

PHILADELPHIA ELECTRIC COMPANY
NUCLEAR GROUP HEADQUARTERS
955-65 CHESTERBROOK BLVD.
WAYNE, PA 19087-5691
(215) 640-6000

EPP 3.2

NUCLEAR ENGINEERING & SERVICES DEPARTMENT

July 2, 1992

Docket Nos. 50-352
50-353

License Nos. NPF-39
NPF-85

NPDES Permit No. PA0051926

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Limerick Generating Station, Units 1 and 2
Changes to National Pollutant Discharge
Elimination System Permit

Gentlemen:

The Limerick Generating Station (LGS), Units 1 and 2, Environmental Protection Plan (EPP), Section 3.2, stipulates that the NRC shall receive a copy of any proposed changes to the LGS National Pollutant Discharge Elimination System (NPDES) permit at the same time the permitting agency is notified.

By letters dated June 12, 1992 and June 19, 1992, to the Pennsylvania Department of Environmental Resources (PA DER), Philadelphia Electric Company (PECO) requested changes to LGS NPDES Permit No. PA0051926 regarding the addition of chemical additives for use in the secondary cooling water system. The proposed changes to the NPDES permit involve the use of the chemical BETZ 860 (i.e., used to facilitate cleaning of heat exchanger tubes), and the chemical BETZ Clamtrol CT-1 (i.e., used to control Asiatic Clams). Both of these chemicals have been previously approved for use at LGS.

140689

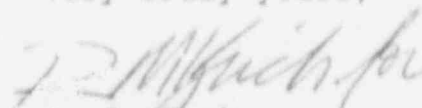
9207150124 920702
PDR ADOCK 05000352
P PDR

COOL

Therefore, in accordance with the LGS EPP Section 3.2, the letters requesting the changes to the LGS NPDES permit are attached along with the chemical fact sheets for BETZ 860. Please note that our letters to the PA DER requesting the changes to the NPDES permit were not submitted to the NRC at the same time that the PA DER was notified, as required by the EPP. The delay in notifying the NRC of these proposed changes was due to transmittal of these letters from the originating organization to the Licensing Section. In order to prevent recurrence of this problem, the originating organization will forward a copy of the NPDES permit changes directly to the NRC in the future.

If you have any questions, please do not hesitate to contact us.

Very truly yours,



G. J. Beck
Manager
Licensing Section

Attachments

cc: T. T. Martin, Administrator, USNRC, Region I (w/ attachments)
T. J. Kenny, USNRC Senior Resident Inspector, LGS (w/ attachments)

PHILADELPHIA ELECTRIC COMPANY

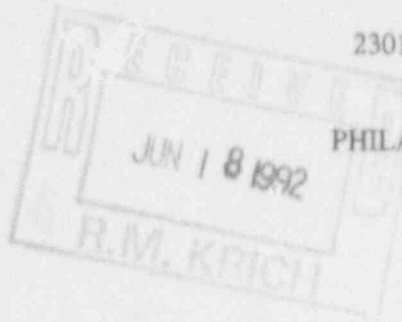
2301 MARKET STREET

P. O. BOX 8699

PHILADELPHIA, PA 19101

(215) 841-4000

June 12, 1992



Mr. Sohan L. Garg
Department of Environmental Resources
Suite 6010, Lee Park
555 North Lane
Conshohocken, PA 19428

Dear Mr. Garg:

Limerick Generating Station
NPDES Permit PA 0051926

Recently, we received your approval to use the chemical additive Betz 860 for the chemical cleaning of a heat exchanger at Limerick Generating Station. The chemical was used, consistent with the conditions of your approval, and significantly facilitated the cleaning of the heat exchanger tubes.

The station has indicated that other similar plant heat exchangers may require cleaning in the near future. Therefore, we are requesting that the Betz 860 be approved for use at Limerick Generating Station on an as needed basis (similar to the approval for chemical metal cleaning of fossil-fired boilers). The expected usage rate will be the same as in our last request, 350 gallons per day. Discharge of the chemical will be to the spray pond or cooling towers. This will result in an expected concentration of the chemical at outfall 001 of less than 100 ppm. Attached are the product fact sheets, Material Safety Data Sheets, and aquatic toxicity data for the Betz 860.

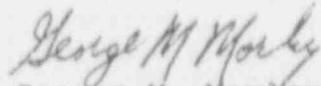
Additionally, since the Betz 860 has the tendency to precipitate at ambient temperatures, we are requesting that Betz DE-1579, a less concentrated version of the Betz 860, be approved for use. The Betz DE-1579 would be injected for the same duration as the Betz 860, however, the concentration would be approximately 2500 ppm (versus 1500 ppm for the Betz 860). The daily usage rate would be 600 gallons per day. Discharge of the Betz DE-1579 will be the same as the Betz 860 and will also result in a concentration level below 100 ppm at outfall 001. Attached are the Material Safety Data Sheets and aquatic toxicity data for the Betz DE-1579.

Since additional cleaning may be required in the near

future, we are requesting that a favorable response be received by June 29, 1992. This is consistent with the two week review time noted in your previous approval letter.

If you have any questions, please contact Robert M. Matty, Jr. at 841-5177.

Sincerely yours,

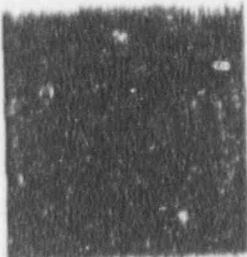


George M. Morley
Manager
Environmental Affairs

Attachments

| | | |
|-----|-------------------|-----------------|
| bcc | G. M. Leitch | w/o attachments |
| | J. M. Madara, Jr. | " " |
| | J. Doering, Jr. | " " |
| | R. W. Dubiel | " " |
| | T. J. Jackson | " " |
| | R. M. Krich | " " |
| | G. J. Madsen | " " |
| | CCD | w/attachments |

rmm/cg/06129201



product facts

Betz 860 DEPOSIT REMOVAL PRODUCT

- Excellent for removal of calcium carbonate scale from cooling water systems.
- Also effective on calcium phosphate deposits
- Can clean cooling systems of these deposits on-line eliminating production downtime.

DESCRIPTION AND USE

Betz 860 is a unique trade secreted material designed to remove calcium carbonate and/or calcium phosphate deposits from industrial and power cooling water systems. These deposits, which contribute to lost heat transfer or reduced water velocity, can be removed safely and easily, thus aiding in restoring a cooling system to its normal operating conditions.

Betz 860 may be used as a one-time supplement to normal cooling water system treatment. It is not to be used as a continuous cooling system treatment product.

TREATMENT AND FEEDING REQUIREMENTS

This product was formulated to be used in two distinct manners.

- Recirculating through a cooling water system.
- Fill and soak for large industrial and power equipment.

This product was not designed for use in industrial heat exchangers due to its caustic nature.

Dosage - Proper treatment levels of Betz 860 depend on the thickness of the calcium carbonate and/or calcium phosphate deposit and the size of the system. Feed of the product is not based on system or equipment water volume. Contact Trevoze Cooling Technical Marketing Group for specific feed information.

Feed Point - Betz 860 should be fed to the cooling tower basin if being utilized in a recirculating cooling system or to the feed or recirculation pumps if cleaning large individual pieces of equipment (i.e.; power plant condenser).

System Parameters - Betz 860 can be fed to all cooling water systems except those containing any galvanized material.

GENERAL PROPERTIES

| | |
|-------------------------------|-----------------------------|
| Appearance..... | yellow to dark brown liquid |
| Density (70 °F)..... | 9.14 pounds per gallon |
| Flash Point (closed cup)..... | >200 °F |
| Freeze Point..... | 26 °F |
| Initial Crystallization..... | 80 °F |
| pH (undiluted)..... | 1.4 |
| pH (5% solution)..... | 2.3 |
| Pour Point (ASTM)..... | 31 °F |
| Specific Gravity (70 °F)..... | 1.098 |
| Viscosity (100 °F)..... | 9.0 CPS |

SAFETY PRECAUTIONS

A Material Safety Data Sheet containing detailed information relative to this product is available upon request.

PACKAGING INFORMATION

Betz 860 is a liquid material only available in bulk shipment quantities.

1-00-92 08:39AM FROM BETZ INDUSTRIAL

IV 82712002721

PG03

BETZ LABORATORIES, INC.
4836 SOMERTON ROAD, TREVOSE, PA. 19053
BETZ MATERIAL SAFETY DATA SHEET
EMERGENCY TELEPHONE (HEALTH/ACCIDENT) 800-877-1940

PRODUCT : BETZ 860

(PAGE 1 OF 3)
EFFECTIVE DATE 02-16-91
PRINTED: 1-Mar-1991

REVISIONS TO SECTIONS: -;EDIT:APPENDIX

PRODUCT APPLICATION : CHEMICAL CLEANING COMPOUND.

-----SECTION 1-----HAZARDOUS INGREDIENTS-----
INFORMATION ON PHYSICAL HAZARDS, HEALTH HAZARDS, PEL'S AND TLV'S FOR SPECIFIC
PRODUCT INGREDIENTS AS REQUIRED BY THE OSHA HAZARD COMMUNICATIONS STANDARD IS
LISTED. REFER TO SECTION 4 (PAGE 2) FOR OUR ASSESSMENT OF THE POTENTIAL ACUTE
AND CHRONIC HAZARDS OF THIS FORMULATION.

TRADE SECRET INGREDIENT(122);NUISANCE DUST;POSSIBLE EYE IRRITANT;
PEL:NUISANCE DUST;TLV:NUISANCE DUST. TSRN 125438 - 5214P

TRADE SECRET INGREDIENT(E195);EYE IRRITANT;PEL:NONE;TLV:NONE. TSRN 125438
- 5118P

TRADE SECRET INGREDIENT(222);OXIDIZER;CORROSIVE;PULMONARY DAMAGE;DENTAL
EROSION;PEL/TLV:5MG/M3(10MG/M3-STEL). TSRN 125438 - 5238P

-----SECTION 2-----TYPICAL PHYSICAL DATA-----

PH: AS IS (APPROX.) 1.4 ODOR: ACID
ML.PT.(DEG.F): >200 P-M(CC) SP.GR.(70F)OR DENSITY: 1.098
VAPOR PRESSURE(mmHG): 18 VAPOR DENSITY(AIR=1): <1
VISC cps70F: ND %SOLUBILITY(WATER): 100
EVAP.RATE: <1 ETHER=1 APPEARANCE: YELLOW TO DARK BROWN
PHYSICAL STATE: LIQUID FREEZE POINT(DEG.F): 26

-----SECTION 3-----REACTIVITY DATA-----

STABLE.MAY REACT WITH ORGANICS OR ALKALINE MATERIALS.DO NOT
CONTAMINATE.BETZ TANK CLEAN-OUT CATEGORY 'D'

THERMAL DECOMPOSITION (DESTRUCTIVE FIRES) YIELDS ELEMENTAL OXIDES.

BETZ MATERIAL SAFETY DATA SHEET (PAGE 2 OF 3)

PRODUCT: BETZ 860

-----SECTION 4-----HEALTH HAZARD EFFECTS-----

ACUTE SKIN EFFECTS *** PRIMARY ROUTE OF EXPOSURE

SLIGHTLY IRRITATING TO THE SKIN

ACUTE EYE EFFECTS ***

SEVERE IRRITANT TO THE EYES

ACUTE RESPIRATORY EFFECTS *** PRIMARY ROUTE OF EXPOSURE

VAPORS, GASES, MISTS AND/OR AEROSOLS CAUSE IRRITATION TO UPPER RESPIRATORY TRACT

CHRONIC EFFECTS OF OVEREXPOSURE***

PROLONGED OR REPEATED EXPOSURE MAY CAUSE LUNG DAMAGE AND/OR MAY CAUSE PRIMARY IRRITANT DERMATITIS.

MEDICAL CONDITIONS AGGRAVATED *** NOT KNOWN

SYMPTOMS OF EXPOSURE ***

INHALATION MAY CAUSE IRRITATION OF RESPIRATORY TRACT; SKIN CONTACT MAY CAUSE ITCHING AND/OR REDNESS.

PRECAUTIONARY STATEMENT BASED ON TESTING RESULTS ***

MAY BE TOXIC IF ORALLY INGESTED OR INHALED.

-----SECTION 5-----FIRST AID INSTRUCTIONS-----

SKIN CONTACT***

REMOVE CONTAMINATED CLOTHING. WASH EXPOSED AREA WITH A LARGE QUANTITY OF SOAP SOLUTION OR WATER FOR 15 MINUTES

EYE CONTACT***

IMMEDIATELY FLUSH EYES WITH WATER FOR 15 MINUTES. IMMEDIATELY CONTACT A PHYSICIAN FOR ADDITIONAL TREATMENT

INHALATION EXPOSURE***

REMOVE VICTIM FROM CONTAMINATED AREA TO FRESH AIR. APPLY APPROPRIATE FIRST AID TREATMENT AS NECESSARY

INGESTION***

DO NOT FEED ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSIVE VICTIM DO NOT INDUCE VOMITING. IMMEDIATE CONTACT PHYSICIAN. DILUTE CONTENTS OF STOMACH USING 3-4 GLASSES MILK OR WATER

-----SECTION 6-----SPILL, DISPOSAL AND FIRE INSTRUCTIONS-----

SPILL INSTRUCTIONS***

VENTILATE AREA, USE SPECIFIED PROTECTIVE EQUIPMENT. CONTAIN AND ABSORB ON ABSORBENT MATERIAL. PLACE IN WASTE DISPOSAL CONTAINER. THE WASTE CHARACTERISTICS OF THE ABSORBED MATERIAL, OR ANY CONTAMINATED SOIL, SHOULD BE DETERMINED IN ACCORDANCE WITH RCRA REGULATIONS. FLUSH AREA WITH WATER. WET AREA MAY BE SLIPPERY. SPREAD SAND/GRIT.

DISPOSAL INSTRUCTIONS***

WATER CONTAMINATED WITH THIS PRODUCT MAY BE SENT TO A SANITARY SEWER TREATMENT FACILITY, IN ACCORDANCE WITH ANY LOCAL AGREEMENT, A PERMITTED WASTE TREATMENT FACILITY OR DISCHARGED UNDER A NPDES PERMIT PRODUCT (AS IS) -

INCINERATE OR BURY IN APPROVED LANDFILL

FIRE EXTINGUISHING INSTRUCTIONS***

FIREFIGHTERS SHOULD WEAR POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS (FULL FACE-PIECE TYPE). PROPER FIRE EXTINGUISHING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, FOAM OR WATER

BETZ MATERIAL SAFETY DATA SHEET (PAGE 3 OF 3)

PRODUCT: BETZ 860

-----SECTION 7-----SPECIAL PROTECTIVE EQUIPMENT-----
USE PROTECTIVE EQUIPMENT IN ACCORDANCE WITH 29CFR SECTION 1910.132-134. USE
RESPIRATORS WITHIN USE LIMITATIONS OR ELSE USE SUPPLIED AIR RESPIRATORS.
VENTILATION PROTECTION***

ADEQUATE VENTILATION TO MAINTAIN AIR CONTAMINANTS BELOW EXPOSURE LIMITS
RECOMMENDED RESPIRATORY PROTECTION***

IF VENTILATION IS INADEQUATE OR SIGNIFICANT PRODUCT EXPOSURE IS LIKELY,
USE A RESPIRATOR WITH DUST/MIST FILTERS.

RECOMMENDED SKIN PROTECTION***

RUBBER GLOVES

WASH OFF AFTER EACH USE. REPLACE AS NECESSARY

RECOMMENDED EYE PROTECTION***

SPLASH PROOF CHEMICAL GOGGLES

-----SECTION 8-----STORAGE AND HANDLING PRECAUTIONS-----
STORAGE INSTRUCTIONS***

KEEP DRUMS & PAILS CLOSED WHEN NOT IN USE.

USE APPROVED CONTAINERS ONLY. STORE IN COOL, WELL-VENTED
AREA. CONTACT WITH METALS MAY RELEASE FLAMMABLE HYDROGEN GAS.

HANDLING INSTRUCTIONS***

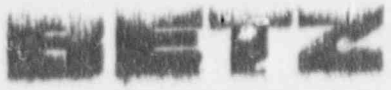
CONTAINS AN OXIDIZER. AVOID ALL CONTACT WITH REDUCING AGENTS,
OILS, GREASES, ORGANICS AND ACIDS.

THIS MSDS WAS WRITTEN TO COMPLY WITH THE OSHA HAZARD COMMUNICATION STANDARD

APPENDIX: REGULATORY INFORMATION

THE CONTENT OF THIS APPENDIX REPRESENTS INFORMATION KNOWN TO BETZ ON THE
EFFECTIVE DATE OF THIS MSDS. THIS INFORMATION IS BELIEVED TO BE ACCURATE.
ANY CHANGES IN REGULATIONS WILL RESULT IN UPDATED VERSIONS OF THIS DOCUMENT.

...TSCA: ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY
...REPORTABLE QUANTITY (RQ) FOR UNDILUTED PRODUCT:
5,466 GALLONS DUE TO (222); 9,111 GALLONS DUE TO (122)
...RCRA: IF THIS PRODUCT IS DISCARDED AS A WASTE, THE RCRA HAZARDOUS WASTE
IDENTIFICATION NUMBER IS: D002-CORROSIVE (PH, STEEL)
...DOT HAZARD/UN#/ER GUIDE# IS: CORROSIVE TO STEEL UN1760/#60
...CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) MATERIALS: NONE
...SARA SECTION 302 CHEMICALS: TRADE SECRET(222)--INORGANIC ACID ;
...SARA SECTION 313 CHEMICALS: TRADE SECRET(222)--INORGANIC ACID , 2.0-5.0% ;
...SARA SECTION 312 HAZARD CLASS: DELAYED(CHRONIC) AND FIRE
...MICHIGAN CRITICAL MATERIALS: NONE
...EPA/HMIS : HEALTH - 2 ; FIRE - 1 ; REACTIVITY - 0 ; SPECIAL - CORR ; PE - B



LABORATORIES, INC.

AQUATIC
TOXICOLOGY
LABORATORY



SOMERTON ROAD, TREVOSE, PA 19047, U.S.A. / TEL: 215-355-3300 / TELEX: 173148 / FAX # 355-2869

BETZ LABORATORIES, INC.
4636 SOMERTON ROAD, TREVOSE, PA. 19047

11/27/90 PRODUCT: BETZ 860
AQUATIC TOXICOLOGY

DAPHNIA MAGNA

0% MORTALITY: 1250 MG/L
10% MORTALITY: 1000 MG/L
(HIGHEST CONCENTRATION TESTED)
48 HR. SCR.

FATHEAT MINNOW

0% MORTALITY: 1850 MG/L
(HIGHEST CONCENTRATION TESTED)
96 HR. SCR.

TOXIC EFFECTS OF NEAT PRODUCT PRIMARILY DUE TO ACIDITY OF
PRODUCT FORMULATION. DATA SHOWN WAS GENERATED AT PH LEVELS
ADJUSTED TO THAT MOST COMMONLY ENCOUNTERED IN TREATMENT
WATERS.

BETZ LABORATORIES, INC.
4636 COMERTON ROAD, TREVISO, PA. 19047
BETZ MATERIAL SAFETY DATA SHEET
24 HOUR EMERGENCY TELEPHONE (HEALTH OR ACCIDENT) 215/355-3300

(PAGE 1 OF 3)
EFFECTIVE DATE 09-17-90
PRINTED: 24-Sep-1990

PRODUCT : BETZ DE-1579

REVISIONS TO SECTIONS: APPENDIX;EDIT:2,8

PRODUCT APPLICATION : CHEMICAL CLEANING COMPOUND.

-----SECTION 1-----HAZARDOUS INGREDIENTS-----

INFORMATION ON PHYSICAL HAZARDS, HEALTH HAZARDS, PEL'S AND TLV'S FOR SPECIFIC PRODUCT INGREDIENTS AS REQUIRED BY THE OSHA HAZARD COMMUNICATIONS STANDARD IS LISTED. REFER TO SECTION 4 (PAGE 2) FOR OUR ASSESSMENT OF THE POTENTIAL ACUTE AND CHRONIC HAZARDS OF THIS FORMULATION.

TRADE SECRET INGREDIENT(122);NUISANCE DUST;POSSIBLE EYE IRRITANT;
PEL:NUISANCE DUST;TLV:NUISANCE DUST. TSN 125438 - 5214P

TRADE SECRET INGREDIENT(E195);EYE IRRITANT;PEL:NONE;TLV:NONE. TSN 125438
- 5118P

NITRIC ACID**CAS#7697-37-2;OXIDIZER;CORROSIVE;PULMONARY DAMAGE;DENTAL
EROSION;PEL/TLV:5MG/M3(10MG/M3-STEL).

-----SECTION 2-----TYPICAL PHYSICAL DATA-----

| | | |
|--------------------------|---------------|--------------------------------|
| PH: AS IS | (APPROX.) 1.4 | ODOR: PUNGENT |
| FL.PT.(DEG.F): >200 | P-M(CC) | SP.GR.(70F)OR DENSITY: 1.070 |
| VAPOR PRESSURE(mmHG): 36 | | VAPOR DENSITY(AIR=1): <1 |
| VISC @870F: 9 | | %SOLUBILITY(WATER): 100 |
| EVAP.RATE: <1 | ETHER=1 | APPEARANCE: COLORLESS TO GREEN |
| PHYSICAL STATE: LIQUID | | FREEZE POINT(DEG.F): 27 |

-----SECTION 3-----REACTIVITY DATA-----

STABLE.MAY REACT WITH STRONG OXIDIZERS.DO NOT CONTAMINATE.BETZ TANK
CLEAN-OUT CATEGORY 'B'

THERMAL DECOMPOSITION (DESTRUCTIVE FIRES) YIELDS ELEMENTAL OXIDES.

BETZ MATERIAL SAFETY DATA SHEET (PAGE 2 OF 3)

PRODUCT: BETZ DE-1579

-----SECTION 4-----HEALTH HAZARD EFFECTS-----

ACUTE SKIN EFFECTS *** PRIMARY ROUTE OF EXPOSURE
SLIGHTLY IRRITATING TO THE SKIN

ACUTE EYE EFFECTS ***
SEVERE IRRITANT TO THE EYES

ACUTE RESPIRATORY EFFECTS *** PRIMARY ROUTE OF EXPOSURE
VAPORS, GASES, MISTS AND/OR AEROSOLS CAUSE IRRITATION TO UPPER
RESPIRATORY TRACT

CHRONIC EFFECTS OF OVEREXPOSURE***
PROLONGED OR REPEATED EXPOSURE MAY CAUSE LUNG DAMAGE AND/OR MAY CAUSE
PRIMARY IRRITANT DERMATITIS.
MEDICAL CONDITIONS AGGRAVATED ***
NOT KNOWN

SYMPTOMS OF EXPOSURE ***

INHALATION MAY CAUSE IRRITATION OF RESPIRATORY TRACT; SKIN CONTACT MAY
CAUSE ITCHING AND/OR REDNESS.

PRECAUTIONARY STATEMENT BASED ON TESTING RESULTS ***

MAY BE TOXIC IF ORALLY INGESTED OR INHALED.

-----SECTION 5-----FIRST AID INSTRUCTIONS-----

SKIN CONTACT***

REMOVE CONTAMINATED CLOTHING. WASH EXPOSED AREA WITH A LARGE QUANTITY OF
SOAP SOLUTION OR WATER FOR 15 MINUTES

EYE CONTACT***

IMMEDIATELY FLUSH EYES WITH WATER FOR 15 MINUTES IMMEDIATELY CONTACT A
PHYSICIAN FOR ADDITIONAL TREATMENT

INHALATION EXPOSURE***

REMOVE VICTIM FROM CONTAMINATED AREA TO FRESH AIR. APPLY APPROPRIATE
FIRST AID TREATMENT AS NECESSARY

INGESTION***

DO NOT FEED ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSIVE VICTIM
DO NOT INDUCE VOMITING. IMMEDIATE CONTACT PHYSICIAN. DILUTE CONTENTS OF
STOMACH USING 3-4 GLASSES MILK OR WATER

-----SECTION 6-----SPILL, DISPOSAL AND FIRE INSTRUCTIONS-----

SPILL INSTRUCTIONS***

VENTILATE AREA, USE SPECIFIED PROTECTIVE EQUIPMENT. CONTAIN AND ABSORB
ON ABSORBENT MATERIAL. PLACE IN WASTE DISPOSAL CONTAINER. THE WASTE
CHARACTERISTICS OF THE ABSORBED MATERIAL, OR ANY CONTAMINATED SOIL,
SHOULD BE DETERMINED IN ACCORDANCE WITH RCRA REGULATIONS.
FLUSH AREA WITH WATER. WET AREA MAY BE SLIPPERY. SPREAD
SAND/GRIT.

DISPOSAL INSTRUCTIONS***

WATER CONTAMINATED WITH THIS PRODUCT MAY BE SENT TO A SANITARY
SEWER TREATMENT FACILITY, IN ACCORDANCE WITH ANY LOCAL AGREEMENT, A
PERMITTED WASTE TREATMENT FACILITY OR DISCHARGED UNDER A NPDES PERMIT
PRODUCT (AS IS) -

INCINERATE OR BURY IN APPROVED LANDFILL

FIRE EXTINGUISHING INSTRUCTIONS***

FIREFIGHTERS SHOULD WEAR POSITIVE PRESSURE SELF-CONTAINED BREATHING
APPARATUS (FULL FACE-PIECE TYPE). PROPER FIRE EXTINGUISHING MEDIA:
DRY CHEMICAL, CARBON DIOXIDE, FOAM OR WATER

BETZ MATERIAL SAFETY DATA SHEET (PAGE 3 OF 3)

PRODUCT: BETZ DE-1579

-----SECTION 7-----SPECIAL PROTECTIVE EQUIPMENT-----
USE PROTECTIVE EQUIPMENT IN ACCORDANCE WITH 29CFR SECTION 1910.132-134. USE RESPIRATORS WITHIN USE LIMITATIONS OR ELSE USE SUPPLIED AIR RESPIRATORS.

VENTILATION PROTECTION***
ADEQUATE VENTILATION TO MAINTAIN AIR CONTAMINANTS BELOW EXPOSURE LIMITS

RECOMMENDED RESPIRATORY PROTECTION***
IF VENTILATION IS INADEQUATE OR SIGNIFICANT PRODUCT EXPOSURE IS LIKELY, USE A RESPIRATOR WITH DUST/MIST FILTERS.

RECOMMENDED SKIN PROTECTION***
NEOPRENE GLOVES
WASH OFF AFTER EACH USE.REPLACE AS NECESSARY

RECOMMENDED EYE PROTECTION***
SPASH PROOF CHEMICAL GOGGLES

-----SECTION 8-----STORAGE AND HANDLING PRECAUTIONS-----

STORAGE INSTRUCTIONS***
KEEP DRUMS & PAILS CLOSED WHEN NOT IN USE.
PROTECT FROM FREEZING.KEEP DRY

HANLLING INSTRUCTIONS***
CONTAINS AN OXIDIZER. AVOID ALL CONTACT WITH REDUCING AGENTS,
OILS, GREASES, ORGANICS AND ACIDS.

THIS MSDS COMPLIES WITH THE OSHA HAZARD COMMUNICATION STANDARD
HAROLD M. HERSH (ENVIRONMENTAL INFORMATION COORDINATOR)

APPENDIX: REGULATORY INFORMATION
THE CONTENT OF THIS APPENDIX REPRESENTS INFORMATION KNOWN TO BETZ ON THE EFFECTIVE DATE OF THIS MSDS. THIS INFORMATION IS BELIEVED TO BE ACCURATE. ANY CHANGES IN REGULATIONS WILL RESULT IN UPDATED VERSIONS OF THIS DOCUMENT.

- ...TSCA: ALL COMPONENTS OF THIS PRODUCT ARE LISTED IN THE TSCA INVENTORY
- ...REPORTABLE QUANTITY(RQ) FOR UNDILUTED PRODUCT:
5,611 GALLONS DUE TO NITRIC ACID;11,222 GALLONS DUE TO (122)
- ...RCRA: IF THIS PRODUCT IS DISCARDED AS A WASTE,THE RCRA HAZARDOUS WASTE IDENTIFICATION NUMBER IS: D002=CORROSIVE(PH,STEEL)
- ...DOT HAZARD/UN#/ER GUIDE# IS: CORROSIVE TO STEEL UN1760/#60
- ...THIS PRODUCT CONTAINS THESE CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR REPRODUCTIVE TOXICITY: NONE PRESENT IN SIGNIFICANT AMOUNTS
- ...SARA SECTION 302 CHEMICALS: NITRIC ACID(7697-37-2) ;
- ...SARA SECTION 313 CHEMICALS: NITRIC ACID(7697-37-2) , 2.0-5.0% ;
- ...SARA SECTION 312 HAZARD CLASS: IMMEDIATE(ACUTE),DELAYED(CHRONIC) AND FIRE
- ...MICHIGAN CRITICAL MATERIALS: NONE PRESENT IN SIGNIFICANT AMOUNTS
- NFPA/RHMS : HEALTH - 2 ; FIRE - 1 ; REACTIVITY - 0 ; SPECIAL - CCRR ; PE - B

BETZ LABORATORIES, INC.
4636 SOMERTON ROAD, TREVOSE, PA. 19047

PRODUCT: BETZ DE-1579

10/11/90 AQUATIC TOXICOLOGY

DAPHNIA MAGNA

0% MORTALITY: 1000 MG/L
48 HR. SCR.

FATHEAD MINNOW

0% MORTALITY: 1500 MG/L
96 HR. SCR.

10/11/90 MAMMALIAN TOXICOLOGY

ORAL LD50 -NO DATA

DERMAL LD50 -NO DATA

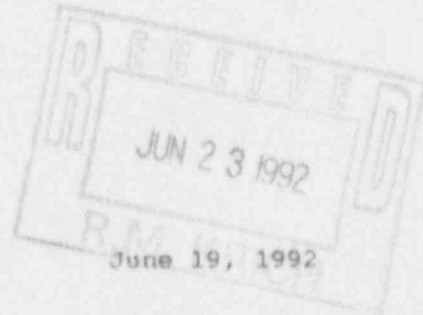
SKIN IRRITATION SCORE-NO DATA

EYE IRRITATION SCORE-NO DATA

INHALATION-NO DATA

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET
P. O. BOX 8699
PHILADELPHIA, PA 19101
(215) 841-4000



Mr. Sohan L. Garg
Department of Environmental Resources
Suite 6010, Lee Park
555 North Lane
Conshohocken, PA 19428

RE: Limerick Generating Station NPDES Permit PA0051926
Clarification on Betz ClamTrol CT-1 Usage

Dear Mr. Garg:

We are requesting that the following changes and/or clarifications be made to the approval for usage of Betz ClamTrol CT-1:

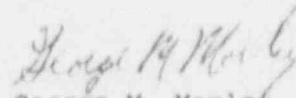
1. Your approval stated that the ClamTrol CT-1 may be used to control Asiatic Clams. Based on recent inspections, Limerick Station is very concerned with the microfouling of station cooling systems by sources other than clams. We are requesting that your approval be modified to allow for controlling of general microfouling in (addition to Asiatic Clams). Usage rates, effluent concentration and monitoring will be the same as in the original approval.
2. Use of the CT-1 was approved for a few days per year. We are requesting that the approval be on an as needed basis. Usage rates shall be within approved limits and we will use the minimum amount necessary to accomplish the intended purpose of the chemical addition.
3. Please provide us with a clarification on the allowable dosage rate from the worksheet you provided in November, 1991. The allowable dosage rate was calculated to be 86 lbs/day. Use of this chemical above 86 lbs/day would require detoxification using BETZ DTS. We are interpreting this to mean that based on our flow rates, using 86 lbs/day or less will insure that the effluent concentration at Outfall 001 will not exceed .06 mg/l average. Therefore, by maintaining this usage rate, we will not be required to use BETZ DTS or monitor the effluent for CT-1 concentration levels. Monitoring and use of DTS will only be required when we exceed the 86 lbs/day usage rate. Please inform us whether or not you concur with our interpretation and provide us with any further clarification.
4. As per previous discussions, you are aware that the CT-1 cannot be reliably detected to a limit of .06 mg/l. We are proposing that the concentration of CT-1 at Outfall 001 will be calculated to verify compliance. To do this, only one cooling tower will be treated at a time. The other cooling tower's blowdown will be available for dilution. Knowing the blowdown rates (treated and untreated) and the concentration of the treated cooling tower, the concentration of CT-1 at Outfall 001 can be calculated and controlled.

5. The daily usage rate of 1491 lbs/day in your approval was identified as a maintenance dosage based on system losses due to blowdown. To initially charge a cooling tower and establish the desired chemical concentration, a dosage of nearly double the approved amount (3000 lbs/day) is required. Monitoring, as described, will be done to insure that the level of concentration does not exceed the .06 mg/l limit at Outfall 001. Therefore, we are requesting that the approval to use CT-1 be modified to allow for a dosage of 3000 lbs/day as an initial treatment to establish the desired concentration in the cooling tower.

A response to these items is critical to Limerick Station. We do not feel that we can use the CT-1, as approved, and be in compliance with your requirements. A favorable response by July 3, 1992 would be appreciated.

If you have any questions or require additional information, please contact Robert M. Matty, Jr. at 841-5177.

Sincerely,


George M. Morley
Manager
Environmental Affairs

RMM/nae

bcc: J. M. Madera, Jr.
J. Doering, Jr.
R. W. Dubiel
T. J. Jackson
R. M. Krich
G. J. Madsen
CCD