

Indiana Michigan
Power Company
500 Circle Drive
Buchanan, MI 49107 1395



January 27, 2003

AEP:NRC:2401-04
10 CFR 50.4

Docket Nos: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington, D.C. 20555-0001

Donald C. Cook Nuclear Plant Units 1 and 2
NON-PCB TRANSFORMER OIL SPILL
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND
GROUNDWATER DISCHARGE AUTHORIZATION NOTIFICATION

Indiana Michigan Power Company is the holder of National Pollutant Discharge Elimination System (NPDES) permit MI0005827 and Groundwater Discharge Authorization (GDA) M00988 for the Donald C. Cook Nuclear Plant (CNP). Section 3.2 of Part II of Appendix B (Environmental Technical Specifications) to Facility Operating Licenses DPR-58 and DPR-74 requires violations of the NPDES Permit to be reported to the Nuclear Regulatory Commission (NRC) by submittal of copies of the reports required by the NPDES Permit.

In a letter dated January 24, 2003, the Michigan Department of Environmental Quality (MDEQ) was notified of a release of approximately 9,700 gallons of non-PCB transformer oil as a result of a Unit 1 main transformer fault on January 15, 2003. Approximately 2,500 gallons of oil was contained by CNP's Oil/Water separator system, the remaining oil was either consumed by the fire or was released to the ground surrounding the containment systems. In addition, of the 9,700 gallons of oil released, approximately 800 to 900 gallons of non-PCB transformer oil was released through a storm drain to Lake Michigan. Notification was provided to the MDEQ per Part II, Section C.7 of the NPDES Permit and Part II, Section C.7 of the GDA. In accordance with the Environmental Technical Specifications, a copy of the report is being provided to the NRC as an attachment to this letter.

This letter contains no new commitments.

IE25

Should you have any questions or concerns regarding this notification, please contact John P. Carlson, Environmental Manager, at (269) 465-5901, extension 1153.

Sincerely,

A handwritten signature in black ink, appearing to read "S. A. Greenlee". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

S. A. Greenlee
Director of Nuclear Technical Services

BWO/jen

attachment

c: K. D. Curry - AEP Ft. Wayne, w/o attachment
J. E. Dyer - NRC Region III
J. T. King - MPSC, w/o attachment
MDEQ - DW & RPD, w/o attachment
NRC Resident Inspector
J. F. Stang, Jr. - NRC Washington, DC

bc: A. C. Bakken III, w/o attachment
M. J. Finissi
S. A. Greenlee
D. W. Jenkins, w/o attachment
J. A. Kobyra, w/o attachment
B. A. McIntyre, w/o attachment
J. E. Newmiller
J. E. Pollock
D. J. Poupard, w/o attachment
M. K. Scarpello, w/o attachment
T. K. Woods, w/o attachment

ATTACHMENT TO AEP:NRC:2401-04

**NOTIFICATION TO MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY**



Mr. Greg Danneffel, District Supervisor
Michigan Department of Environmental Quality
Surface Water Quality Division
7953 Adobe Road
Kalamazoo, Michigan 49009

January 24, 2003

Dear Mr. Danneffel:

Subject: Donald C. Cook Nuclear Plant
NPDES Permit No. MI 0005827
Donald C. Cook Nuclear Plant
Groundwater Discharge Authorization M 00988

This notification is made pursuant to Cook Nuclear Plant's NPDES Permit MI 0005827, Part II. Section C. 7, Spill Notification.

This notification is made pursuant to Cook Nuclear Groundwater Discharge Authorization M 00988, Part II. Section A. 7, Spill Notification.

On January 15, 2003 at 2010 hrs, a transformer failed and caught fire. An estimated 9,700 gallons of non-PCB transformer oil was released. Approximately 2,500 gallons of oil was contained by the Oil/Water separator system, the remaining oil was either consumed by the fire or was released to the ground surrounding the containment systems. An estimated 800-900 gallons of oil was released through a storm drain to Lake Michigan.

The release to Lake Michigan through stormwater Outfall 001S was mitigated by an extensive icepack on Lake Michigan, isolating the spill from open waters. An area of ice approximately 300' x 50' was affected by the release. Approximately 400 cubic yards of ice was removed with a backhoe and disposed of properly. In addition, approximately 800 gallons of free product was recovered from the lake and stormwater outfall using a vacuum truck and skimmers. The oil-contaminated sand was collected from the outfall utilizing a backhoe and disposed of properly. We collected approximately 400 cubic yards of oil contaminated sand. A containment oil boom has been placed around the affected ice area and an oil absorbent boom has been placed inside of the containment boom to absorb any remaining sheen that may appear once the ice melts along Lake Michigan. Your office and the United States Coast Guard has inspected the area and given verbal approval of this action. The asphalt roadway and concrete containments were cleaned using oil absorbent pads and oil dry material and a vacuum truck. The oil in the Oil/Water separator system was also removed and manifested and disposed of properly. The material was then properly disposed. The affected soil areas are being collected and will be properly disposed.

Mr. Greg Danneffel

January 24, 2003

Page 2

Re: Cook Nuclear Plant

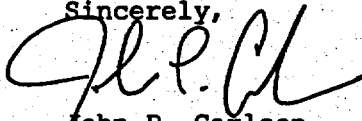
NPDES Permit No. MI 0005827

Groundwater Discharge Authorization M 00988

This spill does not pose a threat to the environment, public health or safety. An extensive review of our containment systems is underway to prevent recurrence of this release event.

Should you have any questions, please contact me at (616) 465-5901 extension 1153.

Sincerely,



John P. Carlson
Environmental Manager

Enclosure

c: Mr. Steve Busch, MDEQ - Kalamazoo
USNRC per Appendix B. T.S. Page 2
SARA Title III Program
Sgt. Michael Bradley - Berrien County Emergency Mgmt
Elwood "Skip" Munson - Lake Township Fire Chief

Mr. Greg Danneffel

January 24, 2003

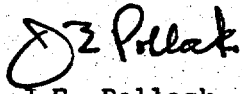
Page 3

Re: Cook Nuclear Plant

NPDES Permit No. MI 0005827

Groundwater Discharge Authorization M 00988

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this and all attached documents; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



J.E. Pollock

Senior Vice President

Mr. Greg Danneffel

January 24, 2003

Page 4

Re: Cook Nuclear Plant
NPDES Permit No. MI 0005827
Groundwater Discharge Authorization M 00988

bc: J. F. Butcher
J. P. Carlson
M. J. Finissi
M. K. Scarpello
C. E. Hawk
J. E. Pollock
W. H. Schalk
B. W. Watson
W. D. Wood
B. K. Zordell
MDEQ File
NDM (2003-78), Mail Zone 1



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

SPILL OR RELEASE REPORT

NOTE: Some regulations require a specific form to use and procedures to follow when reporting a release. Those forms and procedures **MUST** be used and followed if reporting under that authority. The purpose of this report form is to aid persons reporting releases under the various regulations that do not require a specific form. This report form is not required to be used. To report a release, you may telephone the PEAS Hotline, or DEQ District Office which oversees the county where it occurred, and other regulating agencies and provide the following information. Keep a copy of this report as documentation that the release was reported. If you prefer to submit this report electronically by FAX or e-mail, contact the regulating agency for the correct telephone number or e-mail address. Submission of an additional written follow-up report may be required. See the DEQ document, *Release Notification Requirements in Michigan*, or the specific regulations, or contact the regulating DEQ Division for information.

Please print or type all information.

NAME OF PERSON REPORTING RELEASE John Carlson			TELEPHONE NUMBER (provide area code) 269-465-5901 Ext. 1153		
NAME OF BUSINESS Cook Nuclear Plant			RELEASE LOCATION (provide address if different than business, if known, and give directions to the spill location. Include nearest highway, town, road intersection, etc.) Cook Nuclear Plant site, 5 miles North of		
STREET ADDRESS One Cook Place					
CITY Bridgman	STATE MI	ZIP CODE 49106			
BUSINESS TELEPHONE NUMBER (provide area code) 269-465-5901					
EPA IDENTIFICATION NUMBER (if applicable) MID098647621			COUNTY Berrien	TOWNSHIP Lake	TIER/RANGE/SECTION (if known) R19W/5,6,7
RELEASE DATA. Complete all applicable categories. Check all the boxes that apply to the release. Provide the best available information regarding the release and its impacts. Attach additional pages if necessary.					
DATE & TIME OF RELEASE (if known) 1, 15, 03 8:10 am	DATE & TIME OF DISCOVERY 1, 15, 03 9:10 am	DURATION OF RELEASE (if known) 35 minutes	TYPE OF INCIDENT <input checked="" type="checkbox"/> Explosion <input checked="" type="checkbox"/> Fire <input type="checkbox"/> Leaking container <input type="checkbox"/> Loading/unloading release <input type="checkbox"/> Pipe/valve leak or rupture <input type="checkbox"/> Vehicle accident <input type="checkbox"/> Other		
MATERIAL RELEASED (Chemical or trade name) <input type="checkbox"/> CHECK HERE IF ADDITIONAL MATERIALS LISTED ON ATTACHED PAGE Mineral oil (Univolt 60 Petroleum) Electrical Insulating Oil) (Non-PCB)		CAS NUMBER or HAZARDOUS WASTE CODE 064742-53-6 (99.9%)	ESTIMATED QUANTITY RELEASED (indicate unit e.g. lbs, gals, cu ft or yds) 6,500 gals	PHYSICAL STATE RELEASED (indicate if solid, liquid, or gas) liquid	
FACTORS CONTRIBUTING TO RELEASE <input checked="" type="checkbox"/> Equipment failure <input type="checkbox"/> Operator error <input type="checkbox"/> Faulty process design <input type="checkbox"/> Training deficiencies <input type="checkbox"/> Unusual weather conditions <input type="checkbox"/> Other			SOURCE OF LOSS <input type="checkbox"/> Container <input type="checkbox"/> Railroad car <input type="checkbox"/> Pipeline <input type="checkbox"/> Ship <input type="checkbox"/> Tank <input type="checkbox"/> Tanker <input checked="" type="checkbox"/> Other transformer		
TYPE OF MATERIAL RELEASED <input type="checkbox"/> Hazardous waste <input type="checkbox"/> Flammable & combustible material <input checked="" type="checkbox"/> Oil/other petroleum products or waste <input type="checkbox"/> Polluting material (including salt) <input type="checkbox"/> Sewage <input type="checkbox"/> Other <input type="checkbox"/> Unknown		MATERIAL LISTED ON <input type="checkbox"/> CERCLA Table 302.4 (40 CFR Part 302) <input type="checkbox"/> Extremely Hazardous Substances (EPCRA Section 302) list (40 CFR Part 355) <input type="checkbox"/> Michigan Critical Materials Register <input type="checkbox"/> RCRA and/or Part 111 hazardous waste tables <input type="checkbox"/> CAA Section 112(r) list (40 CFR Part 68) <input type="checkbox"/> Other list <input type="checkbox"/> Unknown		IMMEDIATE ACTIONS TAKEN <input checked="" type="checkbox"/> Containment <input type="checkbox"/> Dilution <input type="checkbox"/> Evacuation <input type="checkbox"/> Hazard removal <input type="checkbox"/> Neutralization <input type="checkbox"/> System shut down <input checked="" type="checkbox"/> Diversion of release to treatment <input type="checkbox"/> Decontamination of persons or equipment <input type="checkbox"/> Monitoring <input checked="" type="checkbox"/> Other Absorbent Material Spread Immediately	
RELEASE REACHED <input checked="" type="checkbox"/> Surface waters (include name of river, lake, drain involved) Lake Michigan Distance from spill location to surface water, in feet 400 <input type="checkbox"/> Drain connected to sanitary sewer (include name of wastewater treatment plant and/or street drain, if known) <input checked="" type="checkbox"/> Drain connected to storm sewer (include name of drain or water body it discharges into, if known) Lake Michigan <input type="checkbox"/> Groundwater (indicate if it is a known or suspected drinking water source and include name of aquifer, if known) <input checked="" type="checkbox"/> Soils (include type e.g. clay, sand, loam, etc.) sand, packed gravel <input type="checkbox"/> Ambient Air					

THIS IS A MASTER COPY. PLEASE MAKE COPIES FROM THIS MASTER COPY AS NEEDED.

EXTENT OF INJURIES, IF ANY 1 Emergency Response person - minor smoke inhalation		WAS ANYONE HOSPITALIZED? <input checked="" type="checkbox"/> Yes NUMBER HOSPITALIZED: <u>1</u> <input type="checkbox"/> No Treated & released	TOTAL NUMBER OF INJURIES TREATED ON-SITE: <u>0</u>
DESCRIBE THE INCIDENT, THE TYPE OF EQUIPMENT INVOLVED IN THE RELEASE, HOW THE VOLUME OF LOSS WAS DETERMINED, ALONG WITH ANY RESULTING ENVIRONMENTAL DAMAGE CAUSED BY THE RELEASE. IDENTIFY WHO IMMEDIATELY RESPONDED TO THE INCIDENT (own employees or contractor -- include cleanup company name, contact person, and telephone number). ALSO IDENTIFY WHO DID FURTHER CLEANUP ACTIVITIES, IF PERFORMED OR KNOWN WHEN REPORT SUBMITTED <input checked="" type="checkbox"/> CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE See letter dated 1/24/03 and attachment.			
ESTIMATED QUANTITY OF ANY RECOVERED MATERIALS AND A DESCRIPTION OF HOW THOSE MATERIALS WERE MANAGED (include disposal method if applicable) <input checked="" type="checkbox"/> CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE See letter dated 1/24/03 and attachment.			
ASSESSMENT OF ACTUAL OR POTENTIAL HAZARDS TO HUMAN HEALTH (include known acute or immediate and chronic or delayed effects, and where appropriate, advice regarding medical attention necessary for exposed individuals.) <input checked="" type="checkbox"/> CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE See letter dated 1/24/03 and attachment.			
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY NOTIFIED: <input checked="" type="checkbox"/> PEAS: 800-292-4706 Log Number Assigned Operator 10 <input checked="" type="checkbox"/> DEQ District or Field Office <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Cadillac <input type="checkbox"/> Detroit <input type="checkbox"/> Gaylord <input type="checkbox"/> Grand Rapids <input type="checkbox"/> Jackson <input checked="" type="checkbox"/> Kalamazoo <input type="checkbox"/> Lansing <input type="checkbox"/> Marquette <input type="checkbox"/> Saginaw Bay <input type="checkbox"/> Southeast Michigan (Livonia) </div> <div style="width: 45%;"> Division(s) Contacted: <input type="checkbox"/> Air Quality <input checked="" type="checkbox"/> Geological and Land Management <input type="checkbox"/> Remediation and Redevelopment <input checked="" type="checkbox"/> Waste and Hazardous Materials <input checked="" type="checkbox"/> Water </div> </div>		OTHER ENTITIES NOTIFIED: <input checked="" type="checkbox"/> National Response Center (NRC): 800-424-8802 <input checked="" type="checkbox"/> US Coast Guard Office Contacted: <input type="checkbox"/> Detroit <input type="checkbox"/> Grand Haven <input type="checkbox"/> Sault Ste. Marie <input checked="" type="checkbox"/> US Environmental Protection Agency <input checked="" type="checkbox"/> Local Fire Department <input type="checkbox"/> Local Police Department <input type="checkbox"/> State Police <input checked="" type="checkbox"/> Local Emergency Planning Committee <input type="checkbox"/> Wastewater Treatment Plant Authority <input type="checkbox"/> Hazmat Team <input type="checkbox"/> Local Health Department <input type="checkbox"/> Michigan Department of Consumer & Industry Services (MIOSHA) <input type="checkbox"/> Michigan Department of Agriculture: 800-405-0101 <input type="checkbox"/> Other _____	
RECORD NAME OF DEQ STAFF CONTACTED & PHONE NUMBER Steve Norton, Steve Busch, Greg Danneffel Nancy Adams, LeeAnne Claucherty 269-562-3500		RECORD NAME OF OTHER STAFF CONTACTED & PHONE NUMBER Coast Guard 269-983-6114 Petty Officer Martin Sgt. Michael Bradley 269-983-7141 (LEPC) NRC Mr. White 634210 US EPA 312-353-2318	
SIGNATURE OF PERSON REPORTING <div style="display: flex; align-items: center;"> <div> John CARLSON ENV. MANAGER </div> </div>			
DATE REPORTED 01/25/03	TIME REPORTED am/pm 9:40	ENTITIES CONTACTED BY: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Fax <input type="checkbox"/> Email <input type="checkbox"/> Other _____	

Attachment to Michigan Department of Environmental Quality Spill Release Report

Page Two: Description of Incident:

A transformer exploded and caught fire. The automatic fire suppression system responded to control the fire. Oil and water went to the containment system. The containment system became overwhelmed by the large amount of oil and fire suppression water and began to overflow to a nearby storm drain. An estimated 9700 gallons of oil was lost from the transformer. The loss was calculated by subtracting the volume of oil pumped from the transformer from the full volume of the transformer. No environmental damage was noted since most of the oil was recovered. Soil recovery is still in progress, lake and beach cleanup is now complete. Plant personnel immediately responded to cleanup efforts. Clean Harbors (Joe Rios 800-678-4244) arrived on site to assist at approximately 0400 on 1-16-03. Other cleanup contractors include Trans Tech electric – Ted Goble (269-466-2445), D.A. D'Agostino Custom Excavating & Trucking LLC - Durwood D'Agostino (269-422-1622), and Underwater Construction – Dave Drews (269-422-2450). Storm drains were plugged, absorbent material was deployed at the stormwater outfall to prevent further release to Lake Michigan.

Page Two: Estimated Quantity of Recovered Materials:

Approximately 12500 gallons of non PCB oil was recovered from the damaged transformer. Approximately 2500 gallons of oil was recovered from the oil water separator containment system. Approximately 800 gallons of oil was recovered from the stormwater outfall and Lake Michigan ice pack. Approximately 400 cubic yards of oil contaminated ice was disposed of at a facility to accept this waste. Approximately 400 cubic yards of oil contaminated soil disposed of at a licensed waste facility.

Page Two: Assessment of Actual or Potential Hazards to Human Health.

There are no hazards to human health.

COOK CHEMICAL CONTROL PERMIT

Page 1

Product Name : UNIVOLT 60
Manufacturer : EXXON CORPORATION

Chemical Permit Number : 0638

Major Function Category: OIL

General Permit ☒

Specific Permit ☐

ME Numbers :

Intended Use : TRANSFORMER OIL

Revision Number : 02

Revision Date : 08/18/00

Expiration Date : 08/31/05 *lyn*

Approved Use Category(ies):

☒ Category II (Green)

NFPA Label (0-Low, 4-High):

F

[1]

H [1] [0] R

[]

S

Approved User Department(s):

☒ Other: ALL DEPARTMENTS

Storage (Minimum Requirements):

Waste Disposal:

☒ Minimize waste by using all product

☒ Contact Environmental for disposal

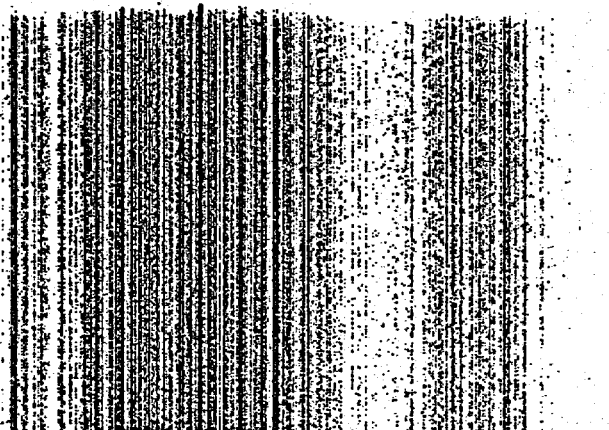
☒ Follow waste stream no. WSMF#20 EMPTY DRUMS,
12-PMP-2160.CWM.002

Industrial Hygiene:

☒ No additional I.H. concerns, follow MSDS guidelines

Auxiliary Building Use:

☒ Only take the amount of material needed to complete the task.



GEORGIA POWER
MATERIAL SAFETY DATA SHEET

-----PRODUCT IDENTIFICATION-----

ENTERED: 05/03/88 REVISED: 06/15/95
REVISION-NO: 02
PRODUCT-NO: 849508961
NAME: UNIVOLT 60 #331830-01830
DESCRIPTION: PETROLEUM ELECTRICAL INSULATING OIL
-CLASSIFICATION- *----- SPECIFIC-USE CODES/DESCRIPTIONS -----*
(CONDITIONAL) T030 TRANSFORMER FLUID

BIBLIOGRAPHY:

COMMENTS: IRRITANT

-----VENDOR DATA-----

VENDOR-PROD-CODE:

VENDOR-NAME...: EXXON COMPANY
ADDRESS.....: P.O. BOX 2180
HOUSTON, TX ZIP: 77252-2180

CONTACT-PERSON: CUST# 430420102

----- TELEPHONE NUMBERS -----
• USA-TELEPHONE-NO.....: (713) 656-2443 EXT: 0000
• EMERGENCY-USA-NO.....: (713) 656-3424 EXT: 0000
• INTERNATIONAL-NO.....: **** SEE BOOKLET OF PRODUCT NUMBERS ****
• EMERGENCY-INTNL-NO.....: ***** IN CATALOG NUMBER BOOKLET *****

VENDOR-TYPE: (MANUFACTURER)
STILL-IN-BUSINESS? Y (Y/N)
DATE-WENT-OUT-OF-BUSINESS: 00/00/00

COMMENTS: FAX-IT-BACK SYSTEM: HAVE 6 DIGIT EXXON PROD CODE. DIAL (800)298-4007
TECH INFO LINE: (800)443-9966

-----CHEMICAL CONSTITUENTS----- (PRODUCT-TLV/PEL)

--PERCENT-- CARCINOGEN-CODE 5 MG/M3
---CAS--- MIN MAX -CHEM-TLV/PEL-- NTP IARC OSHA

064742-53-6 HYDROTREATED LIGHT NAPHTHENIC

0.00 99.90 5MG/M3/5

000128-37-0 2,6-DI TERTIARY-BUTYL PARA-CRESOL

0.00 0.10 10MG

TRACE PROPRIETARY ADDITIVES (MIXTURES)

0.00 0.10

-----REGULATORY DATA-----

----- EPA-RCRA(40-CFR-261) -----

IGNITABLE.D001:	SILVERM.D010:	LISTD-WASTE
CORROSIVE.D002:	SILVER.D011:	PH
REACTIVE.D003:	ENDRIN.D012:	UH
ARSENIC.D004:	LINDANE.D013:	PH
BARIUM.D005:	METOLXTC.D014:	
CALCIUM.D006:	TOXAPHEN.D015:	
CHROMIUM.D007:	2,4-D.D016:	
LEAD.D008:	8,4,5-TP,	
MERCURY.D009:	SILVER.D017:	

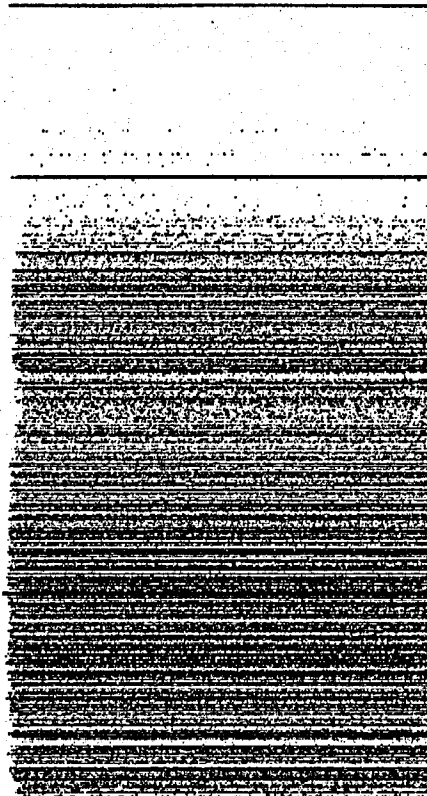
REGLED-UNDER-TSCA(40-CFR-710) ?

CERCLA-SUPERFUND(40-CFR-117.302)

REPORTABLE-QUANTITY:

OSHA-HAZARD-COMMUNICATION-REQUIREMENT(29-CFR-1910.1200)

REASON HAZARDOUS: ACUTE, CHRONIC



OTHER REGULATIONS/COMMENTS:

-----TRANSPORT/STORAGE/LABEL DATA-----
 -----DOT (49-CFR-172)-----

SHIP-NAME:
 HAZARD-CLASS:
 DOT-ID-NUMBER:
 LABELING-REQUIREMENTS:
 CAUTION-LABEL-REQUIRED?
 DIRECTIONS-ON-LABEL-REQD?

OTHER-RATING.....
 REACTIVITY-RATING..... 0
 FLAMMABILITY-RATING..... 1
 HEALTH-RATING..... 1
 LABEL-REQUIRED?

SUGGESTED-LABEL: EMPTY CTRKS RETAIN RESIDUE (LIQ &/OR VAPOR) & CAN BE DANGEROUS
 DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, EXPOSE SUCH CTRKS TO
 HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OTHER SOURCES OF IGNITION; THEY MAY
 EXPLODE & CAUSE INJURY/DEATH. DO NOT ATTEMPT TO CLEAN-SINCE RESIDUE IS
 CONTAINER-MATERIALS; DIFFICULT TO REMOVE. EMPTY DROWS S/B COMPLETELY DRAINED,
 PROPERLY BUNDED & PROMPTLY RETURNED TO DROW RECONDITIONER. ALL OTHER CTRKS
 SPECIAL-STORAGE-REQUIREMENTS: S/B DISPOSED OF IN ENVIRONMENTALLY SAFE MANNER & IN
 ACCORDANCE W/GOVT REGULATIONS. FOR WORK ON TANKS REFER TO OSHA ANSI 249.1 &
 OTHER GOVT & INDUSTRIAL REFERENCES PERTAINING TO CLEANING, REPAIRING, WELDING
 COMMENTS: OTHER CONTINGENT OPERATIONS. CLEANSE SKIN THOROUGHLY AFTER CONTACT
 BEFORE BREAKS & WOUNDS. AT END OF WORK PERIOD, PROD RAPIDLY REMOVED BY
 WATERLESS HAND CLEANSERS FOLLOWED BY WASHING THOROUGHLY W/SOAP & WATER

-----PHYSICAL/REACTIVE PROPERTIES-----

APPEARANCE: CLEAN WATER-WHITE
 ODOR: MILD, BLAND PETROLEUM ODOR
 BOILING-POINT: ~ 238 C VAPOR-PRESSURE: < 0.01 MM(HG)-AT 20 C
 MELTING-POINT: SPECIFIC-GRAVITY: .88 AT 15.6 C
 MOLECULAR-WEIGHT: ~ 255 REACTION-INDEX: AT C
 VAPOR-DENSITY: < 5 WATER-SOLUBILITY: NEGLIGIBLE (GRAMS/LIT)
 PH: NEUTRAL
 DOS-PROD-GEN-HEAT-THRU-DISSOLUTION-IN-WATER?
 DOS-PROD-GENERATE-HEAT-THRU-POLYMERIZATION ? N

CORROSIVE-ACTION?

ON-MATERIALS:
 DECOMP-IN-AIR?
 DECOMP-PROD:

DECOMP-IN-WATER?
 DECOMP-PROD:

DECOMP-IN-HEAT? & DECOMP-PROD: FUMES, SMOKE, SULFUR OXIDES, CO, ALDEHYDES, OTHER
 DECOMP PROD IN CASE OF INCOMPLETE COMBUSTION

DECOMP-IN-OXIDERS?
 DECOMP-PROD:

INCOMPATIB: STRONG OXIDANTS (I.E. LIQ CHLORINE, CONC OXYGEN, SODIUM HYPOCHLORITE
 INCOMPATIB: IR, CALCIUM HYPOCHLORITE, ETC) AS PREVENTS SERIOUS EXPLOSION HAZ

COND-CONTRIB-TO-INSTABILITY: STABLE, WILL NOT REACT VIOLENTLY W/WATER
COMMENTS:

*****FLASHPOINT*****FIRB & EXPLOSION DATA*****
CLOSED-CUP: 293 F EXPLOSIVE-LIMITS (BY-VOL-IN-AIR)

CHANGES-DURING-EVAPORATION? LOWER-LIMIT: 0.90 %
UPPER-LIMIT: 7.00 %

IF-YES: % (BY-VOL-IN-AIR)

SUSCEPTIBLE-TO-SPONTANEOUS-HEATING?

FIRB-POINT: F

AUTOIGNITION: > 400 F

FIRB-BY-PRODUCTS: USE PROD W/CAUTION AROUND HEAT, SPARKS, PILOT LIGHTS, STATIC
ELECTRICITY, OPEN FLAME.

EXTINGUISHING-AGENTS: FOAM, WATER SPRAY(FOG), DRY CHEM, CO2, VAPORIZING LIQ TYPE
 HAS NOT IGNITED, USE WATER SPRAY TO DISPERSE VAPORS & PROVIDE PROTECT FOR MEN
 FIRE-FIGHTING-PROCEDURES: ATTEMPTING TO STOP LEAK, MIN BREATHING OF GASES, VAPOR
 FUMES, DECOMP PROD, USE SUPPLIED AIR BREATHING EQUIP FOR ENCLOSED/CONTAINED
 SPACES.*** DECOMP PROD: FUMES, SMOKE, CO, SULFUR OXIDES, ALDEHYDES & OTHER ***
 -----TOXIC/HEALTH/PROTECTION DATA-----

PRODUCT-TOXIC-BY-INGESTION? Y
 LOW ORDER OF ACUTE ORAL & DERMAL TOXICITY, MINUTE AMTS ASPIRAT INTO LUNGS
 DURING INGEST/VOMITING MAY CAUSE MILD TO SEVERE PULMONARY INJURY/DEATH
 HAZARDOUS-EFFECTS-ON-EYES? Y
 PROD CONTACTING EYES MAY CAUSE IRRITATION
 DOES-PRODUCT-IRRITATE-SKIN? Y
 PROLONGED OR REPEATED SKIN CONTACT TENDS TO REMOVE SKIN OILS POSSIBLE
 LEADING TO IRRIT & DERMATITIS; PROD NEITHER CORROSIVE OR IRRIT BY OSHA
 PRODUCT-TOXIC-BY-INHALATION?

PRODUCT/CONSTITUENTS-SENSITIZING-AGENTS?
 PROD DOES NOT REQUIRE CANCER HAZARD WARNING IN ACCORDANCE W/CURRENT
 OSHA HAZARD COMM STANDARD CRITERIA
 CAN-HAZARDOUS-AMOUNTS-OF-PROD/CONSTITUENTS-BE-ABSORBED-THRU-SKIN?
 HEALTH STUDIES HAVE SHOWN MANY PETROLEUM HYDROCARBONS & SYNTHETIC LUBRIC
 POSE POTENTIAL HUMAN HEALTH RISKS WHICH MAY VARY FROM PERSON TO PERSON.
 COMMENTS: AS PRECAUTION, EXPOSURE TO LIQ, VAPORS, MISTS OR FUMES S/B MINIMIZED

PRODUCT/CONSTITUENTS-A-SYSTEMIC-POISON?

ACUTE-OVEREXPOSURE-EFFECTS? Y
 SEE PREVIOUS SCREEN
 CHRONIC-OVEREXPOSURE-EFFECTS? Y
 SEE PREVIOUS SCREEN

HAZARD RATINGS-----
 HPA-PHYS/HEALTH-HAZARDS *
 0= NONE ACUTE-HAZARD..... Y TLV-TWA: 5 MG/M3
 1= LOW CHRONIC-HAZARD..... Y TLV-STEL:
 2= MED FIRE-HAZARD..... TLV-C....
 3= HIGH REACTIVE-HAZARD.....
 SUDDEN-PRES-RELEASE:

COMMENTS:

PERIODIC-MEDICAL-EXAMS(TESTS, FREQ, ETC.): MIN BREATHING VAPOR, MIST, FUMES, AVOID

PROLONGED/REPEATED CONTACT W/SKIN. REMOVE CONTAMIN CLOTHING, LAUNDRY OR DRY CLEAN BEFORE REUSE. REMOVE CONTAMIN SHOES & THOROUGHLY CLEAN BEFORE REUSE.

DISCARD IF OIL-SOAKED

NORMAL-USE-PRECAUTIONS/VENTILATION: USE LOCAL EXHAUST TO CAPTURE VAPOR, MISTS OR FUMES, IF NECESSARY. PROVIDE VENTILATION SUFFICIENT TO PREVENT EXCEEDING RECOMMENDED EXPOSURE LIMIT OR BUILDUP OF EXPLOSIVE CONC OF VAPOR IN AIR.

USE EXPLOSION PROOF EQUIP. NO SMOKING/USE OF FLAME OR OTHER IGNITION SOURCES PROTECTIVE-EQUIPMENT: USE SUPPLIED AIR RESPIRATORY PROTECT IN CONFINED OR

ENCLOSED SPACES, IF NEEDED; USE CHEMICAL RESISTANT GLOVES, IF NEEDED, TO AVOID PROLONGED OR REPEATED SKIN CONTACT; USE SPLASH GOGGLES OR FACE SHIELD WHEN

EYE CONTACT MAY OCCUR; USE CHEMICAL RESISTANT APRON OR OTHER IMPERVIOUS AIR-SAMPLING/ANALYSIS: CLOTHING, IF NEEDED, TO AVOID CONTAMIN REGULAR CLOTHING

WHICH COULD RESULT IN PROLONGED OR REPEATED SKIN CONTACT

KEEP CLOTHES CLOSED WHEN NOT IN USE. DO NOT STORE NEAR HEAT, SPARKS, FLAME OR COMMENTS: STRONG OXIDANTS. IN ORDER TO PREVENT FIRE OR EXPLOSION HAZARDS, USE

APPROPRIATE EQUIP

-----SPILL & DISPOSAL DATA-----

CLEANUP-PROCEDURES

SMALL-SPILL: RECOVER FREE PROD, ADD SAND, EARTH, OTHER SUITABLE ABSORBENT TO SPILL AREA, MINIMIZE SKIN CONTACT, KEEP PROD OUT OF SEWERS & WATERCOURSES BY DIKING OR IMPOUNDING, ADVISE AUTHORITIES IF PROD HAS ENTERED OR MAY ENTER SEWERS, WATERCOURSES, EXTENSIVE LAND AREAS. ASSURE CONFORMITY W/APPLICABLE GOVERNMENTAL REGULATIONS

LARGE-SPILL: SAME AS SMALL SPILL

NO HQ FOR PRODUCT OR ANY CONSTITUENT GREATER THAN 1% OR 0.1% CARCINOGEN

PRECAUTIONS:

SPECIAL-DISPOSAL-REQUIREMENTS
COMPLY WITH ENVIRONMENTAL AFFAIRS GUIDELINES AND REGULATIONS

-----FIRST-AID DATA-----

SKIN-EXPOSURE-FIRST-AID: REMOVE ANY CONTAMIN CLOTHING & WASH W/ SOAP & WATER. LAUNDER OR DRY-CLEAN CLOTHING BEFORE REUSE. IF PRODUCT IS INJECTED INTO OR UNDER SKIN, OR INTO ANY PART OF BODY, REGARDLESS OF APPEARANCE OF WOUND OR IT SIZE, INDICATE EVALUATED IMMEDIATELY BY PHYSICIAN AS SURGICAL EMERGENCY. EVEN EYE-EXPOSURE-FIRST-AID: FLOSH WITH CLEAR WATER FOR 15 MIN OR UNTIL IRRITATION SUBSIDES. IF IRRITATION PERSISTS, CALL PHYSICIAN.

INHALATION-FIRST-AID: VAPOR PRESSURE VERY LOW, VAPOR UNDER AMBIENT CONDIT NORMALLY NOT PROBLEM. IF OVERCOME BY VAPOR FROM HOT PROD, IMMEDIATELY REMOVE FROM EXPOSURE & CALL PHYSICIAN. IF BREATHING IRREGULAR OR HAS STOPPED, START CPR. ADMINISTER OXYGEN, IF AVAILABLE. IF OVERCOME TO OIL MIST, REMOVE FROM FURTHER ANTIDOTE/TREATMENT (IF SWALLOWED): DO NOT INDUCE VOMITING. CALL PHYSICIAN IMMEDIATE

COMMENTS: THOUGH INITIAL SYMPTOMS FROM HIGH PRESSURE INJECTION MAY BE MINIMAL OR ABSENT, EARLY SURGICAL TREATMENT WITHIN FIRST FEW HRS MAY SIGNIFICANTLY REDUCE ULTIMATE EXTENT OF INJURY

* EXPOSURE UNTIL EXCESSIVE OIL MIST CONDITION SUBSIDES

*****END OF MSDS*****
*****END OF MSDS*****