



Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
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PNP 2018-021

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

Subject: 2017 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 2017. 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, 2017, through December 31, 2017.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "JAH".

JAH/bed

Attachment: 1. 2017 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

2017 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, 2017, through December 31, 2017.

The PNP operated for 8,001.5 hours and produced a net total of 6,097,497 MWh during 2017. This represents 86.2% of the net demonstrated capacity of the design electric rating of 805 MWe.

2.0 ENVIRONMENTAL IMPACT EVALUATIONS

During 2017 there were no significant changes that warranted new environmental reviews per Entergy Nuclear Operations, Inc. (ENO) procedure, EN-EV-115, "Environmental Reviews and Evaluations." There were three projects that underwent the Environmental Review process in accordance with EN-EV-115 during 2016, although a majority of the work actually took place in 2017. The reviews were previously discussed in the 2016 report. The three Engineering Changes (ECs) are as follows:

Engineering Change, EC-61195, was performed for E-30B cooling tower replacement to be performed during the refueling outage commencing in April 2017. This change modified the design of the cooling tower. The new tower is a like-for-like change with respect to operation and flow volume, but operates more efficiently given the new technology. All land disturbances had permits in place regarding impacts on critical dune areas. Environmental preparations for this tower replacement were consistent with those that occurred for the E-10A tower in 2012. This EC and work was completed in July 2017. There were two permits required for the work; A Critical Dune Permit from the State of Michigan and a Soil Erosion Permit from Van Buren County. Following the work, all required restoration was completed and reviewed by the MDEQ and the permits were closed out.

Engineering Change, EC-61200, was performed for the relocation of the cooling tower E-30B oil collection building and tanks to support the cooling tower replacement. This change required minor modifications to the site Spill Prevention Controls and Countermeasures / Pollution Incident Prevention Plan (SPCC-PIPP) due to a slightly larger volume and a new secondary containment configuration. This activity was completed as scheduled during the E-30B cooling tower replacement.

Engineering Change, EC-64377, was performed for excavation and concrete placement near an existing transformer pad outside of the protected area. This excavation was for a new transformer pad and containment pit for oil from three transformers. The spare transformer area has a sloped area to the South that will prevent flooding or changes to the runoff of the area. Secondary containment is provided for all transformers per required volume including

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rainwater per Technical Paper No. 40 – Rainfall Frequency Atlas of The United States. Operations monitoring and drainage requirements are met per PNP SPCC/PIPP. Pad and containment design included water stops, epoxy sealer, and angle curb to prevent release. This activity was completed in 2017.

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

3.0 ADDITIONAL ACTIVITIES AUTHORIZED UNDER NPDES

The “B” cooling tower was replaced in 2017 using the same design as the “A” Cooling Tower that was replaced in 2012 and aligns with industry best practices.

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

4.0 UNUSUAL ENVIRONMENTAL EVENTS

A NPDES Permit thermal discharge exceedance was identified during the data review process. The exceedance took place on April 9, 2017, and was attributed to less evaporative losses during the securing of the “B” cooling tower for replacement. Upon discovery of the exceedance, which took place for less than 24 hours, the thermal discharge values were returned within permit limits within the shift. The State of Michigan was notified of the exceedance through routine monthly reporting. PNP was not given any findings or Notice of Violations from the State of Michigan for this event.

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 2017.

TruGreen treated areas of the property for vegetation management during 2017. Rose Pest Solutions treated areas of the property for tick and pest control. Herbicides were not applied to the transmission line exit corridor in 2017. The application of herbicides and pesticides is documented in Attachment 2.

6.0 NON-ROUTINE REPORTS

During 2017, no non-routine reports were generated. One notification was made as described in Section 4.0.

ATTACHMENT 2

HERBICIDE & PESTICIDE TREATMENTS

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

Date of Treatment: April 28, 2017	(495 pounds applied)
April 28, 2017	(0.62 gallons applied)*
June 9, 2017	(49.5 gallons applied)*
June 14, 2017	(76.3 gallons applied)*
July 26, 2017	(495 pounds applied)
July 26, 2017	(0.16 gallons applied)*
August 28, 2017	(68.03 gallons applied)*
September 25, 2017	(68.03 gallons applied)*
November 1, 2017	(495 pounds applied)
November 1, 2017	(0.16 gallons applied)*

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

Commercial Names of Products in Solution: Tru Power 3, Razor Pro, Barricade, tripower

Chemical Names 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 Pro: -Glyphosate, N(phosphonomethyl) glycine, in the form of its isoproplamine salt, Ethoxylated Tallowamines

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

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

17-0-5 UBM: Urea Based Fertilizer Mix, Liquid Fertilizer w/ Slow release Nitrogen

28-0-0 NBNX: Liquid slow-release fertilizer

Concentration of Active Ingredient in Field Use Mix:

One solution was mixed together that contained the following:
50 oz. per 44 gallons per acre (Tru Power 3) applied to 3.75 acres

ATTACHMENT 2

HERBICIDE & PESTICIDE TREATMENTS

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

Rate of Application: 44 gallons per acre liquid application (Tru power 3,
Tripower, Barricade, Razor Pro)
132 lbs per acre applied of dry fertilizer

Total Amount Used: 263 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

ATTACHMENT 2

HERBICIDE & PESTICIDE TREATMENTS

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

Date of Treatment: Jan 9, 2017	(20 grams applied)
Jan 23, 2017	(280 grams applied)
Feb 2, 2017	(120 grams applied)
Feb 27, 2017	(520 grams applied)
Mar 13, 2017	(60 grams applied)
Mar 27, 2017	(480 grams applied)
April 10, 2017	(200 grams applied)
April 24, 2017	(520 grams applied)
May 8, 2017	(80 grams applied)
May 22, 2017	(320 grams applied)
June 12, 2017	(160 grams applied)
June 26, 2017	(380 Grams applied)
July 10, 2017	(240 Grams applied)
July 24, 2017	(460 grams applied)
August 14, 2017	(280 grams applied)
August 18, 2017	(540 grams applied)
September 11, 2017	(360 grams applied)
September 25, 2017	(360 grams applied)
October 9, 2017	(120 grams applied)
October 23, 2017	(120 grams applied)
November 13, 2017	(167 grams applied)
November 27, 2017	(400 grams applied)
December 11, 2017	(80 grams applied)
December 18, 2017	(380 grams applied)

Commercial Names of Products in Solution: Final all-Weather Blox and Ovo Control 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]

ATTACHMENT 2

HERBICIDE & PESTICIDE TREATMENTS

Concentration of Active Ingredient in Field Use Mix:

One solution was mixed together that contained the following:

N/A

Diluting Substance: No dilutions for dry applications

Total Amount Used (active ingredient amounts):

6647 Grams total volume used for dry treatment

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.