

PNP 2022-007

April 21, 2022

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

Subject: 2021 Annual Non-Radiological Environmental Operating Report

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

Entergy Nuclear Operations, Inc (ENO) is providing the Palisades Nuclear Plant (PNP) Annual Non-Radiological Environmental Operating Report for 2021. 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, 2021, through December 31, 2021.

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

Respectfully,

A handwritten signature in black ink, appearing to read 'Barbara E. Dotson', with a stylized, cursive script.

BED/mrp

Attachment: 1. 2021 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**

### **2021 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, 2021, through December 31, 2021.

The PNP operated for 8,760.05 hours and produced a net total of 7,014,804 MWHe during 2021. This represents 99.5% of the net demonstrated capacity of the design electric rating of 805 MWe.

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

During 2021, there were two projects that were reviewed in the Environmental Review process in accordance with EN-EV-115. The Engineering Changes are as follows:

Engineering Change (EC), EC-88596 was performed to apply cured-in-place (CIPP) liners in the embedded and exposed floor drain piping from the Delta-switchgear room, through the cable spreading room, and under the ceiling of the 1-1 and 1-2 emergency diesel generator rooms (EDG) ending in a vertical run of drainpipe in the 1-2 EDG Room. The air compressor and/or generator was not run indoors and did not affect the Station's Air Operating Permit. No permit to install is required. The EC and the work were completed in 2021.

Engineering Change, EC-89701 was performed for installing a check valve on the outlet of the stormwater drainage pipe that discharges the collected surface water to the mixing basin. The check valve is to prevent water in the mixing basin from migrating upstream in the stormwater drainage piping, thus eliminating the source of tritium entering the groundwater. The environmental review of the work determined an amendment to the National Pollutant Discharge Elimination System (NPDES) permit or regulatory review was not required. The EC and the work were completed in 2021.

There were no additional changes, tests, or experiments that involved unreviewed 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 NPDES permit application renewal was applied for and verified as being received by the State of Michigan prior to required due dates. To date Palisades' new NPDES permit has not been received from the State of Michigan; however, by submitting by the required due date, in accordance with the process, PNP 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.

## **ATTACHMENT 1**

### **2021 ANNUAL NON-RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT**

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. PNP has received the new Air Operating Permit.

#### **4.0 UNUSUAL ENVIRONMENTAL EVENTS**

No unusual environmental events occurred during 2021.

#### **5.0 ENVIRONMENTAL MONITORING**

The Buildings and Grounds work group treated areas of the property for vegetation management during 2021. Rose Pest Solutions treated areas of the property for tick and pest control. Herbicides were not applied to the transmission line exit corridor in 2021. The application of herbicides and pesticides is documented in Attachment 2.

The Buildings and Grounds work group requested permission, and began purchasing, an over-the-counter concentrated solution of herbicide for weed control and diluting to proper concentration with water per the manufacturer's direction after approval by Chemistry/Environmental. The approval was given after review of the Environmental Protection Plan (Non-Radiological) and correspondence with the state. Initial correspondence with the state specified, "any products (fertilizer, herbicide, fungicide, and insecticide) sold at places like hardware stores, big box stores, department stores, etc. can be applied without a license if applied by an employee of that company."

When challenged by an individual with experience in herbicide application, follow-up correspondence with the State of Michigan was initiated. During this communication, it was identified that concentrated products that are diluted with water would require a commercial license. The state's intention was to allow ready-to-use products that are premixed and do not require a commercial license. As a result, Roundup Concentrate Extended Control Weed and Grass Killer plus weed preventer has been unapproved for use. All remaining concentrated roundup was removed from site. Only premixed ready-to use products will be purchased and applied going forward. All required information was documented for annual environmental reports. (CR-PLP-2021-01367).

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

During 2021, no non-routine reports were generated.

## ATTACHMENT 2

### HERBICIDE & PESTICIDE TREATMENTS

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

<b>Date of Treatment:</b> May 14, 2021	(0.09 gallons applied)
May 19, 2021	(0.2 gallons applied)
May 27, 2021	(0.06 gallons applied)
June 3, 2021	(0.18 gallons applied)
June 16, 2021	(0.48 gallons applied)
June 17, 2021	(0.21 gallons applied)
July 13, 2021	(0.17 gallons applied)
August 4, 2021	(0.42 gallons applied)
August 5, 2021	(0.42 gallons applied)
August 14, 2021	(0.75 gallons applied)

#### Commercial Names of Products in Solution:

**Roundup® Ready-To-Use Extended Control Weed & Grass Killer Plus Weed Preventer II**

Roundup® Concentrate Extended Control Weed & Grass Killer Plus Weed Preventer

#### 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}

**Roundup® Concentrate Extended Control Weed & Grass Killer Plus Weed Preventer** - Isopropylamine salt of N-(phosphonomethyl)glycine; {Isopropylamine salt of glyphosate} 6,7-Dihydrodipyrido(1,2-a:2',1'-c) pyrazinedium dibromide; {Diquat dibromide} 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 that contained the following:**

3.84oz of active ingredient per 1 gallon of (Roundup® Ready-To-Use Extended Control Weed & Grass Killer Plus Weed Preventer II) applied to 400 square feet

## **ATTACHMENT 2**

### **HERBICIDE & PESTICIDE TREATMENTS**

6.09oz of active ingredient per 0.25 gallons per 1600 square feet liquid application  
(Roundup® Concentrate Extended Control Weed & Grass Killer Plus Weed Preventer)

#### **Diluting Substance:**

Six fluid ounces of concentrate was diluted with 1 gallon of water prior to application of Roundup Concentrate Extended Control Weed & Grass Killer Plus Weed Preventer.

No dilution was performed for Roundup Ready-to-use Extended Control Weed & Grass Killer plus Weed Preventer II as product is purchased in ready to use concentrations.

#### **Rate of Application:**

1 gallon per 400 square feet liquid application (**Roundup® Ready-To-Use Extended Control Weed & Grass Killer Plus Weed Preventer II**)

0.25 gallons per 1600 square feet liquid application (Roundup® Concentrate Extended Control Weed & Grass Killer Plus Weed Preventer)

#### **Total Amount Used:**

0.20 gallons total volume used for liquid treatment of diluted roundup concentrated extended control weed and grass killer plus weed preventer

2.78 gallons total volume used for liquid treatment of roundup ready-to-use extended control weed & Grass Killer Plus Weed Preventer II

#### **Method of Application:**

Hand sprayer for liquids

#### **Frequency of Application:**

Throughout the year spot treatments 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

## ATTACHMENT 2

### HERBICIDE & PESTICIDE TREATMENTS

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

<b>Date of Treatment:</b> Jan 11, 2021	(120 grams applied)
Jan 25, 2021	(60 grams applied)
Feb 22, 2021	(160 grams applied)
Mar 22, 2021	(920 grams applied)
Mar 29, 2021	(420 grams applied)
April 2, 2021	(4 gallons applied)
April 12, 2021	(40 grams applied)
April 26, 2021	(2 gallons applied)
April 26, 2021	(80 grams applied)
May 4, 2021	(1.5 gallons applied)
May 5, 2021	(4 gallons applied)
May 7, 2021	(7 gallons applied)
May 10, 2021	(120 grams applied)
May 24, 2021	(2 gallons applied)
June 02, 2021	(4.5 gallons applied)
June 14, 2021	(1 gallon applied)
June 14, 2021	(140 grams applied)
June 28, 2021	(3 gallons applied)
June 28, 2021	(240 grams applied)
July 7, 2021	(4 gallons applied)
July 12, 2021	(200 grams applied)
July 12, 2021	(4.5 gallons applied)
July 26, 2021	(1.5 gallons applied)
July 26, 2021	(500 grams applied)
Aug 4, 2021	(4.5 gallons applied)
Aug 9, 2021	(1 gallon applied)
Aug 9, 2021	(300 grams applied)
Aug 30, 2021	(2 gallons applied)
Sept. 8, 2021	(8.5 gallons applied)
Sept 13, 2021	(4 gallons applied)
Sept. 13, 2021	(380 grams applied)
Sept. 27, 2021	(120 grams applied)
Oct. 5, 2021	(4 gallons applied)
Oct. 11, 2021	(140 grams applied)
Oct. 22, 2021	(400 grams applied)
Nov. 8, 2021	(240 grams applied)
Nov. 22, 2021	(340 grams applied)
Dec. 13, 2021	(360 grams applied)
Dec. 27, 2021	(60 grams applied)

## **ATTACHMENT 2**

### **HERBICIDE & PESTICIDE TREATMENTS**

#### **Commercial Names of Products in Solution:**

**Final All-Weather Blox**

**Talstar Pro**

#### **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]

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

#### **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:**

No dilutions for dry applications

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

5340 Grams total volume used for dry treatment

63 Gallons total volume used for liquid treatment

**Method of Application:** Bait Station Installation for dry application  
Hand sprayer for liquids

#### **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