



Entergy Nuclear Operations, Inc.  
Palisades Nuclear Plant  
27780 Blue Star Memorial Highway  
Covert, MI 49043  
Tel 269 764 2000

**Jeffery A. Hardy**  
Regulatory Assurance Manager

PNP 2016-031

April 28, 2016

Facility Operating License  
Appendix B, Section 5.4.1

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Subject: 2015 Annual Non-Radiological Environmental Operating Report

Palisades Nuclear Plant  
Docket 50-255  
License No. DPR-20

Dear Sir or Madam:

Entergy Nuclear Operations, Inc (ENO) is providing the Palisades Nuclear Plant (PNP) Annual Non-Radiological Environmental Operating Report for 2015. This report was prepared in accordance with the PNP Renewed Facility Operating License, Appendix B, section 5.4.1. The attached report describes the implementation of the Environmental Protection Plan from January 1, 2015, through December 31, 2015.

This letter contains no new commitments and no revisions to existing commitments.

Sincerely,

A handwritten signature in black ink, appearing to be "JAH" followed by a stylized flourish.

JAH/bed

Attachment: 1. 2015 Annual Non-Radiological Environmental Operating Report  
2. Herbicide and Pesticide Treatments

cc: Administrator, Region III, USNRC  
Project Manager, Palisades, USNRC  
Resident Inspector, Palisades, USNRC

IE25  
NRR

## **2015 Annual Non-Radiological Environmental Operating Report**

### **1.0 BACKGROUND**

Appendix B of the Renewed Facility Operating License for the Palisades Nuclear Plant (PNP) requires the submittal of an annual environmental operating report to the Nuclear Regulatory Commission (NRC), describing the implementation of the Environmental Protection Plan (EPP) during the previous year. The reporting period is January 1, 2015, through December 31, 2015.

The PNP operated for 7,964 hours and produced a net total of 6,318,519 MWe during 2015. This represents 89.6% of the net demonstrated capacity of the design electric rating of 805 MWe.

### **2.0 ENVIRONMENTAL IMPACT EVALUATIONS**

Three engineering changes and three other environmental reviews were evaluated per Entergy Nuclear Operations, Inc. (ENO) procedure, EN-EV-115, "Environmental Reviews and Evaluations," during 2015.

Engineering Change, EC-53585 was performed for installation of a new bulk liquid nitrogen tank. The new tank is a like-for-like change with respect to contents and volume, and will be located in the immediate vicinity of the current bulk nitrogen tank. All land disturbances are located in the protected area and are previously disturbed areas. For these reasons no changes will be needed to the Spill Prevention, Control and Countermeasure (SPCC) Plan or the Pollution Incident Prevention Plan (PIPP). No Michigan Department of Environmental Quality (MDEQ) permits will be required, and there is no impact to environmental conditions.

Engineering Change, EC-46467 was performed for the installation of a fire hydrant near the new FLEX building. There were no noted environmental impacts associated with the activity.

Engineering Change (EC), EC-48601 was performed for load center replacement at the cooling towers. There were no noted environmental impacts associated with the activity.

An Environmental review was completed related to distributing soil removed from various construction locations around the site to other previously disturbed areas on ENO property. It was determined through extensive walk downs of the affected areas that there are no effects on run off, surfaces or ground water. Therefore this activity had no impact to the environment or challenges to MDEQ regulations.

Alignments were made with the MDEQ to verify that the clearing of trees near the switchyard and in the transmission corridor between the protected area and the switchyard was within the usage rules of critical dune areas. The MDEQ concurred with ENO that this was within usage rules associated with the area. This was communicated verbally and through written documentation provided to PNP.

Critical Dune Permit WRP000571 was issued for work required for Switchyard Expansion.

There were no additional changes, tests, or experiments that involved un-reviewed environmental questions or EPP changes.

### **3.0 ADDITIONAL ACTIVITIES AUTHORIZED UNDER NPDES**

No additional activities were authorized under the National Pollutant Discharge Elimination System (NPDES) permit.

### **4.0 UNUSUAL ENVIRONMENTAL EVENTS**

In July 2015, PNP made one report to the MDEQ for a tipped over portable chemical toilet. This led to the release of untreated sewage to the storm water system which subsequently drains to Lake Michigan.

### **5.0 ENVIRONMENTAL MONITORING**

Documentation of the effect of cooling tower operation on meteorological variables was required for two years following the conversion from the once-through cooling system to the cooling towers. Because the cooling towers have been in operation for 40 years, meteorological monitoring and other monitoring activities related to the cooling towers were not required during 2015.

TruGreen treated other areas of the property for vegetation management during 2015. Rose Pest Solutions treated areas of the property for tick and pest control. Herbicides were not applied to the transmission line exit corridor in 2015. The application of herbicides and pesticides is documented in Attachment 2.

### **6.0 NON-ROUTINE REPORTS**

During 2015, there was one non-routine report generated for a tipped over portable chemical toilet, as described in Section 4.0.

## ATTACHMENT 2

### HERBICIDE TREATMENTS

**Company:** TruGreen  
9077 Portage Industrial  
Portage, Michigan 49024-9935

<b>Date of Treatment:</b> April 27, 2015	(495 pounds plus 0.127 gallons applied)
June 02, 2015	(76.15 gallons applied)
June 03, 2015	(330 gallons applied)
July 08, 2015	(77.39 gallons applied)
November 06, 2015	(495 pounds applied)
December 03, 2015	(495 pounds applied)

\*Liquid volumes are the active chemicals used and do not include the dilution water.

**Commercial Names of Products in Solution:** Tru Power 3, Escalade 2, Oust XP, Payload, Razor Pro, Barricade

**Chemical Names of Products:**

**Escalade 2-** Salt of 2, 4-Dichlorophenoxyacetic Acid, Dicamba Acid

**Tru power 3-** Triisopropanolamine Salt of 2, 4-Dichlorophenoxyacetic Acid, Dimethylamine Salt of (+)-R-2-(2-Methyl-4-Chlorophenoxy) propionic acid, Dicamba Acid

**Payload-** Flumioxazin

**Razor Pro-** -Glyphosate, N(phosphonomethly) glycine, in the form of its isoprophlamine salt, Ethoxylated Tallowamines

**Barricade-** Attapulgitte Clay, Crystalline Silica, Quartz, Propylene Glycol, Prodiamine

**Oust XP-** Sulfometurion - Methyl

**Concentration of Active Ingredient in Field Use Mix:**

**One solution was mixed together that contained the following:**

52 oz. per 88 gallons per acre (Tru power 3) applied to 2.3 acres

**Diluting Substance:** Water for wet applications

No dilutions for dry applications

**Rate of Application:**

88 gallons per acre liquid application (Tru Power 3)

11 gallons per acre liquid application (Escalade 2)

88 gallons per acre liquid application (Oust XP, Payload, Razor Pro)

132 lbs per acre applied (dry fertilizer, Barricade)

**Total Amount Used:** 483.6 Gallons total volume used for liquid treatment\*

1485 Pounds total volume used for dry treatment

\*Liquid volumes are the active chemicals used and do not include the dilution water.

**Method of Application:** Hand sprayer for liquids

Broadcast spreader for dry application

**Frequency of Application:** Throughout the year as needed

**Location:** Along and near roadways, fence lines, walkways, parking lots,

Containment areas, substations, cooling towers, protected area, and microwave zones.

**Purpose of Treatment:** Fertilizer, control of weed species, crabgrass, nuisance vegetation, nuisance broadleaf vegetation

**Company: Rose Pest Solutions**  
2714 South 11th St. Ste B  
Niles, Michigan 49120-4420

<b>Date of Treatment:</b> Jan 12, 2015	(20 grams applied)
May 13, 2015	(35 Gallons applied)
May 19, 2015	(1.5 Gallons applied)
May 19, 2015	(60 Grams applied)
June 8, 2015	(0.5 Gallons applied)
June 16, 2015	(5.0 Grams applied)
July 13, 2015	(1.0 gallon applied)
July 16, 2015	(3.0 gallons applied)
August 10, 2015	(1.0 gallon applied)
August 18, 2015	(3.0 gallons applied)
September 16, 2015	(3.0 gallons applied)
September 28, 2015	(1.0 gallon applied)
September 28, 2015	(60 grams applied)

**Commercial Names of Products in Solution: Talstar Pro, and Final all-Weather Blox**

**Chemical Names of Products:**

**Talstar Pro - Bifenthrin** (2-methyl [1,1'-biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate

**Final AW Blox - Brodifacoum** [3-[3-(4'-Bromo-[1,1'-biphenyl]-4-yl)-1,2,3,4-tetrahydro-1-naphthalenyl]-4-hydroxy-2H-1-benzopyran-2-one]

**Advion - Indoxacarb:** (S)-methyl 7-chloro-2,5-dihydro-2-[[[(methoxycarbonyl)[4(trifluoromethoxy) phenyl] amino]carbonyl]indeno[1,2-e][1,3,4]oxadiazine-4a-(3H)-carboxylate

**DeltaDust:** Deltamethrin

**Concentration of Active Ingredient in Field Use Mix:**

**One solution was mixed together that contained the following:**  
1.00 fluid oz. of the chemicals per gallon of water

**Diluting Substance:** Water for wet applications  
No dilutions for dry applications

**Total Amount Used (active ingredient amounts):**

49.0 Gallons total volume used for liquid treatment

145 Grams total volume used for dry treatment

**Method of Application:** Hand sprayer for liquids

Bait Station Installation for dry application

**Frequency of Application:** Throughout the year as needed

**Location:** Along and near roadways, fence lines, walkways, and the protected area.

**Purpose of Treatment:** Tick and Mice control