



**Commonwealth Edison**

One First National Plaza, Chicago, Illinois  
Address Reply to: Post Office Box 767  
Chicago, Illinois 60690

July 29, 1982

Mr. James G. Keppler, Regional Administrator  
Directorate of Inspection and  
Enforcement - Region III  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, IL 60137

Subject: Zion Station Units 1 and 2  
IE Bulletin No. 82-02  
Response to Action Item 3  
NRC Docket Nos. 50-295/304

Reference (a): R. C. DeYoung letter to All PWR Licensees  
dated June 2, 1982

Dear Mr. Keppler:

Reference (a) requested that the Commonwealth Edison Company provide, within sixty (60) days, a response to IE Bulletin No. 82-02 Action Item 3 for our Zion Station. This letter along with the Attachments is provided in accordance with the Bulletin requirements.

Attachment A to this letter provides a list of the Zion Station bolted components that fall under the scope of this Bulletin. Action Item 3 required that we review the leakage history for these bolted connections, paying particular attention to those locations where leakage occurred during the most recent operating cycle. We have reviewed the Zion Station work requests back to January 1980 for leakage history, corrective measures, and inspections. The results of this review are described below.

The leakage history for these bolted connections is listed in Attachment A. The corrective action for leaking components has been to replace the defective gaskets or packing. It is the practice at Zion Station not to use injection sealants in the Reactor Coolant System. In general, upon disassembly of bolted components, the Zion maintenance personnel look at the bolting for overall degradation. For safety-related components, such as RCPB components, the Zion Quality Control personnel look at the removed

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IE 11

bolting at their own discretion. These examinations are not certified visual examinations and are not currently required by station procedures. Therefore, visual or surface examinations are not typically performed on bolting in the RCS unless specifically requested, or required to be examined under the Zion Inservice Inspection Program.

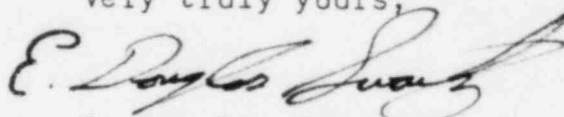
Although we do not use injection sealants on the primary system at Zion Station to eliminate leakage, we do use fastener lubricants. The bolting of the connections listed in Attachment A were lubricated with either "Neolube" or "Molykote G" lubricants. These products have been approved for use by our O.A.D. chemistry group on the basis of low halogen levels (CL, FL, S, etc.). To date, no adverse effects from their use have been identified. Attachment B provides information on these products including the chemical analysis.

Finally, as a result of our review, no trend of leakage recurrence has been identified.

To the best of my knowledge and belief, the statements contained herein and in the Attachments are true and correct. In some respects these statements are not based on my personal knowledge but upon information furnished by other Commonwealth Edison employees. Such information has been reviewed in accordance with Company practice and I believe it to be reliable.

Our estimate of the time spent in the preparation and submittal of this response is 40 hours. Please address any questions that you or your staff may have concerning this matter to this office.

Very truly yours,

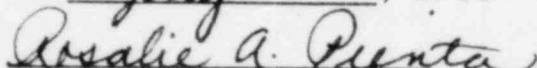


E. Douglas Swartz  
Nuclear Licensing Administrator

Attachments

cc: W. J. Collins - REB  
RIII Inspector - Zion

SUBSCRIBED and SWORN to  
before me this 29th day  
of July, 1982

  
Notary Public

ATTACHMENT A

Zion Station Units 1 and 2

List of bolted components that fall under scope of IE  
Bulletin 82-02 along with their leakage history as of  
January 1980

4613N

Component

U-1

U-2

Leakage History  
(Jan. 1980 to present)

Leakage History  
(Jan. 1980 to present)

PZR Manway

NONE

5-15-80 Gasket leak.  
Replaced gasket.

S/G Manway  
A  
B  
C  
D

NONE  
"  
"  
"

NONE  
"  
"  
"

RCP Flange  
A  
B  
C  
D

NONE  
"  
"  
"

NONE  
"  
"  
"

RCP #1 Seal Housing  
A  
B  
C  
D

NONE  
"  
"  
"

NONE  
"  
"  
"

Valves

MOV-RC8001A

NONE

NONE

MOV-RC8002A

NONE

NONE

MOV-RC8001B

NONE

NONE

MOV-RC8002B

NONE

NONE

MOV-RC8001C

NONE

NONE

MOV-RC8002C

NONE

NONE

Component

U-1

U-2

Valve

Leakage History  
(Jan. 1980 to present)

Leakage History  
(Jan. 1980 to present)

MOV-RC8001D

NONE

NONE

MOV-RC8002D

NONE

NONE

MOV-RC8702

NONE

NONE

MOV-RC8701

NONE

NONE

SI 8948A (check)

NONE

NONE

SI 8948B (check)

NONE

NONE

SI 8948C (check)

NONE

NONE

SI 8948D (check)

NONE

NONE

SI 8956A (check)

NONE

NONE

SI 8956B (check)

8/8/81 Gasket leak.  
Replaced gasket.

NONE

SI 8956C (check)

NONE

NONE

SI 8956D (check)

NONE

NONE

RH 8949A (check)

NONE

NONE

RH 8949B (check)

NONE

NONE

SI 8949C (check)

NONE

NONE

SI 8949D (check)

NONE

NONE

RH 8736A (check)

NONE

NONE

Component

U-1

U-2

Leakage History  
(Jan. 1980 to present)

Leakage History  
(Jan. 1980 to present)

Valve

RH 8736B (check)	NONE	NONE
SI 9001A (check)	NONE	NONE
SI 9002A (check)	NONE	NONE
SI 9001B (check)	NONE	NONE
SI 9002B (check)	NONE	NONE
SI 9001C (check)	NONE	NONE
SI 9002C (check)	NONE	NONE
SI 9001D (check)	NONE	NONE
SI 9002D (check)	NONE	NONE
MOV-RC8003A	NONE	NONE
MOV-RC8003B	NONE	NONE
MOV-RC8003C	NONE	NONE
MOV-RC8003D	NONE	NONE
Inlet Flange to RC8010A (safety relief)	NONE	NONE
Inlet Flange to RC8010B (safety relief)	3/31/81 Gasket leak. Replaced gasket	NONE
Inlet Flange to RC8010C (safety relief)	NONE	NONE

Component	U-1	U-2
Flanges	Leakage History (Jan. 1980 to present)	Leakage History (Jan. 1980 to present)
Flange on 8" RHR Cold Leg Loop A	NONE	NONE
Flange on 8" RHR Cold Leg Loop B	NONE	NONE
Flange on 8" RHR Cold Leg Loop C	NONE	NONE
Flange on 8" RHR Cold Leg Loop D	NONE	NONE

ATTACHMENT B

Zion Station Units 1 and 2 - Fastener lubricants utilized  
("Molykote G" and "Neolube") and chemical analysis

4613N



# Huron

## INDUSTRIES, Inc.

P.O. BOX 104

PORT HURON, MICHIGAN • THE HOME OF COLLOIDAL GRAPHITE

TELEPHONE 313 - 984-4213

NOVEMBER 3, 1972

MR. ROBERT RAFTER  
COMMONWEALTH EDISON Co.  
SHILAH BLVD. AT LAKE MICHIGAN  
ZION, ILLINOIS

DEAR MR. RAFTER:

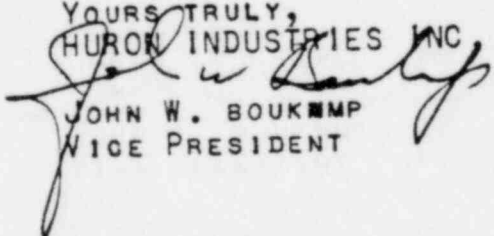
THANK YOU FOR YOUR PHONE CALL EXPRESSING YOUR INTEREST IN OUR NEOLUBE, DRY FILM LUBRICANT. WE ARE ENCLOSING A TECHNICAL SHEET AND CHEMICAL ANALYSIS ON THIS PRODUCT.

WE UNDERSTAND FROM YOUR CONVERSATION THAT YOU ARE INTERESTED IN IDENTIFICATION AND TRACEABILITY OF THE PRODUCTION BATCHES OF NEOLUBE.

WHEN NEOLUBE IS SOLD UNDER MIL-L-24131, EACH BOTTLE IS DATED AND THE BATCH NUMBER APPEARS ON THE LABEL. IF NECESSARY FOR YOUR RECORDS, WE COULD ALSO DO THIS WITH REGULAR NEOLUBE, WHICH IS OUR COMMERCIAL PRODUCT. THE ONLY DIFFERENCE BETWEEN SPEC MATERIAL AND REGULAR NEOLUBE IS THE CERTIFIED OUTSIDE TESTING THAT WE FURNISH WITH THE SPECIFICATION MATERIAL.

IF YOU WOULD LIKE SAMPLES OF OUR PRODUCT OR IF WE MAY FURNISH ANY OTHER INFORMATION, PLEASE CONTACT US AT YOUR CONVENIENCE.

YOURS TRULY,  
HURON INDUSTRIES INC

  
JOHN W. BOUKAMP  
VICE PRESIDENT

JWB:BH  
ENCL.

# Huron

## INDUSTRIES, Inc.

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### CHEMICAL ANALYSIS OF NEOLUBE

GRAPHITE PRESENT 99% PURE

DRY NEOLUBE AS SOLD AND ROAST IT IN THE PRESENCE OF AIR.  
ONE PER CENT OF THE SOLIDS WILL REMAIN IN THE CRUCIBLE AS ASH.

#### ANALYSIS OF THE ASH:

IRON	85%	OXIDES
SILICON	4	
CALCIUM	5	
ALUMINUM	3	

BALANCE LEFT, IF PRESENT BETWEEN 1/2 TO 1%

ZINC  
VANADIUM  
TITANIUM  
MAGNESIUM  
TRACES OF THE FOLLOWING MATERIALS WOULD BE PRESENT  
BELOW 1/10TH OF 1%

CHROMIUM  
BARRIUM  
COPPER  
MANGANESE  
NICKEL  
SODIUM

ANALYSIS OF THE LIQUID MATERIALS SHOWS PRESENCE OF

FLOURIDES)  
SULPHIDES)-- A TOTAL OF LESS THAN 100 PARTS PER MILLION.  
CHLORIDES)

HURON INDUSTRIES INC.  
P.O. BOX 104  
PORT HURON, MICHIGAN 48060

Neolube (evap)

CHEMICAL ANALYSIS

Fluoride < 5 ppm

Chloride 66 ppm

FIRE AND EXPLOSION DATA

HEALTH HAZARD DATA

SPILL OR LEAKAGE PROCEDURES

SPECIAL PRECAUTIONS

# Huron

## INDUSTRIES, Inc.

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### NEOLUBE THE DRY FILM INDUSTRIAL LUBRICANT

NEOLUBE IS A DISPERSION OF COLLOIDAL ELECTRIC FURNACE GRAPHITE IN ALCOHOL IN A READY-FOR-USE FORM. APPLIED BY BRUSH, SPRAY OR DIPPING, IT DRIES IN SECONDS TO A SLIPPERY, LUSTROUS, ADHERENT FILM OF PUREST GRAPHITE.

NEOLUBE IS AVAILABLE CERTIFIED TO MILITARY SPECIFICATION MIL-L-24131.

INDUSTRIAL APPLICATIONS OF NEOLUBE INCLUDE THOSE WHERE OILS OR GREASES, BECAUSE OF THEIR VERY NATURE, ARE INADEQUATE OR OBJECTIONABLE. OILS COLLECT DUST, BURN OFF OR CONGEAL; THEY DRIP, THEY SOIL AND THEY INSULATE. WHEN USED WITHIN LOAD LIMITS, NEOLUBE IS AN ADEQUATE SUBSTITUTE FOR OIL OR GREASE WITH NONE OF THEIR DISADVANTAGES. (DO NOT USE NEOLUBE ON BALL OR ROLLER BEARINGS.)

#### PROPERTIES OF NEOLUBE

COLOR: BLACK	VISCOSITY: 8-10 CPS	
FLASHPOINT IN WET STATE: 52°F TCC		EXCELLENT ELECTRICAL CONDUCTIVITY
FRICITION COEFFICIENT: 0.15 (KINETIC)		EXCELLENT RESISTANCE TO RADIATION DAMAGE
UPPER TEMPERATURE LIMITS: 400°F. CONTINUOUS 850°F. INTERMITTANT		

MAY BE USED ON NEOLUBE SURFACES WHEN NOT OBJECTIONABLE, OBTAINING BENEFITS OF FLUID FILM ON PROTECTIVE GRAPHITE BASE.

**DIRECTIONS:** APPLY WITH A SOFT BRUSH, DIPPING OR SPRAYING. IF A SMUDGE FREE SURFACE IS DESIRED, REMOVE EXCESS BY POLISHING WITH SOFT CLOTH WHEN DRY. FOR HEAVY SERVICE APPLY 2 OR 3 COATS. IT MAY BE DILUTED 1 TO 1 WITH ALCOHOL OR ACETONE FOR VERY LIGHT SERVICE.

#### PROVEN APPLICATIONS:

1. NON SIEZE LUBRICANT FOR BOLTS-METALS-VALVES. ANTI SIEZE LUBRICANT FOR STAINLESS STEEL BOLTS FOR NUCLEAR APPLICATIONS UNDER MIL-L-24131,
2. LUBRICATION COATING THAT IS DUST FREE AND CLEAN FOR BUSINESS MACHINES, VENDING MACHINES, CLOCKS, LOCKS, METER MECHANISMS, PIANO AND ORGAN MECHANISMS.
3. LUBRICANT FOR HIGH PRESSURE AIR FITTINGS OR HYDRAULIC SYSTEMS.
4. LUBRICANT FOR BUSS BARS CARRYING CONTACT SHOES, HIGH TENSION SWITCH CONTACTS. REDUCES CHATTER, ARCING AND PITTING.
5. STATIC BLEEDING OF CONVEYOR BELTS; LUBRICATE CONVEYOR CHAINS IN DEGREASING OPERATIONS; REDUCE STATIC ON FLOORS.
6. EXCELLENT SHIELDING PROPERTIES FOR CERTAIN TYPES OF ELECTRICAL INTERFERENCE. PREVENTS RADIO WAVE INTERFERENCE. MAY BE USED IN PRINTED CIRCUIT TECHNIQUES. MAY BE USED FOR SHIELDING TAPE RECORDER CASES.
7. COATING FOR GASKETS, GRID COATING FOR CATHODE RAY TUBES.
8. CUTTING LUBRICANT ON DIFFICULT METAL CUTTING JOBS.
9. IDEAL SOURCE FOR GRAPHITE FILMS IN NUCLEAR APPLICATIONS.
10. IDEAL WHERE A DRY FILM LUBRICANT PREVENTS SOILING AS IN KNITTING, WEAVING AND LACE MAKING MACHINES.

EXCELLENT FOR DIE AND MOLD PRETREATMENT CONDITIONER. PROTECTS FROM ATMOSPHERIC ELEMENTS AND AIDS IN INITIAL LUBRICATION.

NEOLUBE IS AVAILABLE IN 2 OZ., 1 PINT, 1 QUART, 1 GALLON, AND 5 GALLON CONTAINERS AND AEROSOL CANS. DILUTION OF NEOLUBE WITH ALCOHOL, ACETONE OR CARBON TETRACHLORIDE IS SATISFACTORY WHERE NECESSARY.

**DOW CORNING**

January 13, 1975

Richard L. Sorrentino  
Commonwealth Edison  
Zion Generating Station  
Shiloh Blvd. & Lak Michigan  
Zion, Illinois 60099

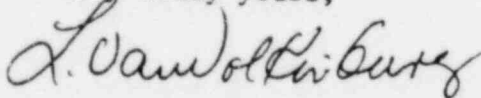
Dear Mr. Sorrentino:

The Dow Corning Corporation does not use halogens in the manufacture of the products of interest to you. Of course, the aerosol products contain a fluorocarbon propellant. If any halogens are present they are in the ppm range and there as impurities. The products involved are as follows:

MOLYKOTE® 4x Spray  
MOLYKOTE® 4x Lubricant  
MOLYKOTE® 41 Grease  
MOLYKOTE® 44 Grease  
MOLYKOTE® 33 Grease  
MOLYKOTE® 340 Heat Sink Compound  
MOLYKOTE® G Spray  
MOLYKOTE® G Paste  
MOLYKOTE® Z Powder  
MOLYKOTE® 505 Paste

Please contact me if you have any question.

Very truly yours,



L. VanVolkinburg  
Product Safety  
Corporate Quality Control  
Mail No. 140

LV/bmc

MATERIAL DATA SHEET  
Molykote<sup>®</sup> G' Paste

46.

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CHEMICAL ANALYSIS

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Chloride 9.2 ppm  
Fluoride 95 ppm

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FIRE AND EXPLOSION DATA

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HEALTH HAZARD DATA

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SPILL OR LEAKAGE PROCEDURES

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SPECIAL PRECAUTIONS

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