

CHEMICAL EXPOSURE INDEX AUDIT

CHLOR-ALKALI II

LOUISIANA DIVISION

JULY 1992

REFERENCE #5

QUESTION #6, #7, #24,
#26

Bob Bartholomew
July 1992

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ARMS AND COMMUNICATIONS:

EMERGENCY HORN - USED TO COMMUNICATE IMMEDIATE EMERGENCY CONDITIONS AND
OR EVACUATION OF CRAFT PERSONNEL.

D.C. LIGHTING IN THE CONTROL ROOM AND MOTOR CONTROL SYSTEM.

TWO SPRINKLER SYSTEMS (LOCATED OVER C-201 & B) MANUALLY ACTIVATED FROM
THE CONTROL ROOM.

TWELVE DELUGE GUNS, STRATEGICALLY LOCATED.

ONE PORTABLE 150# FIRE EXTINGUISHER.

FOUR 2 BOTTLE AND ONE 6 BOTTLE FRESH AIR BREATHING APPARATUS IN C-201.

TWO FRESH AIR BREATHING LINES AND MASKS ON RECOIL IN THE CONTROL ROOM.

ELEVEN SCOTT AIR PACS LOCATED IN THE CONTROL ROOM BUILDING.

TWO SCOTT AIR PACS LOCATED IN BLOCK 35 WAREHOUSE.

1. FORTY-TWO 5-MINUTE ESCAPE PACKS LOCATED THROUGHOUT THE PLANT.
2. TWENTY-FOUR FULL FACE MASK CANISTERS LOCATED IN THE CONTROL ROOM BUILDING.
3. EIGHTY-EIGHT HAND-HELD FIRE EXTINGUISHERS LOCATED THROUGHOUT THE PLANT.
4. TEN ELECTRICAL FLASHSUITS LOCATED IN THE MOTOR CONTROL CENTER.
5. STEAM SUFFLING SYSTEMS FOR GAS TURBINE TUNNEL OIL FIRES.
6. SAFETY SHOWERS WITH ALARM SYSTEM IN THE CONTROL ROOM IDENTIFYING LOCATION.
7. BUSBLESS TRANSFER SYSTEM (U.P.S.) FOR SUPPLYING POWER TO THE TDC AND
MDC PROCESS CONTROL COMPUTERS.
8. TWO D.C. BATTERY BANKS FOR SUPPLYING POWER TO THE U.P.S. SYSTEM AND
CRITICAL EQUIPMENT.
9. BUILDING HOUSING ABSORBENT PADS, BOOMER OIL SCRB.
10. TWO SANDBAG STORAGE BOXES FOR EMERGENCY USE.

ALL UNINVOLVED COW OPERATIONS PERSONNEL WILL REPORT TO THE CONTROL ROOM FOR INSTRUCTIONS.

AN ANNOUNCEMENT SHOULD BE MADE AT ONCE REGARDING THE EMERGENCY.

A OPERATIONS PERSON SHOULD BE ASSIGNED TO MONITOR THE PLANT HEATING SYSTEM.

THE INSTRUMENT SUPERVISOR (JAMES TURNER) WILL REPORT TO THE CONTROL ROOM FOR POSSIBLE ASSISTANCE.

ALL BURNING, WELDING, SMOKING AND OTHER POTENTIAL IGNITION SOURCES WILL BE EXTINGUISHED.

BLOCK CRAFT PERSONNEL WILL EVACUATE THE BLOCK AND ASSEMBLE AT BLOCK OR WAREHOUSE OR DESIGNATED AREA.

EVACUATION:

THE PLANT WILL BE EVACUATED ON INSTRUCTIONS FROM ANY OF THE FOLLOWING:

THE EMERGENCY COORDINATOR OR PLANT SECURITY IN A DIVISION-WIDE EMERGENCY OR RELEASE FROM AN ADJACENT AREA.

THE CHLOR-ALKALI PRODUCTION MANAGER - TIM ALSTIN.

THE CHLOR-ALKALI 11 PLANT SUPERINTENDENT OR HIS SUBSTITUTE, OR THE SHIFT SUPERVISOR ON DUTY.

UNLESS SPECIFIED OTHERWISE, ALL PERSONNEL WILL BE EVACUATED EXCEPT THE SHIFT ON DUTY, THE PLANT SUPERINTENDENT, AND THOSE PEOPLE SPECIFICALLY DESIGNATED AT THE TIME OF THE EMERGENCY TO ASSIST IN EMERGENCY PROCEDURES.

PERSONNEL EVACUATION RESPONSIBILITIES:

BLOCK SUPERVISION WILL BE RESPONSIBLE FOR CARRYING OUT EVACUATION OF PERSONNEL.

DURING DAY WORKING HOURS:

1. THE CRAFT SUPERVISOR, GARY ROBILLARD, WITH THE ASSISTANCE OF THE BLOCK FOREMAN, MIKE LANEY, WILL ACCOUNT FOR AND DIRECT THE MOVEMENT OF MAINTENANCE PERSONNEL ON THE ROADWAYS. INDUSTRIAL CRAFT FIRMEN SHOULD REPORT THEIR WORKERS ACCOUNTED FOR TO THE CONTRACT SUPERVISOR OR FOREMAN.

2. THE TRAINING COORDINATOR (DONNIE LANDRY) WITH THE CELL CREW LEADER (STEVE ARMSTRONG) AS BACKUP, WILL ACCOUNT FOR AND DIRECT THE EVACUATION OF:

1. SECRETARIES
2. LAB TECHNICIAN
3. COMPUTER APPLICATIONS PERSONNEL
4. CELL CREW

PLANT SHUTDOWN WILL BE EXECUTED ON INSTRUCTIONS FROM THE FOLLOWING:

- THE EMERGENCY COORDINATOR OR PLANT SECURITY IN A DIVISION-WIDE EMERGENCY.
- CHLOR-ALCALI PRODUCTION MANAGER.
- CHLOR-ALCALI II PLANT SUPERINTENDENT OR HIS SUBSTITUTE.
- THE SHIFT SUPERVISOR ON DUTY.

ON COMPLETION OF THE SHUTDOWN, THE REMAINING PERSONNEL MAY BE EVACUATED DEPENDING ON THE NATURE OF THE EMERGENCY. THE SUPERINTENDENT, SHIFT SUPERVISOR, AND TWO S.O.S.'S WILL REMAIN EXCEPT WHEN SEVERE DANGERS EXIST.

PROCEDURES:

- 1. DE-ENERGIZE GENERATORS.
- 2. TRIP GAS TURBINES
- 3. ENSURE ADEQUATE INSTRUMENT AIR PRESSURE
- 4. ENERGIZE C-101 DUMP SCRUBBER
- 5. TRIP CHLORINE COMPRESSOR
- 6. ACTIVATE E201'S
- 7. TRIP C-50.
- 8. SHUTDOWN F-310'S AND F-312
- 9. SHUT IN 100% STEAM
- 10. IF TIME AND CONDITIONS PERMIT- PROCEED WITH AN ORDERED PLANT SHUTDOWN.
- 11. DURING ANY TYPE OF EMERGENCY, AN S.O.S. OF SHIFT ILL ASSUME THE COOLING SYSTEM OPERATIONS WITH PRIMARY FUNCTIONS BEING:
 - A. OPERATION OF THE ECOLOGY CONTROL BOARD.
 - B. SCRUBBER SYSTEM OPERATION AND MONITORING.
 - C. EFFLUENT COLLECTION, ROUTING AND TREATMENT.

POWER FAILURES:

CHLOR-ALCALI II HAS SEVEN (7) ELECTRICAL FEEDERS ENTERING THE PLANT. A FAILURE OF ANY OF THE FEEDERS WILL RESULT IN A PLANT UPSET. HOWEVER, THE MOST CRITICAL FAILURE WOULD BE A LOSS OF H-1B AND THE LOSS OF H-10. IN SUCH AN EVENT:

- 1. EVACUATE PLANT PERSONNEL.
- 2. ACCOUNT FOR, AND/OR EVACUATE, NON-ESSENTIAL DOW PERSONNEL.
- 3. REPORT ANY CHEMICAL RELEASES TO PLANT SECURITY ON X033.
- 4. ASSURE THE OPERATION OF THE CHLORINE DUMP SCRUBBER.
- 5. CONFIRM THE OPERATION OF THE EFFLUENT RECOVERY SYSTEM.
- 6. STABILIZE PLANT CONDITION.
- 7. COMMUNICATE WITH THE DIVISION POWER PLANT IN FAILURE.
- 8. NOTIFY SUPERVISION.

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HYDROGEN EXHAUSTION IN THE CH 11 PLANT. IF, FOR SOME REASON, A PROPYLENE OXIDE
CLOUD OCCURRED AND DID MOVE INTO THE CH 11 PLANT, IT WOULD BE
PERATIVE TO SHUT OFF ALL IGNITION SOURCES IMMEDIATELY. PROPYLENE OXIDE
EXTREMELY FLAMMABLE AND EXPLOSIVE.

THE SHIFT SUPERVISOR WILL ASSESS THE SITUATION AND MAKE A JUDGEMENT
AS TO THE DURATION AND CONCENTRATION EXPOSURE TO CHLOR-ALKALI.

- A. NON-ESSENTIAL PERSONNEL MAY BE EVACUATED AND PLANT OPERATION
CONTINUED WITH SAFETY PRECAUTIONS AND EQUIPMENT.
- B. IF GAS TURBINE INTAKES ARE AFFECTED- TURBINES WILL BE SHUT DOWN
PARTIAL PLANT OPERATIONS WILL CONTINUE.
- C. TOTAL PLANT SHUTDOWN.

FIRE:

FIRE SHOULD BE REPORTED TO THE CONTROL ROOM, GIVING LOCATION AND SEVERITY.

AT THIS TIME, WITHOUT DELAY, ACTION SHOULD BE TAKEN. IF FIRE CAN BE HANDLED
WITH BLOCK PERSONNEL, IT SHOULD BE. HOWEVER, IF IT CANNOT, X333 SHOULD
BE DIALLED, GIVING ALL NECESSARY INFORMATION.

HYDROGEN FIRES

- A. STACK FIRE - CAN BE EXTINGUISHED BY SWITCHING STACKS
PROCEDURE SHOULD BE FOLLOWED CAREFULLY.
- B. HYDROGEN HEADERS - CALL FIRE PROTECTION FOR ASSISTANCE. IF FIRE
CANNOT BE EXTINGUISHED WITH A WATER HOSE OR FIRE EXTINGUISHER
OUT LINES TO DOKA AND ADD NITROGEN TO HYDROGEN LINE.

ELECTRICAL FIRES

IN MOST CASES, ELECTRICAL FIRES MAY BE EXTINGUISHED BY OPENING DISASSEMBLY
SWITCHES TO ISOLATE, THEN USE FIRE EXTINGUISHERS. USE CO2 EXTINGUISHERS
FIRST AND DRY CHEMICAL IF CO2 IS NOT AVAILABLE. CO2 IS PREFERRED OVER DRY
CHEMICAL, SINCE THE DRY CHEMICAL LEAVES A POWDER RESIDUE THAT WILL REQUIRE
EXTENSIVE CLEANING.

OIL FIRES

OIL FIRES ARE MORE LIKELY TO GET STARTED AROUND THE GAS TURBINE AREAS.
THE TURBINES RUN AT VERY HIGH TEMPERATURES AND SMALL LEAKS DO OCCUR.
TEMPERATURE MONITORING DEVICES ARE INSTALLED IN THE EXHAUST END OF BOTH
G.T.'S AND ARE INDICATED IN THE CONTROL ROOM. IN ADDITION, FIXED DRY
CHEMICAL EXTINGUISHERS ARE LOCATED IN THIS AREA FOR QUICK AND EFFECTIVE
FIRE FIGHTING CAPABILITIES. 15# STEAM IS PIPED INTO GAS TURBINE TUNNELS
FOR EXTINGUISHING OIL FIRES.

IF FIRES ARE OF A SMALL, CONTAINED NATURE, DRY CHEMICAL WILL EXTINGUISH
THEM EASILY. HOWEVER, IF THE FIRE IS LARGE, FIRE FIGHTING EQUIPMENT OR
FOAM APPLICATION MAY BE NECESSARY.

BUILDING FIRES:

1. EVACUATE THE BUILDING OF STAFF PERSONNEL.
2. NOTIFY PLANT SECURITY ON X333.
3. CONTROL ROOM OPERATORS ARE TO PREPARE TO OPERATE WITH BREATHING AIR.

THE PURPOSE OF THIS PROCEDURE IS TO KEEP PEOPLE FROM WORKING WHERE LATCH
CAPES ARE NOT POSSIBLE WHILE CONDITIONS ARE FAVORABLE FOR TORNADOES.

TORNADO WATCH

TORNADO WATCH MEANS CONDITIONS ARE FAVORABLE FOR TORNADOES. WHEN UNDER
THESE CONDITIONS, ALL JOBS NEED TO BE EVALUATED TO MAKE SURE NO ONE IS IN A
POSITION TO BE TRAPPED SOMEWHERE IN THE PLANT WITHOUT A CHANCE TO ESCAPE.
SOME EXAMPLES ARE AS FOLLOWS:

1. NO WORK IS ALLOWED ON PIPERACKS
2. NO WORK IS ALLOWED ON SCAFFOLDS OVER 10 FEET TALL
3. ALL VESSEL ENTRIES WILL BE CANCELLED UNTIL WATCH IS OVER

ALSO, AN ANNOUNCEMENT SHOULD BE MADE IN THE PLANT OF THE CONDITIONS.
EVERYONE SHOULD BE FAMILIAR WITH THE SAFETY LOCATIONS LOCATED THROUGHOUT
THE PLANT.

TORNADO WARNING

A TORNADO WARNING MEANS TORNADOES HAVE BEEN SPOTTED IN THE AREA. WHEN
UNDER THESE CONDITIONS, ALL WORK IS TO STOP AND EVERYONE IS TO REPORT
INSIDE IMMEDIATELY. NO ONE IS TO GO OUTSIDE UNLESS IT IS ABSOLUTELY
NECESSARY.

18. THREATS:

REFER TO DIVISION EMERGENCY PLAN MANUAL, SECTION "E".

LOCATION OF CRITICAL BLOCK VALVES:

ALL CRITICAL BLOCK VALVES FOR CHEMICALS ENTERING AND LEAVING THE PLANT
THROUGH PIPELINES ARE PAINTED INTERNATIONAL ORANGE AND LABELED AS TO
THE CONTENTS. MOST OF THESE VALVES ARE LOCATED IN BLOCK LIMIT PIPELINES.
THESE VALVES ARE ALL SHOWN ON ONE OF THE ATTACHED PLOT PLANS.

FOLLOWING THE OCCURRENCE OF ANY EMERGENCY, PLANT SUPERVISION WILL INSPECT
TO REPORT ANY DAMAGE PRIOR TO START-UP.

ENTERED: 12/10/90

BY: CL

CHLOR-ALKALI II EMERGENCY RESPONSE FOR A TANK SPILL

EMERGENCY RESPONSE FOR A TANK SPILL IN THE CAUSTIC AREA AND/OR STORAGE TANK AREA

PROBLEMS/HAZARDS

ENVIRONMENTAL CONTAMINATION

1. NO EXISTING DIXES TO CONTAIN SPILL
2. OUTER PERIMETER DITCHES BYPASS PERMITTED OUTFALL

PROPERTY DAMAGE

HAZARD - CHEMICAL EXPOSURE - PERSONNEL EXPOSURE SINCE AREAS ARE WELL
TRAVELLED.

DEFINITIONS

CAUSTIC SPILL - A TANK FAILURE IN WHICH THE CONTENTS ARE ABLE TO FLOW OUT
AND ARE NOT BEING RESTRICTED. THIS TANK IS SPILL ONLY DURING START-UP

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