Assign #: 10 AR #: 00907846

Aff Fac:	Oyster Creek	**Assign Type:**	NER	**Status:**	COMPLETE
Priority:		**Assigned To:**	NRSTY	**Due Date:**	06/05/2009
Schedule Ref:		**Prim Grp:**	A5351NESPR	**Orig Due Date:**	05/19/2009
Unit Condition:		**Sec Grp:**			

Assignment Details

Subject/Description: Review For NER and submit to Reg Assurance.

Assignment Completion

In Progress Notes: Nuclear Event Report (NER) Template

The purpose of an NER is to share information and Lessons Learned within Exelon Nuclear in a timely manner. Refer to LS-AA-115-1004, "Processing of NERs and NNOEs", for additional guidance.

General Guidance:
Your audience for this report is Exelon Nuclear personnel and executives.
? Keep sentences short, to the point, and do not include unnecessary detail.
? Define all acronyms the first time they are used.
? Do not use plant, system, or component designators, use noun names.

? Do not copy investigative reports without removing excess information.
? This is NOT a "20 minute, cut & paste from the IR" assignment. This is a MRC directed assignment that should clearly communicate the issue.

If you need additional Guidance, contact your Site OPEX Coordinator.

After you have filled in the information below
AND
documented Department Head (or designee) concurrence,
Close your Action Tracking assignment
AND
Notify your Site OPEX Coordinator.

The Red Italic wording is guidance on how to complete each topic, leave the Red Italic wording as a reference for those approving this document. It will assist them in understanding what is expected and what content information you were working to satisfy. The Site OPEX Coordinator will remove the Red Italic wording. Items in BLACK are part of the standard template.

A complete, searchable folder of all NERs ever issued is available in Outlook. The path is: Outlook Public Folders/ All Public Folders/ Exelon Nuclear/ Cantera/ NON/LLIN/. In the main folder (NON/LLIN), there are individual sub-folders for each year since 1995. The current year NERs are in the main folder, "NON/LLIN."

NOTE: The message format below also meets INPO NNOE format requirements.

Nuclear Event Report (NER) Report
Subject:
Tritium Identified in Emergency Service Water (ESW) Vault

? The Subject is a brief description of the event. It will appear with the NER number assigned by Site/Fleet OPEX Coordinator to your message.

It briefly describes the problem being documented.
? If this NER provides additional information on an event documented in a previously issued NER(s), the title should end with the phrase, "(Supplement _#_)."
? Do not include acronyms, system/component identification numbers, or utility or plant name in the Subject line.

Abstract:
Elevated tritium concentrations above State of New Jersey reporting levels were identified at Oyster Creek during preparation for work inside the ESW vault. The threshold for reporting groundwater tritium levels to the New Jersey Department of Environmental Protection (DEP) is 2,000 picocuries per liter (pCi/l) based on a verbal agreement with New Jersey Department of Environmental Protection. The root cause of these leaks are attributed to the corrosion mechanism known as anodic dissolution resulting from poor application of coating that left the buried pipes susceptible to corrosion.

? In the Abstract, provide a brief summary of the event or condition being documented to tell the reader why the following information is of interest. The abstract should include what went wrong, the consequences, and causes as appropriate. If possible, limit the abstract to four lines.

? For example, "With ACME Nuclear Power Station at 100 percent power, a reactor recirculation pump trip and automatic scram occurred during relay testing. Following the plant trip, some safety-related reactor vessel water level indications were inaccurate. The cause of the loss of bus was procedure error."

Title:
Tritium Identified in Oyster Creek Emergency Service Water (ESW) Vault

? The Title line can be the same as the "Subject Line", and is included beneath the Abstract to allow for additional details to be added, if required. As a minimum, it should match the Subject Line.

Event Date:
April 15, 2009

? For events where a problem resulted in an undesired condition in the plant, the event date should be the date the undesired condition occurred (not the date when the originating mistake was made).
? For situations where a problem did not result in an unintended condition, but the problem itself is being reported because of the potential for it to have caused undesired conditions, the event date should be the date the problem was created.
? For situations where an undesired condition (previously created) was discovered on a date later than when the event occurred, the event date should be the date of discovery.

Station Name/ Unit Name:
Oyster Creek Generating Station/ Unit 1
State the station name and affected unit(s).

Significance:
The urgency to identify the source of the leak led to excavation of several piping lines during a forced outage that lasted roughly 8 days. Significant financial and personnel resources were required to restore the integrity of the piping. In the event the soil needs to be remediated, a significant cost will be incurred by the company.
A brief, general description of the event's nuclear safety significance, or impact on plant production and/or industrial safety.

Lessons Learned:
This message is submitted to communicate an onsite release of tritium at the Oyster Creek Generating Station due to leaks developing in buried pipe.

All Exelon sites should consider taking the following actions to prevent the occurrence of a similar situation.
1) Review Buried Pipe program information to ensure proper identification and classification (risk and consequence) of program related piping
2) Verify tritium concentrations have been determined for piping systems in the Buried Pipe program
3) Develop a strategic plan for inspecting/replacing direct buried pipe to mitigate the potential for the release of tritiated water to the ground or offsite

This is a preliminary report, a supplemental report will be issued upon completion of the root cause investigation.

? Provide the reason for submitting this message. If the reason for submitting the message was to communicate lessons learned to others, simply state that the following lessons were learned from this event, and list them.
? Actions other Nuclear sites should consider taking to prevent the occurrence of a similar event should be stated. For example, "PWR Stations should consider reviewing program X to determine if similar weaknesses exist."
? For instances in which no action is expected until further investigation is completed, you should state, "This is a preliminary report, a supplemental report will be issued upon completion of the root cause investigation."

Applicability:
Corporate and Site Buried Pipe Program and Program Owners
Briefly describe the programs, processes or groups to which the message applies.

Description:
In preparation for work inside the ESW vault, water found inside the vault was pumped into drums and sampled for gamma emitters, tritium, and pH. There were no gamma emitters identified, pH was 7.62, and tritium was measured at 102,000 pCi/l. The threshold for reporting groundwater tritium levels to the New Jersey Department of Environmental Protection (DEP) is 2,000 picocuries per liter (pCi/l) based on a verbal agreement with New Jersey Department of Environmental Protection based on the site's lab's LLD. The Environmental Protection Agency's reportable quantity per 40 CFR Part 302 is 100 Ci. The release of tritiated water was caused by leaks in the 8-inch and 10-inch carbon steel Condensate Transfer System lines, SS-4 and CS-24 respectively. The root cause of these leaks are attributed to the corrosion mechanism known as anodic dissolution resulting from poor application of coating that left the buried pipes susceptible to corrosion.

In the Description, provide necessary information to describe what happened in sufficient detail to be of use to an interested reader at another site. Unnecessary wording should be excluded. The sequence of events and consequences should be included as appropriate. If a follow-up report is intended, this report should state that. This is where the story is told.

Consequences:
The leaks in the 8-inch and 10-inch Condensate Transfer lines resulted in the release of tritium to the ground and elevated contamination levels in the area of the leak.
Briefly describe the consequences that resulted as a result of the event occurring.

Causes:
The Root Cause of the degraded 8-inch and 10-inch Condensate Transfer System piping is "anodic dissolution" resulting from disbondment of the coating and susceptible material (Root Cause 1). Improperly applied

coatings and lack of coatings in some areas of the pipe contributed to coating disbondment and the resultant localized corrosion (Contributing Cause #1). The change management processes prior to implementing the Exelon Buried Pipe Program did not support effectively managing design changes and related projects during site ownership and management changes (Contributing Cause #2). Methodologies used by the buried pipe program do not, in all instances, locate defects, and cannot assess entire continuous full lengths of pipe (Contributing Cause #3).

Briefly present immediate causes, root causes, and contributing causes when these are known. DO NOT repeat the "What" of the issue, state the "Why." This may require some research. If the cause of the problem cannot be determined at this time, simply state, "Unknown" or "Under investigation."

Corrective Actions:
Corrective Actions to Prevent Recurrence (CAPR) were created to address this event.
(CAPR 1) Implement a strategic plan that includes moving direct buried Condensate Transfer System piping either above ground or in monitored trenches.
(CA) Revise the program basis document, TR 116, based on the results from the Focus Area Assessment.
(CA) Institutionalize guidance to document As-Left conditions in work order closure documentation following excavations.
(CA) Revise the program basis document (i.e., TR-116) to correct plant design details, risks, consequences, and recommend inspection frequencies and methods.
(CA) Incorporate Buried Pipe Program Owner sign offs/inspections into the work orders to ensure the desired results through maintenance are being achieved.
(CA) Update design documents to as-built conditions.
(CA) Update the Oyster Creek Buried Pipe Database following reviews

Briefly describe the site's corrective actions. Distinguish between those planned and those already taken.

Previous Industry OE:
? There are 23 documented significant underground pipe leaks in Appendix 1 of the Oyster Creek Underground Piping Program Description and Status, Topical Report 116, Rev.3. Leaks are documented from 1980 to present.
? OE 10250 Perry. Underground Drisco Pipe Failure. 07/01/1999
? OE 16189 Brunswick. Underground Fuel Oil Line Leak. 04/03/2003
? OE 22409 Braidwood Station Identified Low levels of Elevated Tritium in the groundwater on and offsite. 04/19/2006
? Operating Experience Digest (OED 2007-09) External Degradation of Buried Piping. 4/2007
? OE 27146 Quad Cities. Underground Pipe Leak due to Possible Crevice Corrosion. 5/28/2008
? OE 27897 Davis-Besse. Three-Inch Buried Pipe Degradation Results in Leak of Tritium into Ground. 10/22/2008
? OE 28335 Indian Point. Leaking Underground Condensate Return Line Pipe. 02/15/2009

Provide a short list of related industry Operating Experience (OE) based on a search of the INPO OE database. Contact the Site OPEX Coordinator, if required. This list assists in determining the relative significance and prevalence of the event and allows one to review other industry operating experience to identify lasting corrective actions to prevent repeat events.

Equipment Information:
NSSS/A-E: General Electric / Burns & Roe
Reactor Type: BWR.
Affected System: Condensate Transfer System

Component Manufacturer: N/A
Component Model Number: N/A
Component Part Number: N/A

Information Contact:
Name: Thomas G. Roddey
Title: Engineering Programs Manager
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E-mail: thomas.Roddey@exeloncorp.com

Corrective Action Program Documents:
Issue Report #907846
List the applicable Exelon Issue Report (IR) number(s).

Attachments (Pictures, Root Cause, and so forth):
N/A
Attach applicable documents or media that may be of value to the reader and help communicate additional details related to the event.

After you have filled in the information above
AND
documented Department Head (or designee) concurrence,
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Remember, if you need additional guidance; contact your Site OPEX Coordinator.

5/19/2009 9:36 PM

The due date for this assignment was revised consistent with extension of the due date for the associated Root Cause report in the IR. The Root Cause investigation needs to be completed first to identify applicable information to be included in the NER. The Root Cause report is due for Manager approval on June 5, 2009. Therefore, this assignment is being extended to June 5, 2009, to coincide with completion of the investigation report.

Thomas G. Roddey
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Completion Notes: