



Entergy Nuclear Operations, Inc.  
Palisades Nuclear Plant  
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PNP 2020-017

April 15, 2020

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

Subject: 2019 Annual Non-Radiological Environmental Operating Report

Palisades Nuclear Plant  
Docket 50-255  
Renewed Facility Operating 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 2019. 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, 2019, through December 31, 2019.

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

Respectfully,

A handwritten signature in blue ink, appearing to read "JAH", with a stylized flourish at the end.

JAH/bed

Attachment: 1. 2019 Annual Non-Radiological Environmental Operating Report  
2. Herbicide and Pesticide Treatments

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

## **ATTACHMENT 1**

### **2019 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, 2019, through December 31, 2019.

The PNP operated for 8,605.45 hours and produced a net total of 6,864,356 MWh during 2019. This represents 97.1% of the net demonstrated capacity of the design electric rating of 805 MWe.

#### **2.0 ENVIRONMENTAL IMPACT EVALUATIONS**

During 2019, there were four projects that underwent the Environmental Review process IAW EN-EV-115. The Engineering Changes are as follows:

Engineering Change, EC-81490 was performed to shift the fuel supply for M-8, Plant Heating Boiler, and M-61, Evaporator Heating Boiler, to T-926, Feedwater Purity Fuel Oil Tank, instead of T-10A, Fuel Oil Storage Tank. The modification consisted of isolating and abandoning fuel oil supply from T-10A, isolating and abandoning T-28, Plant Heating Boiler Fuel Oil Day Tank, and T-39, Evaporator Heating Boiler M-61 Day Tank, and associated components. Additionally, P-947A/P-947B was upgraded to supply the required additional fuel oil and the fuel loop was tied-in to supply M-8 and M-61. The spill plan was updated to encompass the modification. The EC and work were completed in 2019.

Engineering Change, EC-81493 was performed to replace M-61, Evaporator Heating Boiler, fuel oil burner. The fuel oil burner for M-61 was aging, was slightly oversized for the required heating loads, and a higher turn down ratio was desired. The new burner is more efficient than the existing burner and while the MI DEQ was notified of the upgrades, no permit or permit to install this new burner were necessary. The EC and the work were completed in 2019.

Engineering Change, EC-81644 was performed to replace M-61, Evaporator Heating Boiler stack. There were no significant changes from existing stack height and diameter during stack replacement. The review of the summary of design evaluation details relative to change in exhaust flow exiting the new stack (an increase in flow of 0.5% over existing) was insignificant. The EC and work were completed in 2019.

Engineering change, EC 55441 was performed to install piping to cross connect T-2, Condensate Receiver Tank and T-939, Make-up Demineralized Water Storage Tank. All land disturbances were in the protected area and were previously disturbed areas. The Spill Prevention, Control and Countermeasure (SPCC) Plan and Pollution Incident Prevention Plan (PIPP) was updated to reflect the changes. There was no impact to environmental conditions. The work was started in 2016 with work completion in 2019.

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

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

In accordance with the department of Environment, Great Lakes and Energy (EGLE) requirements a National Pollutant Discharge Elimination System (NPDES) permit application renewal was applied for and verified as being received by the State of Michigan prior to required due dates. Palisades' new NPDES permit has not been received from the State of Michigan at this time; however, by submitting by the required due date, in accordance with the process, Palisades is still covered under the old NPDES permit. No changes at this time are expected to the permit. No additional activities were authorized under the NPDES permit.

The Air Operating Permit renewal application package was submitted and received by the State prior to the required due date in accordance with Article II, Chapter 1, Part 55 (Air Pollution Control) of P.A.451 of 1994 and the federal Clean Air Act of 1990. Palisades has received the new approval Air Operating Permit.

### **4.0 UNUSUAL ENVIRONMENTAL EVENTS**

No unusual environmental events occurred during 2019.

### **5.0 ENVIRONMENTAL MONITORING**

TruGreen and the Buildings and Grounds work group treated areas of the property for vegetation management during 2019. Rose Pest Solutions treated areas of the property for tick and pest control. Herbicides were not applied to the transmission line exit corridor in 2019. The application of herbicides and pesticides is documented in Attachment 2.

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

During 2019, no non-routine reports were generated.

## ATTACHMENT 2

### HERBICIDE & PESTICIDE TREATMENTS

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

**Date & Treatment Amounts:**

April 11, 2019	(495 pounds applied)
May 23, 2019	(1.86 gallons applied)
July 16, 2019	(495 pounds applied)
July 16, 2019	(0.5 gallons applied)
August 19, 2019	(495 pounds applied)
August 19, 2019	(1.54 gallons applied)
September 19, 2019	(413 pounds applied)
September 19, 2019	(0.02 Gallons applied)
October 18, 2019	(495 pounds applied)
October 18, 2019	(0.10 gallons applied)
November 21, 2019	(495 pounds applied)

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

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

**Chemical Name of Products:**

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

**Razor:** -Glyphosate, N(phosphonomethyl) glycine, in the form of its isoprophylamine salt, Ethoxylated Tallowamines

**Tripower:** Dimethylamine salt of 2- methyl 4-chlorophenoxy acid, Dimethylamine salt of (+)-R-2-(2-methyl-4-chlorophenoxy)propionic acid, Dimethylamine salt of Dicamba (3,6-Dichloro-o-anisic acid)

**Payload-** Flumioxazin (2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione)

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

**Oust XP-** Sulfometuron methyl {Methyl 2-[[[(4,6-dimethyl-2-pyrimidinyl) amino] carbonyl]amino] benzoate}

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

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

53 oz. of active ingredients per 11 gallons of solution per acre applied

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

**Rate of Application:** **Liquid** (Tru power 3, Tripower, Barricade, Razor Pro, Payload, Oust XP): 25 gallons per 1000 ft<sup>2</sup> liquid application  
**Dry:** 3 lbs. per 1000 ft<sup>2</sup> applied (fertilizer)

**Total Amount Used:** 4.0 Gallons total volume used for liquid treatment \*\*\*  
2888 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:** Fertilize, and control of weed species, crabgrass, nuisance  
vegetation, broadleaf vegetation

**Company:** Entergy – Palisades  
Building and Grounds  
27780 Blue Star Memorial Highway  
Covert, Michigan 49043

**Date of Treatment:** July 23, 2019 (1.5 gallons applied)  
September 20, 2019 (2.5 gallons applied)

**Commercial Names of Products in Solution:** Roundup® Ready-To-Use Extended Control Weed & Grass Killer Plus Weed Preventer II

**Chemical Names of Products:**

**Roundup® Ready-To-Use Extended Control Weed & Grass Killer Plus Weed Preventer II** - Nonanoic and related fatty acids; {Pelargonic and related fatty acids} Isopropylamine salt of N-(phosphonomethyl)glycine; {Isopropylamine salt of glyphosate} Ammonium salt of 2-[4,5-dihydro-4-methyl-4-(1-methyl)-5-oxo-1H-imidazol-2-yl]-5-methyl-3-pyridinecarboxylic acid; {Ammonium salt of imazapic}

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

**One solution was mixed together that contained the following:**  
1 gallon of (Roundup® Ready-To-Use Extended Control Weed & Grass Killer Plus Weed Preventer II) applied to 235 square feet

**Diluting Substance:** No dilution is performed as product is purchased in ready to use concentrations

**Rate of Application:** 1 gallon per 235 square feet liquid application (Roundup® Ready-To-Use Extended Control Weed & Grass Killer Plus Weed Preventer II)

**Total Amount Used:** 4 Gallons total volume used for liquid treatment

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

**Frequency of Application:** Throughout the year spot treatments between TruGreen applications 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 14, 2019	(80 grams applied)
Jan 28, 2019	(30 pounds applied)
Feb 11, 2019	(40 pounds applied)
Feb 25, 2019	(240 grams applied)
Mar 4, 2019	(30 pounds applied)
Mar 11, 2019	(460 grams applied)
Mar 25, 2019	(220 grams applied)
Mar 25, 2019	(30 pounds applied)
April 8, 2019	(20 pounds applied)
April 8, 2019	(20 gram applied)
April 22, 2019	(240 grams applied)
May 13, 2019	(360 grams applied)
May 28, 2019	(10 pounds applied)
May 28, 2019	(460 grams applied)
June 10, 2019	(30 pounds applied)
June 10, 2019	(420 grams applied)
June 24, 2019	(110 grams applied)
June 24, 2019	(30 pounds applied)
July 8, 2019	(30 pounds applied)
July 8, 2019	(320 grams applied)
July 22, 2019	(400 grams applied)
July 22, 2019	(30 pounds applied)
Aug 12, 2019	(30 pounds applied)
Aug 12, 2019	(180 Grams applied)
Aug 26, 2019	(540 Grams applied)
Sept. 09, 2019	(120 grams applied)
Sept 12, 2019	(80 grams applied)
Sept. 23, 2019	(80 grams applied)
Oct. 14, 2019	(160 grams applied)
Oct. 28, 2019	(340 grams applied)
Nov. 11, 2019	(120 grams applied)
Nov. 25, 2019	(220 grams applied)
Dec. 09, 2019	(400 grams applied)
Dec. 11, 2019	(140 grams applied)
Dec. 26, 2019	(180 grams applied)

**Commercial Names of Products in Solution: Final All-Weather Blox, Maxforce FC  
Select Roach Killer Bait Gel and OvoControl P**

**Chemical Names of Products:**

**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]

**Ovo Control P – Nicarbazine** [4,4'-Dinitrocarbanilide and 2-Hydroxy-4,6-dimethylpyrimidine]

**Maxforce FC Select Roach Killer Bait Gel - Fipronil:** 5-amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-4-(trifluoromethylsulfinyl)-1H-pyrazole-3-carbonitrile

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

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

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

5890 Grams total volume used for dry treatment

310 pounds total volume for OvoControl

**Method of Application:** 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, Mice and Roach control; and Ovo Control P for reducing the pigeon egg hatch on site