ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9112130090 DOC.DATE: 91/12/10 NOTARIZED: NO DOCKET #
FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315
AUTH.NAME AUTHOR AFFILIATION
BAKER,D.L. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
RECIP.NAME RECIPIENT AFFILIATION
MORLEY,F. Michigan, State of

SUBJECT: NPDES noncompliance notification:on 911129,discovered that HX associated w/component cooling water sys leaking & drop in sys surge tank level occurred.Approx 5,300 gallons of water leaked from sys.HX isolated for repairs.

DISTRIBUTION CODE: IE23D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 11
TITLE: Environmental Event Report (per Tech Specs)

NOTES:

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ER

RIDS/ADDS

RIDS/ADDS

Indiana Michigan
Power Company
One Summit Square
P.O. Box 60
Fort Wayne, IN 46801
219 425 2111

AEP
INDIANA
MICHIGAN
POWER

Mr. Fred Morley, District Supervisor
Surface Water Quality Division
Michigan Department of Natural Resources
621 North 10th Street
P. O. Box 355
Plainwell, MI 49080

December 10, 1991

Dear Mr. Morley:

RE: Cook Nuclear Plant
NPDES Permit No. MI 0005827

This report is submitted in accordance with Part II, Section A.6, "Spill Notification", of the above-referenced permit. This incident was reported via the Michigan Pollution Emergency Alert System on November 30, 1991.

On November 29, it was discovered that a heat exchanger associated with the Unit 1 Component Cooling Water (CCW) System was leaking. A flow diagram illustrating the system is attached to this letter. Heat is removed from the CCW system by the Essential Service Water (ESW) System which flows through the heat exchanger to the lake.

A product containing sodium nitrite, (LCS-60), is added to the system for corrosion control. H-300, which contains glutaraldehyde, is added as a microbiocide. Material Safety Data Sheets for these products are also attached.

On November 29, 1991, a drop in the Unit 1 CCW System surge tank level occurred. Investigation revealed that a leak of approximately one gallon per minute was occurring to the ESW System. Actions were taken to minimize the leak rate to less than 0.2 gallons per minute. Plant personnel immediately began planning for the necessary repair work. At 05:44 hours on December 2, the leaking heat exchanger was isolated for repairs, thus concluding the spill event.

It is estimated that a total of 5,300 gallons of Component Cooling Water leaked from the system. At a maximum concentration of 800 ppm sodium nitrite and 60 ppm glutaraldehyde, the total number of pounds lost from the system is 35.4 pounds sodium nitrite, and 2.7 pounds of glutaraldehyde. It should be noted that no radiological release limits were exceeded during this event.

IE23
1/1

SECTION VI REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID	
	STABLE	X		Avoid high temperature (removal of water, 200°F). This product freezes at -17°C. Preferred maximum storage temperature is ~80°F.
	UNSTABLE			

INCOMPATABILITY (Materials to Avoid): Strong oxidizers. (This product can be corrosive to steel, galvanized iron, aluminum, tin, and zinc.)

HAZARDOUS DECOMPOSITION PRODUCTS: Burning can produce carbon monoxide and/or carbon dioxide.

SECTION VII SPILL OR LEAK PROCEDURES

REPORTABLE QUANTITIES (RQ) IN LBS OF EPA HAZARDOUS SUBSTANCES IN PRODUCT

1. N/A
2. _____
3. _____

NOTIFY EPA OF PRODUCT SPILLS EQUAL TO OR EXCEEDING: N/A LBS.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Dispose of in accordance with local, state and federal regulations. Dike area to contain as much spilled material as possible. Remove any remaining material by absorbing on vermiculite or other suitable absorbing material and place in a sealed container for disposal. Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

WASTE DISPOSAL METHOD

Pesticide, spray mixture, or rinsate that cannot be used or chemically processed should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supplies. This pesticide is toxic to fish. Do not discharge effluent containing this active ingredient into lakes, streams, ponds, estuaries, oceans, or public waters unless in accordance with an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of EPA.

SECTION VIII HANDLING/STORAGE

PROTECTIVE GLOVES	EYE PROTECTION
Rubber	Chemical splash goggles or face shield

OTHER PROTECTIVE CLOTHING: Rubber apron

RESPIRATORY PROTECTION: Not required, however if the recommended ACGIH TLV concentration for 1,5-Pentanedial Glutaraldehyde is exceeded, then a NIOSH/MSHA approved respirator should be used. (See Section II)

VENTILATION			OTHER
	LOCAL EXHAUST	Recommended	Use only in ventilated areas that will maintain air levels below those established by Federal, State and local regulations.
	MECHANICAL (General)	Recommended	

STORAGE & HANDLING

DANGER!
Keep out of reach of children.
Harmful if inhaled.
Harmful if absorbed through skin.
Causes eye and skin irritation.
Avoid breathing vapors.
Avoid contact with eyes, skin and clothing.
Keep container closed.
Use with adequate ventilation and wash thoroughly after handling.

OTHER PRECAUTIONS

(a) Reseal container and offer for reconditioning, or (b) Triple rinse (or equivalent) and offer for recycling, reconditioning, or disposal in approved landfill, or bury in a safe place. Consult Federal, state and local disposal authorities for approved alternative procedures.

N/A = Not applicable

PREPARED BY Patricia A. Pacella H-300 4/12/88

4. EYE IRRITATION

This product may be expected to cause irritation to the eye upon contact. Product splashed in the eye may cause severe conjunctivitis and marked corneal damage. Vapor exposure to the eye may cause stinging sensation and excess tearing but usually not injury.

B. SUBCHRONIC, CHRONIC, OTHER

No information was available regarding any adverse health effects resulting from subchronic or chronic exposure to this product.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate use of gastric lavage. Measures against circulatory shock, respiratory depression, and convulsion may be needed.

FIRST AID

A. EYE

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

B. SKIN

In case of contact, immediately wash with soap and plenty of water for at least 15 minutes. Call a physician. Remove and wash contaminated clothing before reuse.

C. INGESTION

If swallowed, drink promptly a large quantity of milk, egg whites, gelatin solution or if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.

D. INHALATION

Not Applicable

SECTION VI REACTIVITY DATA

ILITY	STABLE	X	CONDITIONS TO AVOID	Excessive heat
	UNSTABLE			

IPATABILITY (Materials to Avoid): Organics, reducing agents, ammonia and combustible substances

HAZARDOUS DECOMPOSITION PRODUCTS: NO_2

SECTION VII SPILL OR LEAK PROCEDURES

REPORTABLE QUANTITIES (RQ) IN LBS OF EPA HAZARDOUS SUBSTANCES IN PRODUCT

1. Sodium Nitrite	100	NOTIFY EPA OF PRODUCT SPILLS EQUAL TO OR EXCEEDING
2.		1,000 LBS.
3.		

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Dispose of in accordance with local, state and federal regulations. Dike area to contain as much spilled material as possible. Remove any remaining material by absorbing on vermiculite or other suitable absorbing material and place in a sealed metal container for disposal.

WASTE DISPOSAL METHOD: Dispose of in a landfill or incinerate in accordance with local, state and federal regulation.

SECTION VIII HANDLING/STORAGE

PROTECTIVE GLOVES: Butyl Rubber	EYE PROTECTION: Goggles or face shield

OTHER PROTECTIVE CLOTHING: Not Required

RESPIRATORY PROTECTION: Not Required

VENTILATION			OTHER
	LOCAL EXHAUST	Recommended	
	MECHANICAL (General)	Recommended	

STORAGE & HANDLING

Harmful if swallowed.
Possible cancer hazard based on test with laboratory animals.
Possible reproductive hazard.
Overexposure may create cancer risk.
Overexposure may cause reproductive disorders.
Overexposure may cause blood and heart damage.
Avoid contact with eyes, skin and clothing.
Avoid breathing mist.
Wear goggles, face shield when handling.
Use with adequate ventilation.
Wash thoroughly after handling.
Keep container closed when not in use.

PRECAUTIONS

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	Not flammable or combustible
EXTINGUISHING MEDIA	In case of fire use CO_2, dry chemical, foam
SPECIAL FIRE FIGHTING PROCEDURES	Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.
UNUSUAL FIRE AND EXPLOSION HAZARDS	None known.

SECTION V HEALTH HAZARD DATA

EFFECT OF OVEREXPOSURE

A. ACUTE

1. INGESTION — This product may be expected to produce severe irritation or burns of the mouth, throat, esophagus, and stomach, with abdominal pain and dizziness, faintness, weakness, circulatory shock and collapse.

2. INHALATION — This product may be expected to be harmful if inhaled.

3. DERMAL EXPOSURE

a. TOXIC — This product may be expected to be harmful if absorbed through the skin.

b. IRRITATION — This product may be expected to cause irritation upon skin contact.

c. SENSITIZATION — Repeated or prolonged dermal contact may cause skin sensitization in susceptible individuals.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	Not flammable or combustible
EXTINGUISHING MEDIA	In case of fire use CO_2, dry chemical, foam
SPECIAL FIRE FIGHTING PROCEDURES	Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.
UNUSUAL FIRE AND EXPLOSION HAZARDS	None known.

SECTION V HEALTH HAZARD DATA

EFFECT OF OVEREXPOSURE

A. ACUTE

1. INGESTION — This product may be expected to produce severe irritation or burns of the mouth, throat, esophagus, and stomach, with abdominal pain and dizziness, faintness, weakness, circulatory shock and collapse.

2. INHALATION — This product may be expected to be harmful if inhaled.

3. DERMAL EXPOSURE

a. TOXIC — This product may be expected to be harmful if absorbed through the skin.

b. IRRITATION — This product may be expected to cause irritation upon skin contact.

c. SENSITIZATION — Repeated or prolonged dermal contact may cause skin sensitization in susceptible individuals.

1179 1/85

MATERIAL SAFETY DATA SHEET

6893-12-19-86

DATE April 12, 1988

CALGON CORPORATION
SUBSIDIARY OF MERCK & CO., INC.

PRODUCT NAME H-300 Microbiocide

SECTION I

MANUFACTURER'S NAME	Calgon Corporation	EMERGENCY TELEPHONE NO.	(412) 777-8000
ADDRESS	P.O. Box 1346, Pittsburgh, Pennsylvania 15230		
CHEMICAL NAME AND SYNONYMS	Microbiocide	FORMULA	Glutaraldehyde Solution

SECTION II HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENT (S)	CAS #	% BY WEIGHT	ORAL LD_{50}	DERMAL LD_{50}	TLV (Units) ACGIH	OSHA	OTHER
Chemical Name 1,5-Pentanedial Common Name Glutaraldehyde	111-30-8	~45	239 mg/kg	2560 mg/kg	TWA - 0.2 ppm	None Available	N/A
Chemical Name Common Name					ceiling		
Chemical Name Common Name							
Chemical Name Common Name							
Chemical Name Common Name							

SECTION III PHYSICAL DATA

BOILING POINT (° F)	> 212	SPECIFIC GRAVITY (H_2O=1)	1.11 - 1.13
VAPOR PRESSURE (mmHg.)	14.7	PERCENT VOLATILE BY VOLUME (%)	~55
VAPOR DENSITY (AIR=1)	Unknown	pH	3.7 - 4.5
SOLUBILITY IN WATER	Complete	OTHER	N/A
APPEARANCE AND ODOR	Clear, liquid with aldehyde odor		

N/A = Not applicable

While this information and recommendations set forth herein are believed to be accurate as of the date hereof, CALGON CORPORATION MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

MATERIAL SAFETY DATA SHEET

DATE October 25, 1985

EXP-165-09-12-85

PRODUCT NAME LCS-60

CALGON CORPORATION
SUBSIDIARY OF MERCK & CO., INC.

SECTION I

MANUFACTURER'S NAME	Calgon Corporation	EMERGENCY TELEPHONE NO.	(412) 777-8000
ADDRESS	P. O. Box 1346, Pittsburgh, PA 15230		
CHEMICAL NAME AND SYNONYMS	Nitrite Mixture	FORMULA	Multicomponent Liquid

SECTION II HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENT (S)	CAS #	% BY WEIGHT	ORAL LD_{50}	DERMAL LD_{50}	TLV (Units) ACGIH	TLV (Units) OSHA	TLV (Units) OTHER
Chemical Name: Sodium Nitrite Common Name:	7632-00-0	10	Rat (1) 85 mg/kg		Not Regulated		
Chemical Name: Common Name:			Humans (2) LDLo 14 mg/kg				
Chemical Name: Common Name:							
Chemical Name: Common Name:							
Chemical Name: Common Name:							

(1) RTECS
(2) RTECS

SECTION III PHYSICAL DATA

BOILING POINT (° F)	Similar to Water	SPECIFIC GRAVITY (H_2O=1)	1.076
VAPOR PRESSURE (mmHg.)	Similar to Water	PERCENT VOLATILE BY VOLUME (%)	88
VAPOR DENSITY (AIR=1)	Similar to Water	pH	8 - 9
SOLUBILITY IN WATER	Complete	OTHER	
APPEARANCE AND ODOR	Pale yellow liquid		

While this information and recommendations set forth herein are believed to be accurate as of the date hereof, CALGON CORPORATION MAKES NO WARRANTY WITH RESPECT HERETO AND

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	Product is not flammable.
EXTINGUISHING MEDIA	Product is not flammable.
SPECIAL FIRE FIGHTING PROCEDURES	Exercise caution when fighting any chemical fire. Respiratory protection is essential.
UNUSUAL FIRE AND EXPLOSION HAZARDS	None

SECTION V HEALTH HAZARD DATA

EFFECT OF OVEREXPOSURE

A. ACUTE

1. INGESTION — The product would be considered harmful if swallowed. (see Section II). Symptoms of toxicity are cyanosis, headache, flushing of the skin, vomiting, dizziness and respiratory paralysis.

2. INHALATION — Although no exposure limit exists on the product, care should be taken when handling solutions of sodium nitrite. Mists may be irritating to the eyes and the respiratory tract.

3. DERMAL EXPOSURE

a. TOXIC — The product would not be considered to be toxic. Testing on a more concentrated product resulted in a LD_{50} for rabbits of > 2 g/kg.

b. IRRITATION — May produce skin irritation.

c. SENSITIZATION — Unknown.

4. EYE IRRITATION

This product may be expected to cause irritation to the eye upon contact. Product splashed in the eye may cause severe conjunctivitis and marked corneal damage. Vapor exposure to the eye may cause stinging sensation and excess tearing but usually not injury.

B. SUBCHRONIC, CHRONIC, OTHER

No information was available regarding any adverse health effects resulting from subchronic or chronic exposure to this product.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate use of gastric lavage. Measures against circulatory shock, respiratory depression, and convulsion may be needed.

FIRST AID

A. EYE

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

B. SKIN

In case of contact, immediately wash with soap and plenty of water for at least 15 minutes. Call a physician. Remove and wash contaminated clothing before reuse.

C. INGESTION

If swallowed, drink promptly a large quantity of milk, egg whites, gelatin solution or if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.

D. INHALATION

Not Applicable

MATERIAL SAFETY DATA SHEET

DATE October 25, 1985

EXP-165-09-12-85

PRODUCT NAME LCS-60

CALGON CORPORATION
SUBSIDIARY OF MERCK & CO., INC.

SECTION I

MANUFACTURER'S NAME	Calgon Corporation	EMERGENCY TELEPHONE NO.	(412) 777-8000
ADDRESS	P. O. Box 1346, Pittsburgh, PA 15230		
CHEMICAL NAME AND SYNONYMS	Nitrite Mixture	FORMULA	Multicomponent Liquid

SECTION II HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENT (S)	CAS #	% BY WEIGHT	ORAL LD_{50}	DERMAL LD_{50}	TLV (Units) ACGIH	TLV (Units) OSHA	TLV (Units) OTHER
Chemical Name: Sodium Nitrite Common Name:	7632-00-0	10	Rat (1) 85 mg/kg		Not Regulated		
Chemical Name: Common Name:			Humans (2) LDLo 14 mg/kg				
Chemical Name: Common Name:							
Chemical Name: Common Name:							
Chemical Name: Common Name:							

(1) RTECS
(2) RTECS

SECTION III PHYSICAL DATA

BOILING POINT (° F)	Similar to Water	SPECIFIC GRAVITY (H_2O=1)	1.076
VAPOR PRESSURE (mmHg)	Similar to Water	PERCENT VOLATILE BY VOLUME (%)	88
VAPOR DENSITY (AIR=1)	Similar to Water	pH	8 - 9
SOLUBILITY IN WATER	Complete	OTHER	
APPEARANCE AND ODOR	Pale yellow liquid		

While this information and recommendations set forth herein are believed to be accurate as of the

4. EYE IRRITATION

May produce eye irritation.

B. SUBCHRONIC, CHRONIC, OTHER

Chronic studies has shown the material to be carcinogenic to laboratory animals. Testing with eukaryotic and prokaryotic systems has shown the material to be mutagenic and cause reproductive effects in laboratory animals. Pregnant women may be especially sensitive to nitrite generated methemoglobinema. Prolonged exposure may result in methemoglobinemia and effects to the cardiovascular system, the lungs and lymphatic system.

FIRST AID

A. EYE — In case of contact, immediately flush with plenty of water for at least 15 minutes. Get medical attention.

B. SKIN — In case of contact, flush with plenty of water for at least 15 minutes. Get medical attention.

C. INGESTION — If swallowed, induce vomiting by giving two glasses of water and sticking finger down throat. Call a physician. Never give anything by mouth to an unconscious person.

D. INHALATION — None required.

SECTION VI REACTIVITY DATA

ILITY	STABLE	X	CONDITIONS TO AVOID	Excessive heat
	UNSTABLE			

APATABILITY (Materials to Avoid): Organics, reducing agents, ammonia and combustible substances

HAZARDOUS DECOMPOSITION PRODUCTS: NO_2

SECTION VII SPILL OR LEAK PROCEDURES

REPORTABLE QUANTITIES (RQ) IN LBS OF EPA HAZARDOUS SUBSTANCES IN PRODUCT

1. Sodium Nitrite	100	
2.		
3.		

NOTIFY EPA OF PRODUCT SPILLS EQUAL TO OR EXCEEDING 1,000 LBS.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Dispose of in accordance with local, state and federal regulations. Dike area to contain as much spilled material as possible. Remove any remaining material by absorbing on vermiculite or other suitable absorbing material and place in a sealed metal container for disposal.

WASTE DISPOSAL METHOD: Dispose of in a landfill or incinerate in accordance with local, state and federal regulation.

SECTION VIII HANDLING/STORAGE

PROTECTIVE GLOVES: Butyl Rubber	EYE PROTECTION: Goggles or face shield

OTHER PROTECTIVE CLOTHING: Not Required

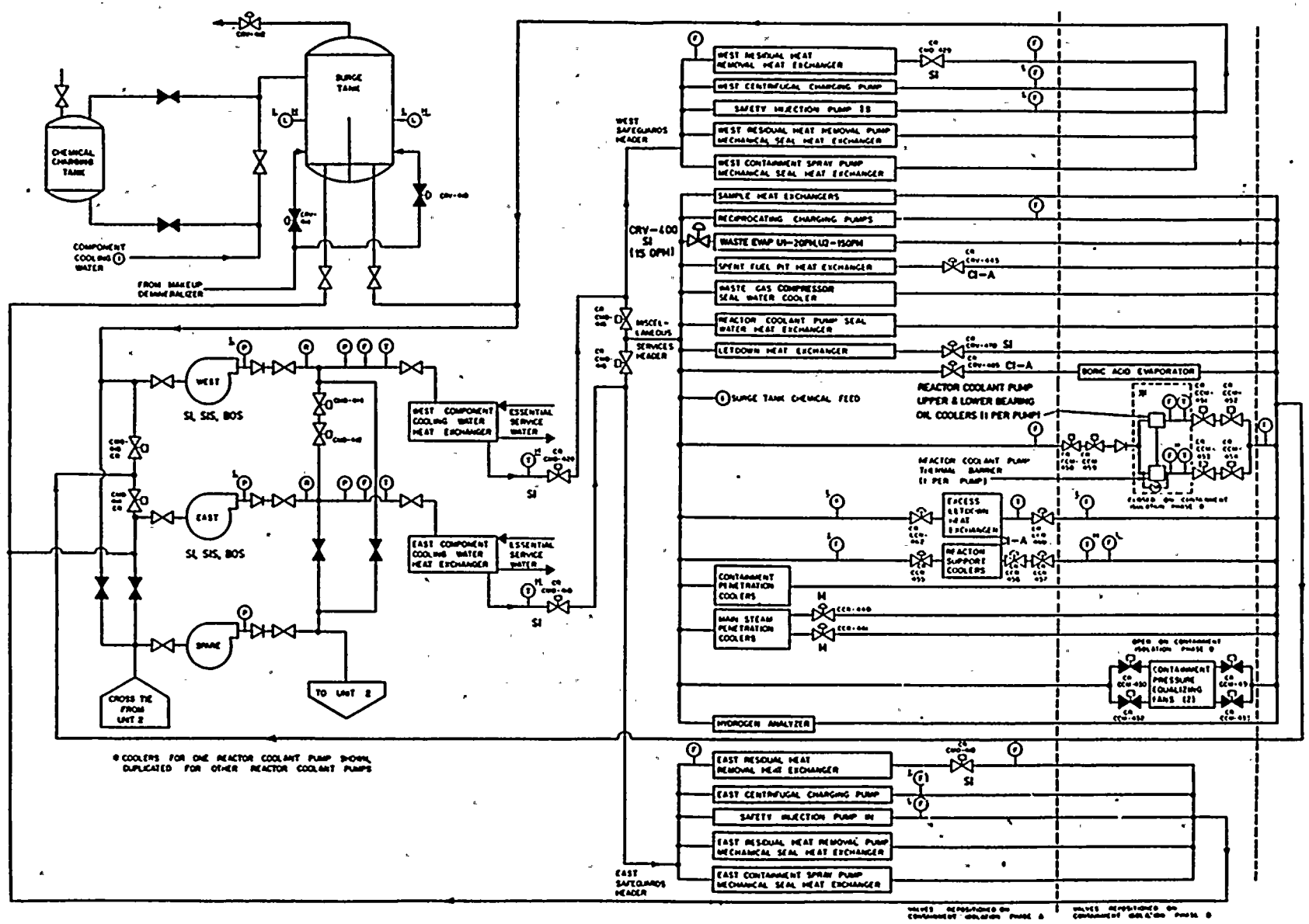
RESPIRATORY PROTECTION: Not Required

VENTILATION			OTHER
	LOCAL EXHAUST	Recommended	
	MECHANICAL (General)	Recommended	

STORAGE & HANDLING

Harmful if swallowed.
Possible cancer hazard based on test with laboratory animals.
Possible reproductive hazard.
Overexposure may create cancer risk.
Overexposure may cause reproductive disorders.
Overexposure may cause blood and heart damage.
Avoid contact with eyes, skin and clothing.
Avoid breathing mist.
Wear goggles, face shield when handling.
Use with adequate ventilation.
Wash thoroughly after handling.
Keep container closed when not in use.

PRECAUTIONS



COMPONENT COOLING WATER SYSTEM DIAGRAM

TS-C-892B
SL-5
Rev. 0
FOR TRAINING USE ONLY