpoint**

Dresden has a Security Access Checkpoint (ACP) for entry into the Owner Controlled Area of the property. The incoming lanes of traffic are marked as “Badged Employees”, “Visitors and Badged Employees” and “Deliveries”. Please ensure you proceed through the appropriate lane when entering the property.

For the safety of our Security Officers and any other individuals in the area, please keep the following points in mind while processing through the ACP:

- Reduce your speed when approaching the ACP and be prepared to stop.
- Roll down your window in order for the Security Officer to address you.
- If you drive a vehicle with searchable areas, (ie., truck boxes) you will need to exit your vehicle and open the area to allow for the search
- The Security Officer will advise when you are clear to proceed through the checkpoint. Do not proceed prior to this verbal clearance. This will ensure that the Officer is in a safe area; away from moving vehicles.

### **Security Pre-Access Facility**

Prior to entering the Security Gatehouse, all individuals will process through the “Pre-Access Facility” (PAF). During normal business hours, the Visitor/Vehicle Registration Officer (VVRO) is located at the PAF, all visitors and vehicles will be processed at this desk. When the VVRO is not posted, individuals who are not badged will need to call into the gatehouse (using wall phone) to gain entry through the PAF turnstiles, and will be processed in the gatehouse.

## **DRESDEN (continued)**

### **EMERGENCY RESPONSE/PREPAREDNESS**

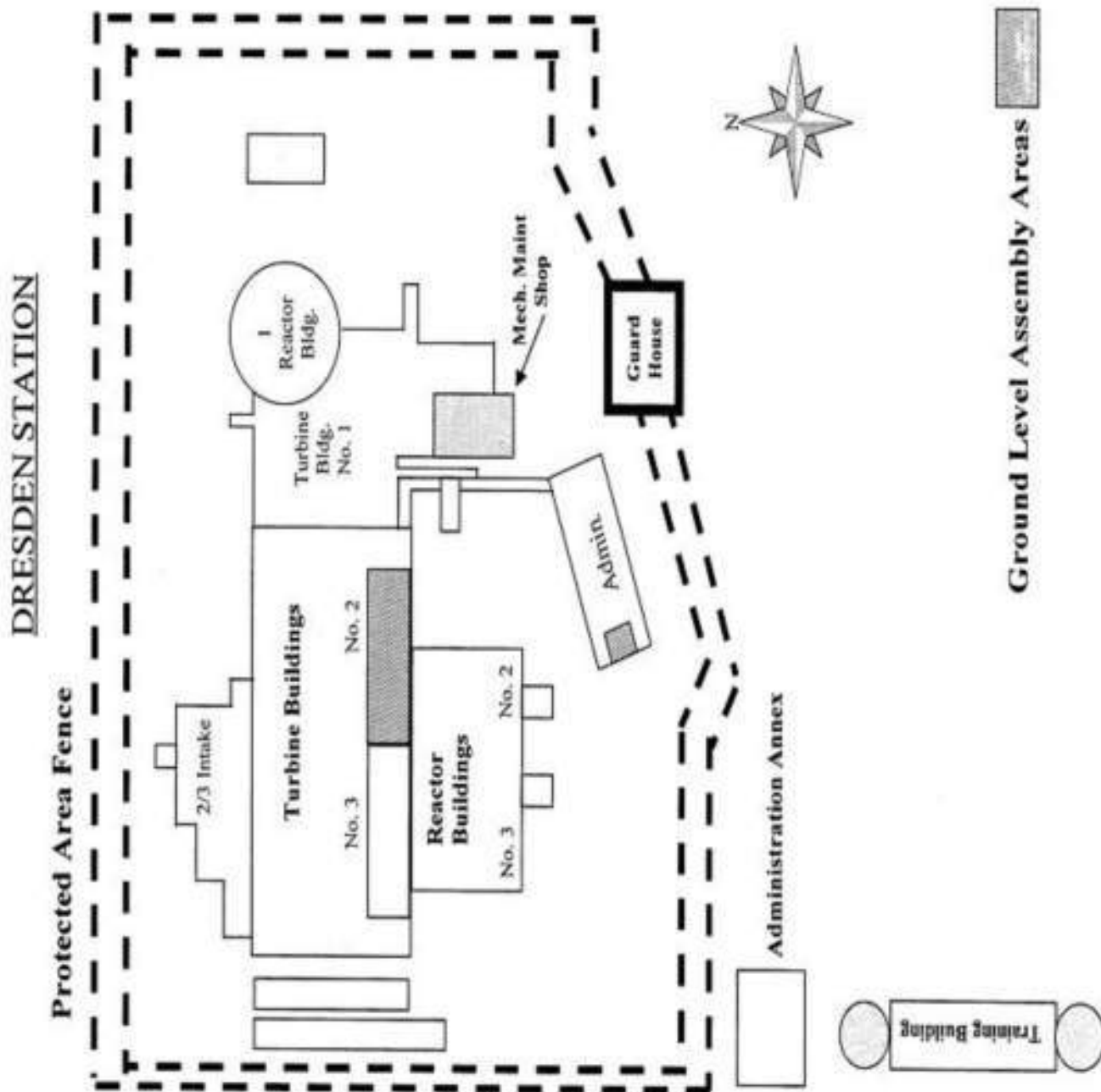
#### **Dresden Assembly Areas**

- Admin Building (Lunchroom)
- D2 Turbine Building (Ground Level Main Corridor)
- Mechanical Maintenance Shop (Ground Level)

### **RADIATION WORKER TRAINING**

**Dresden Hose Control Procedure: DAP 03-07**

**DRESDEN (CONTINUED)**



**Notes:**

Normally accessible RCA's at Dresden are contained within the Turbine Building and the Reactor Buildings. Drug Screening Reporting Site is located in the Administration Annex.

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# **LASALLE**

## **NUCLEAR POWER STATION OVERVIEW**

### **LaSalle Important Phone Numbers**

Emergency	2211, 2911
Security	2220, 2218
Radiation Protection	2241
Site Nurse	4204

## **SECURITY**

### **Vital Area Doors**

Identified with a BLUE semi-circle for single doors or a BLUE circle for double doors.

### **Escorts**

The number of visitors per escort is 1 at all times in the drywell during refueling outage. Escorts will NOT transfer the control of their visitor while in the drywell.

## **Environmental Awareness (TR 07-887)**

### **Environmental Management System**

**Significant Environmental Aspects (SEA)**: an element related to an activity, product or service that may cause a significant environmental impact. These are situations that can cause an adverse or beneficial change to the environment. Activities involving air emissions, discharges to water, waste disposal, and natural resource were considered. The identified items were then assigned probability and consequence scores. The scores were ranked and the items, which scored above a certain threshold value, were listed as Significant Environmental Aspects (SEA's):

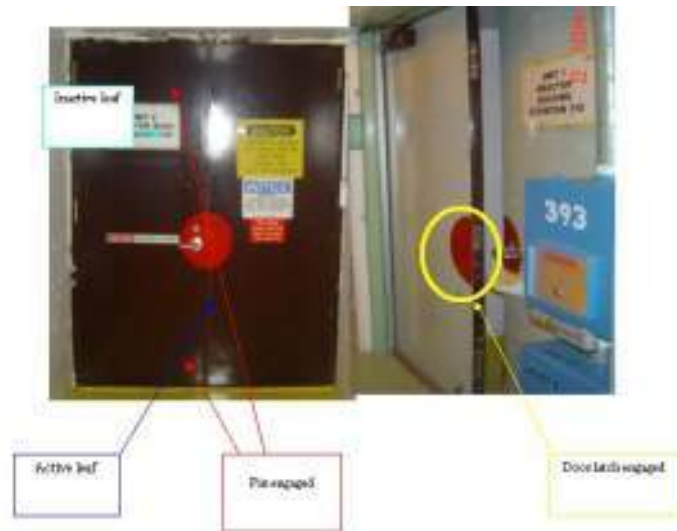
LaSalle station currently has four SEA's, which can cause a significant impact to the environment. LaSalle has several operational controls which mitigate these impacts. The LaSalle SEA's are as follows:

1. Dike/dam breach, which would cause local flooding and reduce cooling system operation.
2. Underground piping breach, which could cause land and groundwater contamination and property damage.
3. Offsite treatment and disposal of mixed waste, which could lead to land and groundwater contamination and a biological health hazard.
4. Onsite and in-transport spills of mixed waste, which could cause land and groundwater contamination and a biological health hazard.

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## **FIRE PROTECTION**

### **ENSURE DOORS ARE CLOSED AND LATCHED PROPERLY AFTER USE**



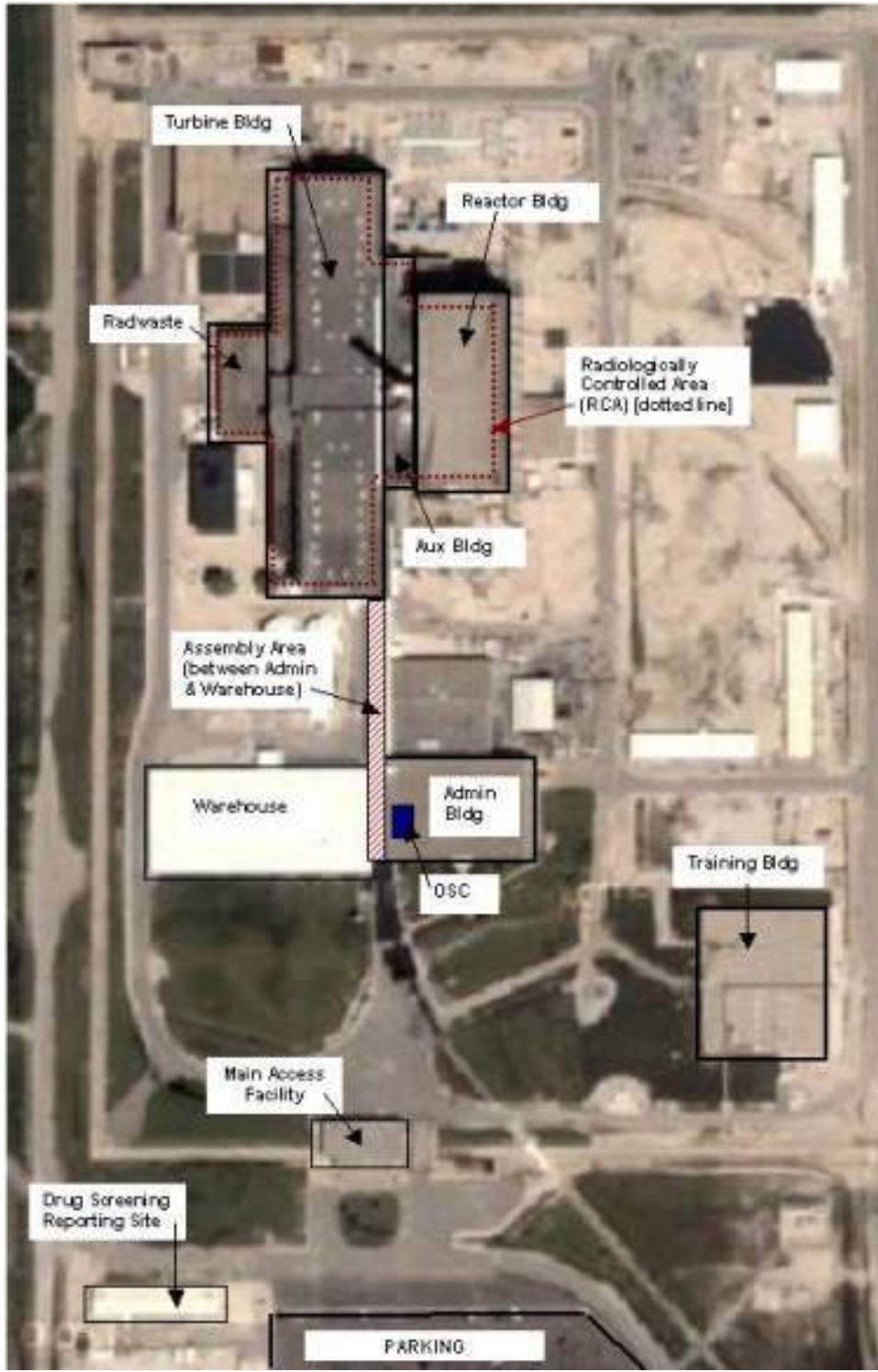
Doors at LaSalle, which have D/P problems, have alarms installed on them, which provide audible and visual indication that a door is not fully closed. Once the door is opened alarm will operate until the door is closed and latched. The alarm is a reminder to ensure that the door is in its correct position once you go through it. If the alarm did not function when you went through or remain in constant alarm with the door closed, please contact Control Room Supervisor for Unit 1 at 2300 or Unit 2 at 2400.

## **EMERGENCY RESPONSE/PREPAREDNESS**

### **LaSalle Assembly Area:**

South Service Trackway

# LASALLE STATION



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## **LIMERICK**

### **NUCLEAR POWER STATION OVERVIEW**

#### **Limerick Important Phone Numbers**

Contacting the Control Room:

- Limerick - Use the “Emergency Control RM / Fire” push button on the page system or telephone at phone numbers 2911. For routine calls, 2277 at Limerick.

#### **Miscellaneous**

- At Limerick, a colored stripe with the unit number inside around the wall of the room is used to differentiate between units.

Unit 1 has a Yellow stripe



Unit 2 has a Green stripe



## **FIRE PROTECTION**

#### **Actions to take upon discovery of a fire**

- At Limerick, if a fire alarm sounds when in buildings other than the power block (Site Management Building, Administration Building, Training Center, Personnel Processing Center, etc.): exit the building immediately and proceed to a safe location.

#### **Control of fire loading (wood, solvents, oil) and the disposal of flammable materials**

- The following fire protection zones are established:
  - Combustible Free Zones (CFZ) - an area of the plant in which no combustible material (fixed or transient) is permitted to be stored or staged unless compensatory actions are in place. At Limerick, orange diagonal lines painted on the floors and/or walls identify these zones.
  - Transient Combustible Free Zones (TFZ) - an area of the plant in which no transient combustible material is permitted to be stored or staged unless compensatory actions are in place. At Limerick, orange diagonal lines identify these zones.

#### **Response to a station fire alarm**

- Cardox / Halon / HFC-125 systems are designated by postings on the door to the room. An alarm will sound before system is activated. Exit area immediately if alarm sounds or if a wintergreen odor (Cardox System) is detected. Initiating these systems may create an immediately dangerous to life or health (IDLH) atmosphere.

- 
- Additional actions may be required. Ensure you read and understand all signs and posting when working in areas equipped with Cardox/Halon/HFC-125 systems.
  - Notify the Control Room of the fire location via the phone or page.

## **EMERGENCY RESPONSE/PREPARENESS**

### **On-site and off-site assembly areas**

If plant accountability is ordered, personnel will report to the following onsite assembly areas:

- Limerick - Location designated in the message broadcast over the PA system.

If a site evacuation is ordered, personnel will report to the following offsite assembly areas as indicated on the plant page announcement:

- Limerick - Cromby Generating Station or the Limerick Airport

## **RADIATION WORKER TRAINING**

- Radiation Dosimetry
  - Electronic Dosimeter, ED's provide both Accumulative Dose and Dose Rate alarms. An audible steady tone indicates an alarm for dose rate. An alternating tone indicates the alarm for accumulated dose. If you get an alarm, exit the area and contact Radiation Protection.
  - Limerick utilizes Siemens Electronic Dosimeters.

### **SIEMENS EXIT**

The Exit Process is initiated by inserting an ED into the access control workstation (ACW). Workers must leave the ED inserted until the ACW notifies them to remove the ED.

The workers are expected to review their exposure information and acknowledge by selecting any key to continue.

**Once the ED has been inserted, the Exit Process cannot be canceled/terminated.**

A screen is displayed notifying the worker that the Exit has been completed successfully.

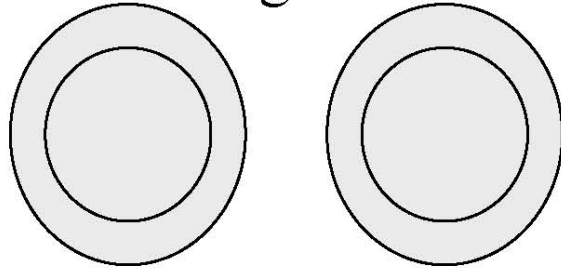
Remove the ED as instructed.

- RCA entry points
  - Limerick - Normal entry points to the RCA are the 41 line and 5th floor Turbine Building

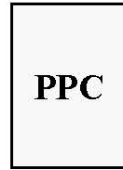
# LGS Site Map



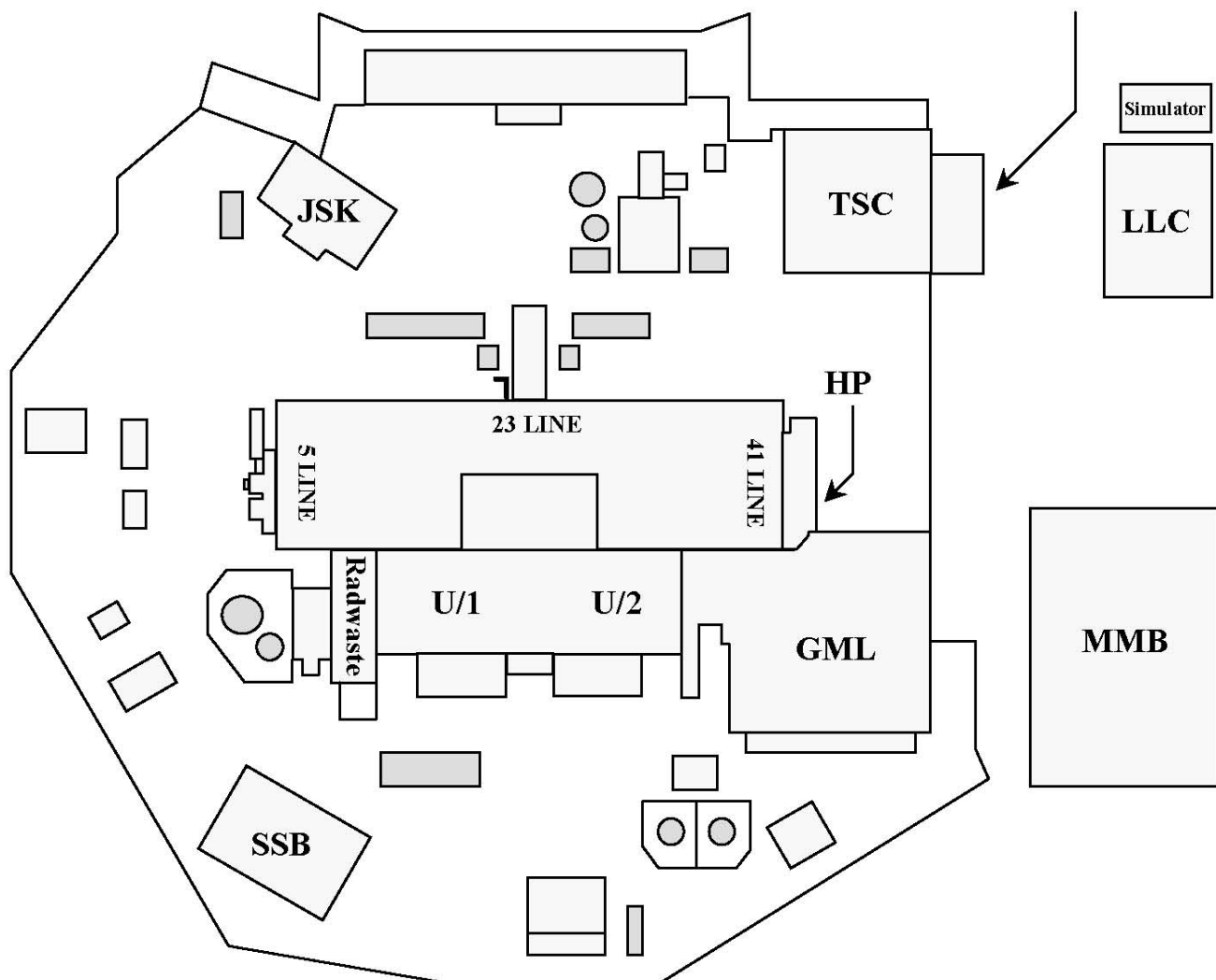
Cooling Towers



Parking Area



Protected Area Entrance



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## **OYSTER CREEK**

### **NUCLEAR POWER STATION OVERVIEW**

#### **Oyster Creek Important Phone Numbers**

Contacting the Control Room:

- Oyster Creek - Use the plant page system or telephone at phone numbers 4911 for emergencies or 4666 for routine calls.

### **FIRE PROTECTION**

#### **Actions to take upon discovery of a fire**

- At Oyster Creek, if a fire is discovered off the main site, sound the local alarm (if installed) and call the local Fire Department (9-911) and notify Security at Extension 4954 at Oyster Creek.

#### **Control of fire loading (wood, solvents, oil) and the disposal of flammable material**

- The following fire protection zones are established:
  - Combustible Free Zones (CFZ) - an area of the plant in which no combustible material (fixed or transient) is permitted to be stored or staged unless compensatory actions are in place. At Oyster Creek, signs identify combustible free zones.
  - Transient Combustible Free Zones (TFZ) - an area of the plant in which no transient combustible material is permitted to be stored or staged unless compensatory actions are in place. At Oyster Creek, signs identify transient combustible free zones.

#### **Response to a station fire alarm**

- Cardox / Halon / HFC-125 systems are designated by postings on the door to the room. An alarm will sound before system is activated. Exit area immediately if alarm sounds or if a wintergreen odor (Cardox System) is detected. Initiating these systems may create an immediately dangerous to life or health (IDLH) atmosphere.
- Additional actions may be required. Ensure you read and understand all signs and posting when working in areas equipped with Cardox/Halon/HFC-125 systems.

#### **Miscellaneous**

- Notify the Control Room of the fire location via the phone or page.

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## **EMERGENCY RESPONSE/PREPARENESS**

### **On-site and on-site areas**

If plant accountability is ordered, personnel will report to the following onsite assembly areas:

- Oyster Creek - Location designated in the message broadcast over the PA system.

If a site evacuation is ordered, personnel will report to the following offsite assembly areas as indicated on the plant page announcement:

- Oyster Creek - Manchester Township High School or the Pinelands Regional High School

## **RADIOLOGICAL ORIENTATION**

### **Colors and symbols used on radiological postings and methods used to mark radiological areas, e.g., signs, ropes, tape**

- In addition to the standard radiological posting when radiography is in progress, Oyster Creek utilizes an additional special octagon-shaped warning sign posted at the boundaries of areas where radiography is in progress.

## **RADIATION WORKER TRAINING**

- Radiation Dosimetry
  - Electronic Dosimeter, ED's provide both Accumulative Dose and Dose Rate alarms. An audible steady tone indicates an alarm for dose rate. An alternating tone indicates the alarm for accumulated dose. If you get an alarm, exit the area and contact Radiation Protection.
  - Oyster Creek utilizes Siemens Electronic Dosimeters.

### **SIEMENS EXIT**

The Exit Process is initiated by inserting an ED into the access control workstation (ACW). Workers must leave the ED inserted until the ACW notifies them to remove the ED.

The workers are expected to review their exposure information and acknowledge by selecting any key to continue.

**Once the ED has been inserted, the Exit Process cannot be canceled/terminated.**

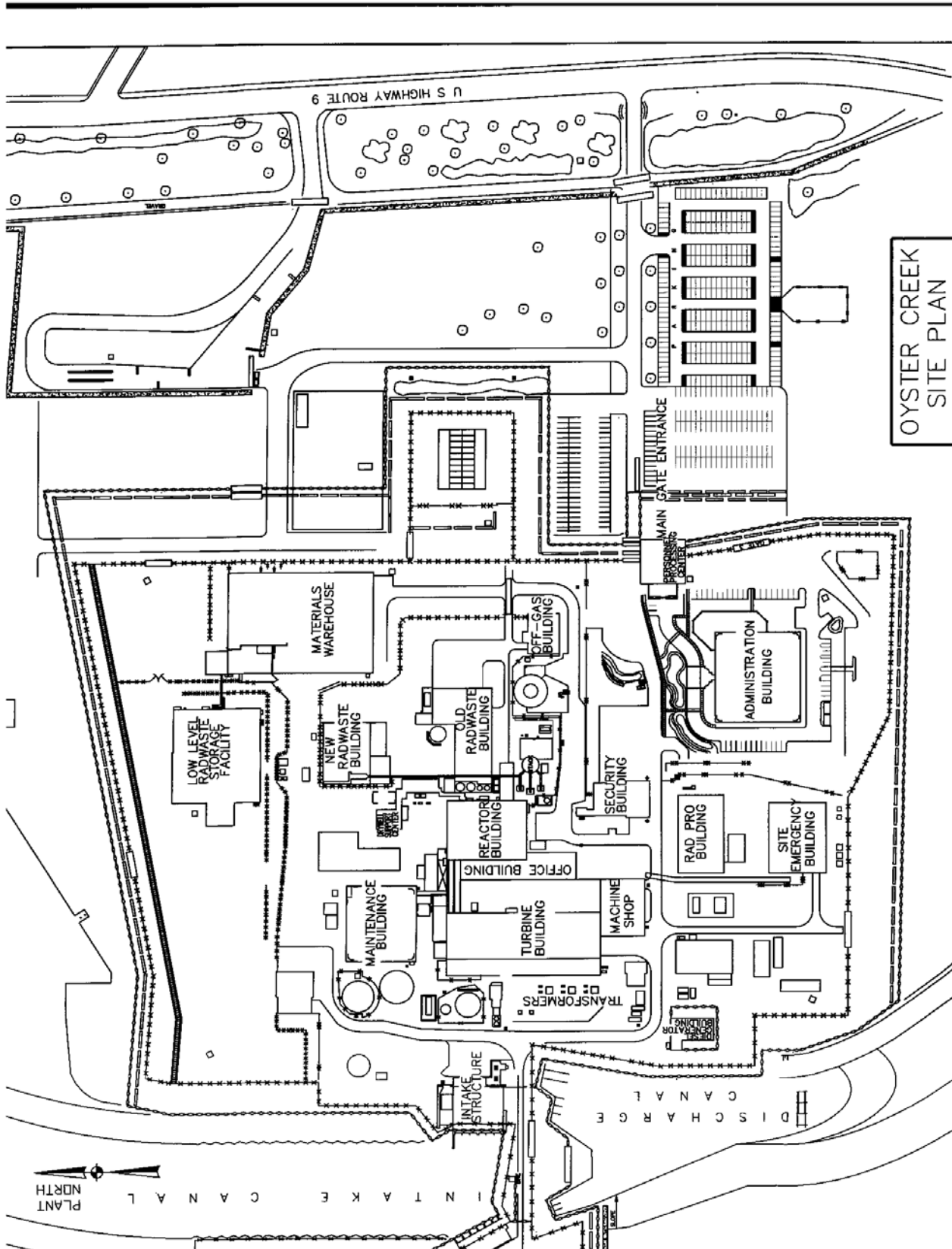
A screen is displayed notifying the worker that the Exit has been completed successfully.

Remove the ED as instructed.

- RCA entry points

- Oyster Creek - Entry points into the RCA are located at the NE corner of the Reactor Bldg., Bldg 3/Turbine Bldg SW entrance and the third floor MOB.

# OYSTER CREEK GENERATING STATION



OYSTER CREEK  
SITE PLAN

## PEACH BOTTOM

### NUCLEAR POWER STATION OVERVIEW

#### Peach Bottom Important Phone Numbers

- Contacting the Control Room:
  - Peach Bottom - Use the “Emergency Control RM / Fire” push button on the page system or telephone at phone numbers 3911/4911 at Peach Bottom for emergencies. For routine calls, 4221 at Peach Bottom.

#### Miscellaneous

- At Peach Bottom, a colored stripe with the unit number inside around the wall of the room is used to differentiate between units.

Unit 2 has a Yellow stripe



Unit 3 has a Green stripe



## FIRE PROTECTION

### Actions to take upon discovery of a fire

- At Peach Bottom, if a fire alarm sounds when in buildings other than the power block (Site Management Building, Administration Building, Training Center, Personnel Processing Center, etc.): exit the building immediately and proceed to a safe location.

### Control of fire loading (wood, solvents, oil) and the disposal of flammable materials

- The following fire protection zones are established:
  - Combustible Free Zones (CFZ) - an area of the plant in which no combustible material (fixed or transient) is permitted to be stored or staged unless compensatory actions are in place. At Peach Bottom, orange diagonal lines painted on the floors and/or walls identify these zones.
  - Transient Combustible Free Zones (TFZ) - an area of the plant in which no transient combustible material is permitted to be stored or staged unless compensatory actions are in place.

### Response to station fire alarm

- Cardox / Halon / HFC-125 systems are designated by postings on the door to the room. An alarm will sound before system is activated. Exit area immediately if alarm sounds or if a wintergreen odor (Cardox System) is detected. Initiating these systems may create an immediately dangerous to life or health (IDLH) atmosphere.
- Additional actions may be required. Ensure you read and understand all signs and posting when working in areas equipped with Cardox/Halon/HFC-125 systems.

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## **EMERGENCY RESPONSE/PREPARENESS**

### **On-site and off-site assembly areas**

If plant accountability is ordered, personnel will report to the following onsite assembly areas:

- Peach Bottom, - Location designated in the message broadcast over the PA system.

If a site evacuation is ordered, personnel will report to the following offsite assembly areas as indicated on the plant page announcement:

- Peach Bottom - North Sub-Station or the Unit 1 / Training Center

## **RADIATION WORKER TRAINING**

- Radiation Dosimetry
  - Electronic Dosimeter, ED's provide both Accumulative Dose and Dose Rate alarms. An audible steady tone indicates an alarm for dose rate. An alternating tone indicates the alarm for accumulated dose. If you get an alarm, exit the area and contact Radiation Protection.
  - Peach Bottom utilizes Siemens Electronic Dosimeters.

### **SIEMENS EXIT**

The Exit Process is initiated by inserting an ED into the access control workstation (ACW). Workers must leave the ED inserted until the ACW notifies them to remove the ED.

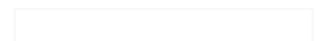
The workers are expected to review their exposure information and acknowledge by selecting any key to continue.

**Once the ED has been inserted, the Exit Process cannot be canceled/terminated.**

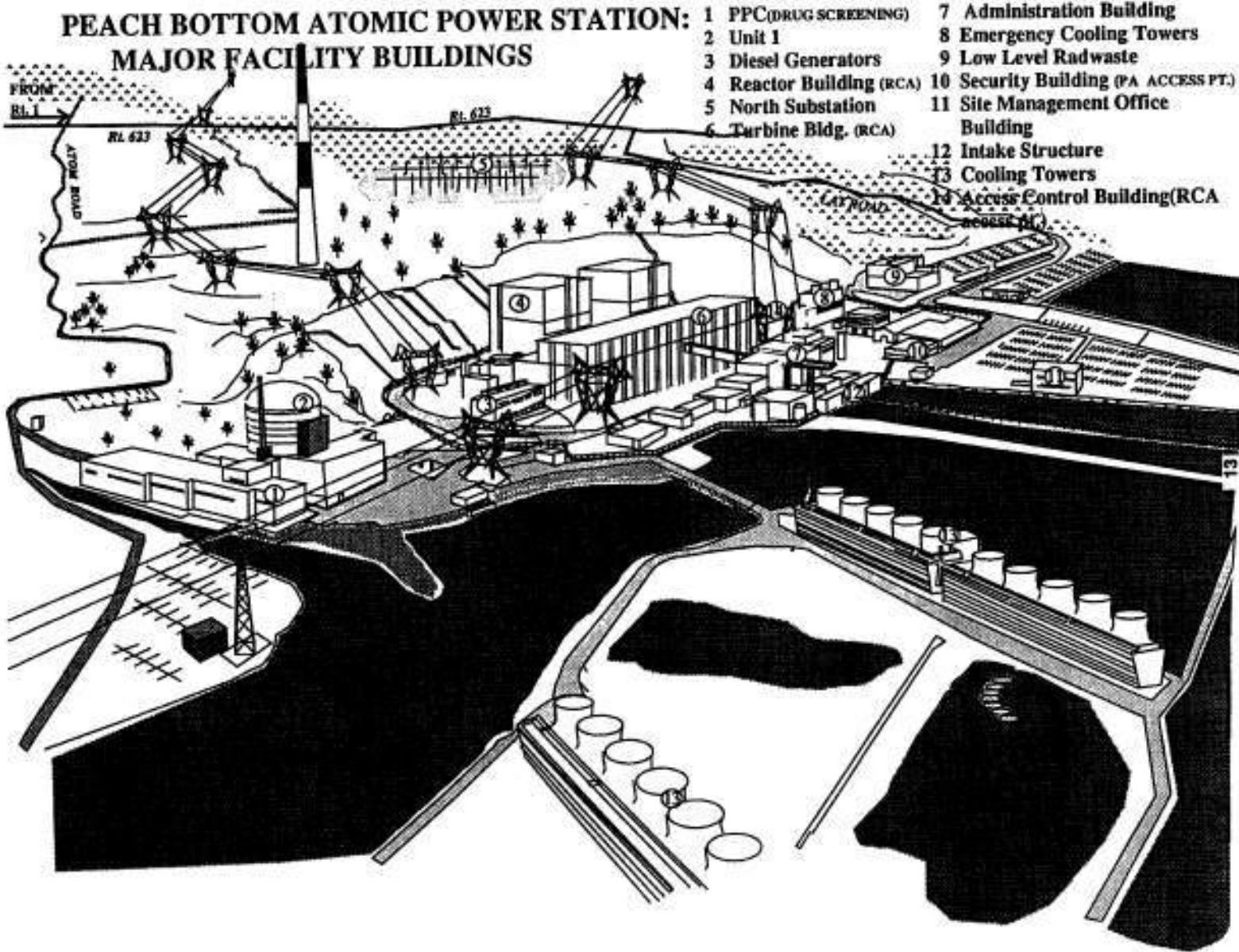
A screen is displayed notifying the worker that the Exit has been completed successfully.

Remove the ED as instructed.

- RCA entry points
  - Peach Bottom - 1st floor of Pearl Building and 4<sup>th</sup> Floor Administration Building



**PEACH BOTTOM ATOMIC POWER STATION:  
MAJOR FACILITY BUILDINGS**



- 1 PPC(DRUG SCREENING)
- 2 Unit 1
- 3 Diesel Generators
- 4 Reactor Building (RCA)
- 5 North Substation
- 6 Turbine Bldg. (RCA)
- 7 Administration Building
- 8 Emergency Cooling Towers
- 9 Low Level Radwaste
- 10 Security Building (PA ACCESS PT.)
- 11 Site Management Office Building
- 12 Intake Structure
- 13 Cooling Towers
- 14 Access Control Building(RCA access pt.)

## QUAD CITIES

### NUCLEAR POWER STATION OVERVIEW

#### Quad Important Phone Numbers

Emergency	2211
Security	2940
Radiation Protection	2753, 2754
Site Nurse	4204

#### Communications

Throughout the plant there are various locations designated as “Do Not Transmit” or “No Radio Use In This Area” zones. These zones are typically signified by orange and white striped areas on the floor, or through the use of signage. At Quad Cities Station, cell phones and Blackberries must not be taken into the Power Block or any radio-free zone. Laptop Computers must have their wireless capability disabled before entering these areas. Additionally, flash devices and digital cameras are not allowed to be used in radio-free zones.

Motorola MTS 2000 radios must be placed in ‘Transmit Inhibit’ or turned off prior to entering restricted zones. These radios will transmit automatically when they detect an incoming call if they are not placed in ‘Transmit Inhibit’ (see insert). QCOP 9000-04, Plant Radio System Operation, details these requirements along with the operating instructions for the station portable radios.



Utilize Pre-job briefs to address issues with radio transmission at the job site and during transit. Use Human Performance tools such as STAR, questioning attitude, and the 2 minute drill at the job site.

#### Miscellaneous

- At Quad Cities, a colored stripe with the unit number inside around the wall of the room is used to differentiate between units.

Unit 1 has a Blue stripe



Unit 2 has a Yellow stripe



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## **QUAD CITIES (continued)**

### **SECURITY**

#### **Security Access Checkpoint**

Quad Cities has a Security Checkpoint for entry into the Owner Controlled Area of the property.

For the safety of our Security Officers and any other individuals in the area, please keep the following points in mind while processing through the Checkpoint:

- Reduce your speed when approaching the Checkpoint and be prepared to stop.
- Roll down your window in order for the Security Officer to address you.
- If you drive a vehicle with searchable areas, (i.e. truck boxes) you will need to exit your vehicle and open the area to allow for the search
- The Security Officer will advise when you are clear to proceed through the checkpoint. Do not proceed prior to this verbal clearance. This will ensure that the Officer is in a safe area; away from moving vehicles.

#### **Security Pre-Access Facility**

Prior to entering the Security Gatehouse, all individuals will process through the “Pre-Access Facility” (PAF). During normal business hours, the Visitor/Vehicle Registration Officer (VVRO) is located at the PAF, all visitors and vehicles will be processed at this desk. When the VVRO is not posted, individuals who are not badged will need to call into the gatehouse (using wall phone) to gain entry through the PAF turnstiles, and will be processed in the gatehouse.

#### **Safeguards Information**

Electronic transfer (fax, e-mail) or development/revision of safeguards information on any network computer is PROHIBITED.

### **INDUSTRIAL SAFETY**

The tornado siren is located at the top of the service building and controlled by security. The tone is a wailing tone that sounds like a British police siren.

#### **Hazardous Induced Voltages**

Due to the location of the transmission lines at Quad Cities station, a heightened awareness is required:

Qualified electrical workers must review work to be performed by unqualified electrical workers, where:

- a. Any work will take place within 70 feet of energized overhead conductors (areas such as: East of the Reactor Building where 345KV lines pass overhead).
- b. Cranes booms, lifts or ferrous metal will be operated if used within 50 feet of energized lines.
- c. In-plant work will be performed within 30 feet of the main generator, line buildings, isophase bus ducts or high current bus ducts.
- d. Refer to SA-AA-129, Electrical Safety procedure for further guidance.

## QUAD CITIES (continued)

### EMERGENCY RESPONSE/PREPAREDNESS

<b>Quad Assembly Areas</b>	
<u>The Emergency Siren is a 2 minute constant tone over the PA system. Listen and respond to the announcements. Stay out of affected areas and proceed to the designated assembly areas, if required.</u>	
<p><b><u>Cafeteria</u></b> SVP/Senior Managers, Human Resources, Business Operations, Operations, Regulatory Assurance, Information Technology (IT), Nuclear Oversight, Work Management, Station Laborers, Project Management, Contract Security Personnel (who are not members of the Security Organization) <u>All others not mentioned</u></p> <p><b><u>Technical Support Center (TSC):</u></b> ERO Directors and other TSC personnel currently staffing the facility</p> <p><b><u>Outage Support Building (OSB) – First Floor</u></b> Construction and Contractors</p>	<p><b><u>Room 225 (Front-Half):</u></b> Fuel Handling, Supply (Stores/Procurement), Work Planning Maintenance Programs, Instrument Maint., Chemistry</p> <p><b><u>Room 225 (Back-Half):</u></b> Engineering, OAD/Substation, Records Management</p> <p><b><u>MMD Break Area/Machine Shop:</u></b> Mechanical Maint., Electrical Maint, Radiation Protection (except Station Laborers) Personnel located in Break Area and currently staffing the OSC</p> <p><b><u>Outage Control Center (OCC)/OSC:</u></b> OSC Director, Supervisor, Group Leads and staff located in the OCC and currently staffing the OSC</p>

#### Off-site assembly areas

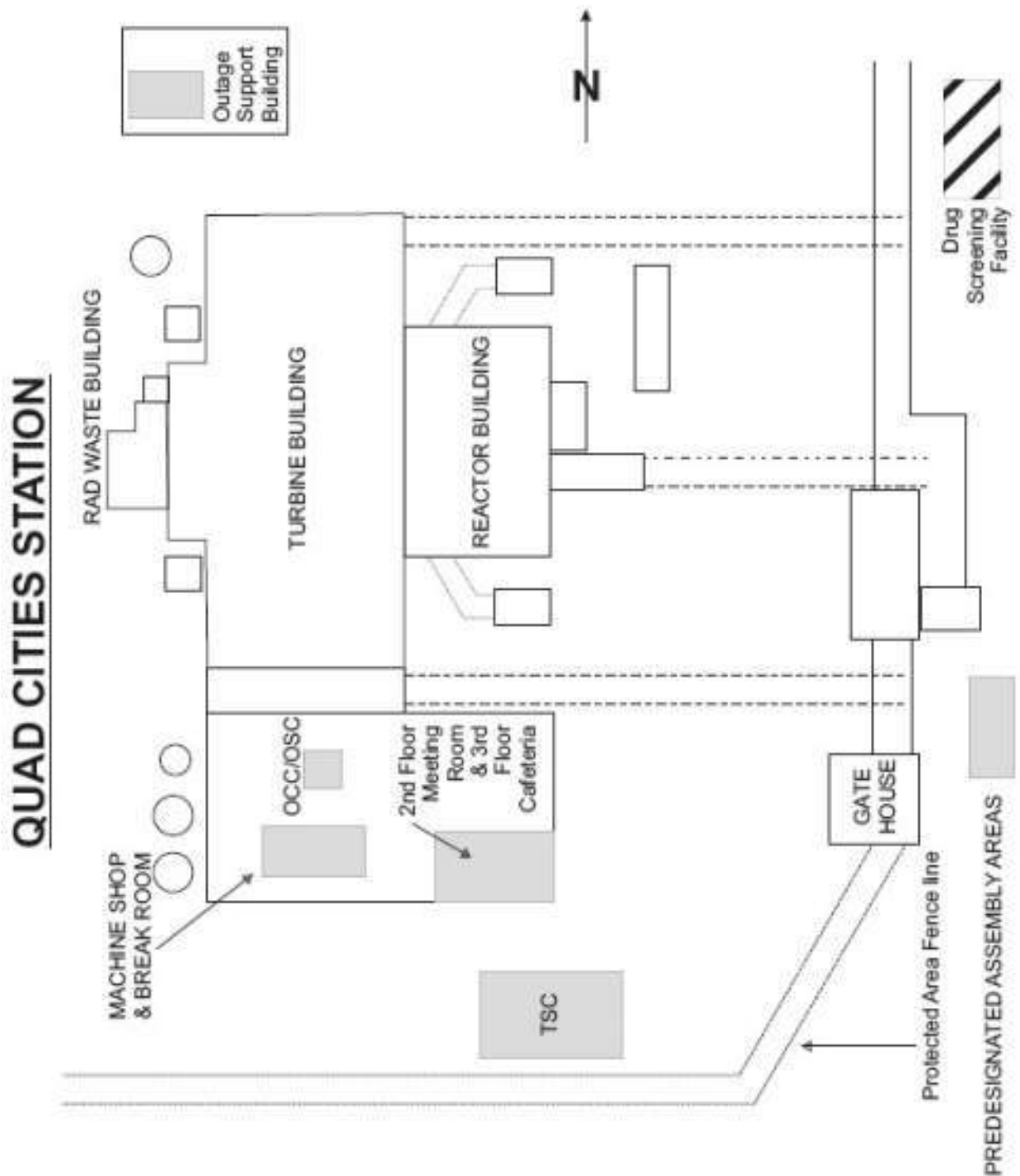
If plant accountability is ordered, personnel will report to one of the following offsite assembly areas as indicated on the plant page announcement:

- ERO Off-Site Staging Area/Relocation Center  
14439 Crosby Road (Rt 78), Morrison, Illinois 61270-9618  
or
- Byron Station  
4450 North German Church Road, Byron, Illinois 61010-9794

### RADIATION WORKER TRAINING

The entire powerblock is not posted as a Radiation Area. You must ensure that radioactive material that is greater than 5 mr/hr at 1 foot is placed within a posted Radiation Area. Failing to do so will result in an un-posted Radiation Area.

**Quad Hose Control Procedure:** RP-QC-469



### Notes:

Normally accessible RCA's at Quad Cities are contained within the Turbine Building, Reactor Building, and RadWaste Buildings. Satellite RCA's located inside the protected area are posted as such, contact Radiation Protection for information if there is a need to enter those areas.

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## **THREE MILE ISLAND**

### **NUCLEAR POWER STATION OVERVIEW**

#### **Three Mile Island Important Phone Numbers**

- Contacting the Control Room:
  - TMI - Use -the plant page system or telephone phone numbers 8069, or 8071 for routine calls. For emergencies, use telephone number 5911 to contact the Control Room.

#### **Areas of the station that are controlled by Security including the Owner Controlled Area (OCA), Protected Area (PA), and Vital Areas (VA)**

- AT TMI, an “Exclusion Zone” which is identified with orange colored chains and postings, surrounds the PA fence and is intended to create an isolation or buffer zone between the OCA and PA. No entry into this area is allowed without permission from Security.

### **FIRE PROTECTION**

#### **Actions to take upon discovery of a fire**

- At TMI, if a fire is discovered off the main site, sound the local alarm (if installed) and call the local Fire Department (9-911) and notify the Control Room at extension 8069.

#### **Control of fire loading (wood, solvents, oil) and the disposal of flammable materials**

- The following fire protection zones are established:
  - Combustible Free Zones (CFZ) - an area of the plant in which no combustible material (fixed or transient) is permitted to be stored or staged unless compensatory actions are in place. At TMI, signs identify combustible free zones.
  - Transient Combustible Free Zones (TFZ) - an area of the plant in which no transient combustible material is permitted to be stored or staged unless compensatory actions are in place. At TMI, signs identify transient combustible free zones.

#### **Response to a station fire alarm**

- Cardox / Halon / HFC-125 systems are designated by postings on the door to the room. An alarm will sound before system is activated. Exit area immediately if alarm sounds or if a wintergreen odor (Cardox System) is detected. Initiating these systems may create an immediately dangerous to life or health (IDLH) atmosphere.
- Additional actions may be required. Ensure you read and understand all signs and posting when working in areas equipped with Cardox/Halon/HFC-125 systems.

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## Miscellaneous

- At TMI, fire wardens will assist with employee exit in the event of a fire or other emergency in office buildings outside the plant.
- Notify the Control Room of the fire location via the phone or page.

## EMERGENCY RESPONSE/PREPARENESS

### On-site and off-site assembly areas

If plant accountability is ordered, personnel will report to the following onsite assembly areas:

- TMI - Location designated in the message broadcast over the PA system.

If a site evacuation is ordered, personnel will report to the following offsite assembly areas as indicated on the plant page announcement:

- TMI - Training Center or other location designated in the message broadcast over the PA system.

## RADIATION WORKER TRAINING

- Radiation Dosimetry
  - Electronic Dosimeter, ED's provide both Accumulative Dose and Dose Rate alarms. An audible steady tone indicates an alarm for dose rate. An alternating tone indicates the alarm for accumulated dose. If you get an alarm, exit the area and contact Radiation Protection.
  - TMI utilizes Siemens Electronic Dosimeters.

### **SIEMENS EXIT**

The Exit Process is initiated by inserting an ED into the access control workstation (ACW). Workers must leave the ED inserted until the ACW notifies them to remove the ED.

The workers are expected to review their exposure information and acknowledge by selecting any key to continue.

**Once the ED has been inserted, the Exit Process cannot be canceled/terminated.**

A screen is displayed notifying the worker that the Exit has been completed successfully.

Remove the ED as instructed.

- RCA entry points
  - TMI - Normal entry points to the RCA is the Rad Pro Control point, 305' elevation of the Control Building

# Three Mile Island Nuclear Generating Station

