

LOSS PREVENTION

LOSS PREVENTION

PLANT: Chlorine I

BUILDING: 2601

REVIEW DATE & TIME: July 31, 1991 8:00 a.m.

LOSS PREVENTION TEAM:

SUPERINTENDENT: Joe Muller

LOSS PREVENTION: Buck Bailey

SAFETY ENGINEER: Barry Guillory

TECHNOLOGY CENTER: Chlor-Alkali

DEPARTMENT PERSONNEL:

SECTION MANAGER: -----

MAJOR MANAGER: W. T. Austin

(To be completed by the Superintendent.)

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V. LOSS PREVENTION**A. ELECTRICAL SYSTEMS**

References: Minimum Requirements, National Electric Code, LPP

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1. Is the electrical area classification plot plan up to date?
(LPP 3.1) Yes ☐ No ☒

Plans: Hydrogen stacks north of Cell Area and T-99E should
be classified.

2. For classified areas: Are electrical enclosures properly
assembled, all doors closed, bolts in place and tight, conduit
seals in place and intact? (National Electric Code)

Yes ☒ No ☐

3. Are there any instances where the electrical installation is in
conflict with the electrical classification plot plan? Please
explain your plans to comply with the electrical code.

No.

4. Does your plant have dual incoming feeders?

Yes ☒ No ☐

5. What has been the plant experience during automatic electrical
feeder transfers?

Large motors connected to the faulted feeder would not restart.

One chlorine train would be shutdown.

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6. Are there any cable trays routed through flammable areas?
Yes ☒ No ☐

Hydrogen Collection Area.

7. Do you have fire protection on any of your cable trays?
Yes ☐ No ☒
-

8. Considering possible unit fire exposures, are cable wall penetrations appropriately sealed with approved fire stops? (Urethane is not an approved fire stop.) Yes ☒ No ☐

If not, plans: _____

Dow Corning Fire Stop Product is used.

9. Are grounds in place and tests up to date?

Yes ☒ No ☐

If not, plans: _____

Tested by Dashell Corp. Report is attached.

10. Has your plant participated in the Division electrical audit within the past four (4) years? Yes ☒ No ☐

In-progress now.

PLEASE CONTACT CHARLIE PETERS TO BE SCHEDULED.

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B. FIRE PROTECTION

Reference: Minimum Requirements

11. Are your extinguishers up to date and in good condition?
Yes ☒ No ☐

12. Are they properly located (i.e. offices, MCC, switchgear rooms)?
Yes ☒ No ☐

13. Are the size and type of extinguishers appropriate to the anticipated fire---for example, a "C" rated extinguisher where electrical fires could be expected? Yes ☒ No ☐

14. Do office areas, MCC's, switchgear rooms, computer rooms, and unoccupied buildings have smoke detectors alarming in a 24-hr/day occupied area? (LPP 9.4 and 9.5)

List Unprotected Areas:

Office building, warehouse & shops.

15. How often are smoke detectors checked? (LPP 10.13) Annually
Who performs these checks? Fire Department
If you have these records, show example.

16. How is your structural steel protected from a spill fire?
(LPP 10.10) Fire protection is not required.

17. Is fire proofing well maintained? (LPP 10.10)
Yes ☐ No ☐ NA ☒

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18. What is your fire proofing system and would you recommend it?

N/A

19. Is there an inspection program? N/A Yes ☐ No ☐

20. Are gas AND spill detectors adequately maintained (LPP 9.9.6) and tested monthly? (LPP 10.13) Yes ☐ No ☐ NA ☒

21. Would you recommend your gas detector system to others? Yes ☐ No ☐ NA ☒

If so, what brand are you using and what are you trying to detect?

22. Does the gas detector system trip area sprinkler systems?

N/A

Yes ☐ No ☐

What would be required to implement this?

23. Do you maintain foam within your area to fight fires?

Yes ☐ No ☒

List process areas: Foam is maintained by Fire Department

to cover liquid chlorine spills.

24. Do you have adequate fire monitors and fixed sprinkler systems to protect all flammable areas?

Yes, two fire monitors in Hydrogen Collection Area and

Sprinkler Systems for Dry Compressors.

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25. Do you have a plant program to routinely exercise fire monitors? Yes ☒ No ☐

Monthly by Operations and semi-annually by Fire Department.

26. Have your employees participated in fire extinguisher training? Yes ☒ No ☐

When? Entire Plant in 1982. In the process of re-training now.

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DELUGE & SPRINKLER SYSTEMS

References: Minimum Requirements Engineering Spec 47-102

S Y S T E M S

	EXAMPLE	1	2	3	4	5	6
Adequate access to valves during an emergency	yes	YES	YES				
Explosion or traffic exposure to valve	no	NO	NO				
Explosion or traffic exposure to piping	no	NO	NO				
Fire Department tag in place	yes	YES	YES				
Is the valve insulated per Engineering Spec 47-102?	yes	NO	NO				
Is the system adequately drained of water?	yes	YES	N/A				
Is the pilot system adequately drained of condensate?	yes	N/A	N/A				
Is remote dump switch labeled?	yes	YES	N/A				
Date of most recent 2" drain test	1/18/85	N/A	N/A				
Static pressure in recent drain test (psig)	92	N/A	NO				
Flowing pressure in recent drain test (psig)	90	N/A	NO				
Design flow (gpm) 32 NOZZLES @ 28 GPM	2123	896	NO				
Design pressure at deluge valve inlet (psig)	11	N/A	NO				
Date of last flow test	10/12/86	7/90	NO				
Were there plugged heads/corrected	yes/yes	NO /	NO /	/	/	/	/
Are any pilot heads painted	no	NO	NO				
Is there any missing or damaged pipe	no	NO	NO				
Are chemicals in the area lighter than water	no	YES	YES				

1 = C-52/62 Sprinklers
2 = Deluge Guns

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Use another page if you have more than six systems.

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C. FIRED EQUIPMENT

IF YOU DO NOT HAVE FIRED EQUIPMENT, CHECK BOX AND LEAVE THE REST OF SECTION C BLANK. NA ☒

References: Minimum Requirements, LPP 13

23. Has your unit had any Burner Management System (BMS) safety incidents in the last three (3) years?

Yes ☐ No ☐

Be prepared to discuss the incidents and corrective actions taken at the time of the audit.

24. Is the separation of fired equipment from the process in compliance with LPP 2.2? Yes ☐ No ☐

If not, what protective features are used to address less than recommended distances?

25. Does your fired equipment adhere to LPP 13?

Yes ☐ No ☐

If not, be prepared to discuss exceptions at the time of the audit.

26. Provide a copy of your startup and relight procedures for your fired equipment.

27. List the conditions that will result in the auto shutdown of the fired unit.

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28. List the type (THROX, TOX, boiler, fired heater, furnace, etc.) and number of each.

29. Have you had a burner management system audit?

Yes ☐ No ☐

When?

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D. CRITICAL INSTRUMENTS

References: Minimum Requirements, LPP 15.5

30. Have your critical and important instruments been identified?

Yes ☒ No ☐ NA ☐

If yes, how many are there? 99

31. Have test procedures been written?

Yes ☒ No ☐ NA ☐

Is your testing up to date?

Yes ☒ No ☐ NA ☐

Is testing documented?

Yes ☒ No ☐ NA ☐

(IBM Critical Instrument System)

32. Do you test from the initiating device through the final control element?

Yes ☒ No ☐ NA ☐

33. Do you have a process control computer?

Yes ☒ No ☐ NA ☐

What kind do you have? Honeywell TDC 2000, Dow Mod5

What would happen if you lost power to your computer?

Both systems have battery backup.

34. What controls do you have in place to prevent bypassing critical instruments?

Mod5 System alarms when Critical Instrument is bypassed. Operating

discipline is used on other control systems.

35. Do all automatic valves fail safe?

Yes ☒ No ☐

36. Do you have documentation of how control systems are supposed to operate, including set point limits?

IPT contains control descriptions for most equipment. Yes ☒ No ☐

37. Have you had an in-depth review of the English language program within the past two (2) years? Yes ☐ No ☒

All Mod5 English language is reviewed at installation.

38. Have you had an in-depth computer hardware review within the past two (2) years? Yes ☐ No ☒

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E. EMERGENCY BLOCK VALVES

39. Are all incoming and outgoing headers handling flammable or toxic materials fitted with remotely operated EBV's at the battery limits? Yes ☐ No ☒ NA ☐

List the exceptions: Chlorine User Lines and Hydrogen

Line to Power I have no EBV's.

40. Are all vessels with greater than 5000 gallons of liquified flammable gasses or the equivalent amount of vapor fitted with remotely operated EBV's? Yes ☐ No ☐ NA ☒

List the exceptions: _____

41. Are vessels with greater than 20,000 gallons of liquid at or above its flashpoint fitted with remotely operated EBV's? Yes ☐ No ☐ NA ☒

List the exceptions: _____

42. Are there remotely operated EBV's on the lines to and from loading and unloading stations when hazardous materials are being handled? Yes ☒ No ☐ NA ☐

List the exceptions: _____

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43. Are all EBV's "fail safe" for all utility interruptions?

Yes ☒ No ☐ NA ☐

List the exceptions: _____

44. If the valve is in a fire exposure area, is it "fire safe"?

Yes ☐ No ☒ NA ☐

List the exceptions: Hydrogen Collection valves are not fire
safe.

Are Gaskets "fire safe"? No.

45. Describe the preventive maintenance and testing program for the EBV's.

All EBV's are tested monthly by Operations. All EBV's are
tested semiannually by Instrument Group as part of Critical
Instrument Program.

46. Do all critical unit operations handling flammable or toxic material have EBV'S?

Yes ☒ No ☐

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Reference: LPP 2.4

47. Does sprinkler system operation cause flooding?

Yes ☐ No ☒

If so, where? _____

48. Are all sewers trapped to prevent vapor backup?

Yes ☐ No ☐ N/AWhat is needed?

49. Are tanks with liquid flashpoints less than 140° F diked or impounded? (LPP 7.6)

Yes ☐ No ☐ NA ☒

In the event of a spill, would the liquid be impounded next to the tank?

Yes ☐ No ☐

Is this risk acceptable?

Yes ☐ No ☐ N/A [x]

50. Are dike walls liquid-tight? (LPP 7.6)

Yes ☒ No ☐

Are they tested?

Yes ☐ No ☒

51. Is area drainage generally directed away from the process equipment?

Yes ☒ No ☐If no, indicate flammable drainage areas. _____

52. Do any trenches/ditches back up in the plant during heavy rainfall?

Yes ☒ No ☐Locations: East-West Trench near C-40 Compressors

53. Does your plant have secondary containment?

Yes ☒ No ☐

If so, are there written procedures covering their operation,

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especially during emergencies?

Yes ☐ No ☐

54. What is your plan for disposing of rain water? _____

Rain water is discharged from East/West Trench. This trench
is environmentally monitored.

Is it written?

Yes ☐ No ☐

Spill Prevention Control & Counter-measure Plan Attached.

55. Do you have a plan for handling spilled materials?

Yes ☐ No ☐

G. EMERGENCY PLAN

References: Minimum Requirements

56. Are copies of your unit emergency plan available to all personnel? Yes ☐ No ☐

Available on process computer and bound hard copy.

57. Are copies up to date? Yes ☐ No ☐

Last update: 9/90

58. Who updates the plan? Production Supervisor

Frequency: Annually

59. Does the plan include: (If not, be prepared to discuss why)

•Emergency call list? Yes ☐ No ☐ NA ☐

Computer Version only.

•Emergency equipment plot plan (such as SCBA, deluge, CO2, fire monitors, hose cabinets, etc.) Yes ☐ No ☐ NA ☐

•Emergency equipment operating procedures for above equipment? Yes ☐ No ☐ NA ☒

•Procedure for switching to alternate for each utility? Yes ☐ No ☐

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- Procedure for total loss for each utility? Yes ☒ No ☐
Brine, Power, Air and River Water
- Crash shutdown procedure? Yes ☒ No ☐
(time required: _____)
Procedure for total loss of rectifier power
- Orderly shutdown procedure? Yes ☒ No ☐
(time required: _____)
- Procedures in case of neighbor plant problems?
Shift Supervisor will direct evacuation if needed. Yes ☒ No ☐ NA ☐
- Procedure for loss of raw materials? Yes ☒ No ☐ NA ☐
Brine & Power
- Gas release procedure? Yes ☒ No ☐ NA ☐
60. Does the plan include: (If not, be prepared to discuss why)
(continued)
- Spill procedure? Yes ☒ No ☐ NA ☐
- Fire fighting plans for each type of fire? Yes ☐ No ☒
NA ☐ Hydrogen Fires are covered, but chlorine/iron, chlorine/titanium, and oil fires are not covered.
- Emergency communications plan? Yes ☒ No ☐ NA ☐
- Chain of command defined? Yes ☒ No ☐ NA ☐
61. Is there a documented emergency plan training & retraining program? *UPDATING EMERGENCY PLANS & TRAINING BY 1/92* Yes ☒ No ☐
62. Is training up to date and documented for all employees? *TRAINING UP TO DATE BUT DOCUMENTATION NOT CURRENT* Yes ☒ No ☐
63. How often are hypothetical drills conducted?
Monthly
64. Do you meet with Emergency Services and discuss fire fighting plans and hazards for your plan periodically?
When access routes will be blocked for an extended period of time. Yes ☒ No ☐ NA ☐

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65. Are vital records protected from loss (such as PC data, MOD V programs, training programs, business information)?

Computer backup.

Yes ☒ No ☐

66. Do you have emergency drills involving neighboring plants?

Annual drill is announced to allow neighboring plants to respond.

Yes ☒ No ☐

67. Are contractors adequately trained in what to do in an emergency?

All contractors are safety indoctrinated. Chlorine and Caustic Safe Handling Training.

Yes ☒ No ☐

H. STORAGE TANKS

68. Have all tanks been visually inspected within the last year?

Yes ☒ No ☐ NA ☐

69. Are tanks in the pressure vessel program?

NA ☐

Yes ☒ No ☐

70. Are NDT tests up to date?

Yes ☒ No ☐ NA ☐

71. Are all storage vessels electrically grounded?

Yes ☒ No ☐

72. Have grounds been checked within the past five years?

See Question 9 documentation.

Yes ☒ No ☐

73. Do tanks have a system to protect against overpressure and vacuum (e.g. pad system, PVRV)?

PSV's

Yes ☒ No ☐ NA ☐

74. Do you have tanks that have pad/depad systems to maintain inert atmospheres or to maintain positive pressures?

Yes ☒ No ☐

If yes, do you prevent the pressure from the pad system from exceeding the design pressure rating of the tank?

Yes ☒ No ☐

How? Nitrogen source is regulated below vessel design pressure.

Tanks have pressure indication and safety valves.

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75. What type of material is used for inerting? Carbon dioxide
in cell catholyte compartment while off-line, nitrogen for
Hydrogen Systems and HCl tank.
76. Are your storage tanks in the original service for which they
were intended? Yes ☒ No ☐
Exceptions: T37, T45, T13
77. What is the recommended type storage tank for that service
today? These tanks are adequate for their service.
78. Have your vessels been checked to see if their protective
devices are adequate for the service (e.g. fill/empty rates, fire
exposure, etc.)? At installation. Yes ☒ No ☐
New PSV survey to be completed in 1992.
79. Are your tanks protected with redundant level indicating
devices to prevent spills? Yes ☒ No ☐
80. Are automatic shut off devices operated from these devices?
T45 Inlet EBV Yes ☒ No ☐
81. For unstable chemicals, is temperature monitored and
alarmed? Yes ☒ No ☐ NA ☐
If not, what parameters of storage are monitored?
List _____

82. Are your PRV's, PVRV's, ERV's, etc., positioned correctly on
your tanks to ensure that should the tank be over-filled, the
liquid can escape through the protective device without
over-pressuring the tank from hydraulic head?
Yes ☐ No ☐ NA ☒
List exceptions: No PRV's, PVRV's, ERV's in Plant.

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83. What preventive maintenance exists for tank protective systems (i.e., levels, temperature, pad/depads, PVRV's, ERV, and flame arrestors)?

Critical Instrument maintenance and safety valve maintenance.

84. Are spill detectors utilized in tank farm areas?

Yes ☐ No ☐ Na ☒

I. BUILDING LOCATIONS & FIRE RISK

References: Minimum Requirements, LPP 2.2 & 12.2

85. Do buildings and process structures meet the minimum separation distances as required by the F&EI?

Yes ☐ No ☒

Two conflicts

86. For high occupancy buildings in your plant (offices, control rooms, shops), what category building does your process dictate?

Category A - for proximity to Hydrogen Collection.

87. Do your buildings meet their appropriate categories?

Yes ☒ No ☐

Exceptions: _____

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88. Are buildings of non-combustible construction?

Yes ☒ No ☐

Exceptions: Internal construction is not non-combustible.

89. Do you have any control rooms inside a Division 2 (semi-hazardous) electrical area? Yes ☐ No ☒

If so, describe the air supply system - how it is monitored, and emergency procedures regarding flammable and/or toxic releases. _____

90. List major fire divisions.

Cell Area, Hydrogen Collection, Brine Treating, Chlorine Drying

Trains, Purification, Liquefaction, Evaporators, Offices, 480V

MCC/UPS

91. Are penetrations of fire wall protected? Yes ☒ No ☐

Dow Corning Fire Stop is used.

92. Are fire doors operated and fusible link systems tested for closing? No Fire Doors in Block. Yes ☐ No ☒

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OPERATING DISCIPLINE

References: Minimum Requirements

75. List the components of your Operating Discipline: _____
Formal In-Plant Training Program (IPT)

76. Who has primary responsibility for the plant's operating discipline?
IPT is maintained by full-time O.S. level employee.
77. How is the written portion of the operating discipline program handled? IPT is a vax-based system with access from anywhere in the
Division.
78. Is that material up-to-date? Yes ☒ No ☐
79. How complete is the operating discipline? 15 areas complete out of
22. See attached.
80. How and by whom is operating discipline used? IPT is used to train
new Operations' employees and to update experienced employees.
81. Are your P&IDs up to date? Yes ☐ No ☒
How do you keep them up to date? Yes ☐ No ☐
The plant is in the process of updating all P&ID's. Project to be
completed in 1992.

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J. WAREHOUSE STORAGE

References: Minimum Requirement, LPP 12.4.

93. Are warehouse spaces protected with a fire protection system?

Yes ☒ No ☐

94. List the type system for each area.

Fire Extinguishers only.

95. Are pallets stored within the warehouse?

Yes ☐ No ☒

96. Are pallet stacks less than eight (8) feet in height?

Yes ☒ No ☐

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97. Where does sprinkler and fire fighting water drain?

Plant drain system

98. List types of fork trucks. Gasoline

99. Where is fuel storage for the fork truck located? _____

Near front office in diked area.

**K. PRESSURE VESSELS/RELIEF DEVICES/GLASS DEVICES/
EXPANSION JOINTS**

References: Minimum Requirements, LPP 6.5, 6.9,

100. Are all pressure vessels registered? Yes ☒ No ☐

If no, how many are not? _____

101. Are there design calculations on all pressure vessels?

Yes ☐ No ☒

102. If the two items above are lacking, do you have a formal plan
and schedule to accomplish? Yes ☒ No ☐

Timing? 1996

103. Do file folder(s) on each pressure vessel have the registration
form, calculations, inspection and status change reports, spec
sheets, record prints, U-1 forms, mill tests, and visual
inspections?

Yes ☐ No ☒

List exceptions: Calculations and spec sheets are not available
for all vessels.

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Status of Plant Pressure Relief Valve Program

104. Has responsibility for execution of PSV program been specifically assigned? Yes ☒ No ☐

105. Are all PSV's registered? Yes ☒ No ☐

106. Are design calculations on all PSV's done? Yes ☐ No ☒

If no, number incomplete? _____

Schedule for completion? Survey complete in 1992.

107. Is there a file folder for each PSV with registration form, design calculations, specifications, and piping isometric sketch?

Registration form only. Yes ☐ No ☒

108. Provide the current status printout on pressure vessels and safety valves. See attached.

Glass Devices

109. Have all glass devices been registered? Yes ☐ No ☒

Exceptions: See attached list.

110. Are glass devices adequately guarded? Yes ☒ No ☐

111. Are required inspections, maintenance, evaluation, and record-keeping done? Yes ☒ No ☐

Expansion Joints

112. Does the plant utilize expansion joints in potentially hazardous applications? Yes ☒
No ☐

P-47 suction - HCl service

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Yes ☐ No ☒

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Yes ☐ No ☐

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L. CRITICAL EQUIPMENT

115. Have you identified your critical equipment?

Yes ☒ No ☐

List: Attached.

116. Does the list include items such as large and/or unusual motors, transformers, foreign and/or domestic equipment requiring long deliveries?

Yes ☒

No ☐

117. Do you have adequate spare parts to minimize downtime (business interruption)?

Yes ☒ No ☐

118. Are spares/spare parts stored in a controlled environment?

Yes ☒ No ☐

Location: Warehouse

119. Are shafts rotated periodically?

Yes ☒ No ☐

Frequently: Monthly

120. Do you have adequate monitoring/protection devices for your identified critical equipment?

Yes ☒ No ☐

121. Do you have an ongoing preventative maintenance program?

Yes ☒ No ☐

122. List types of high loss potential rotating equipment.

Chlorine, Freon, Hydrogen Compressors, Liquid Chlorine Pumps,

and Air Compressors.

123. Do you have vibration monitors?

Yes ☒ No ☐

If yes, what type? Bentley Nevada, IRD

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124. What is the plant practice to shut down on high vibration?

Decision is based on shift supervisor judgement and advice from
Maintenance Tech.

125. Do you have speed control?

Yes ☒ No ☐

If yes, what type? P-260 steam turbines have self contained
speed governor.

126. What is your control system on rotating equipment? _____

TDC, Mod5, Pneumatic

127. Do you have redundant controls on rotating equipment?

Redundant pressure control and surge control Yes ☒ No ☐
valves on C-100. C-52/62 discharge pressure.

128. What are your alarms and shutdowns on rotating equipment?

Vibration alarm, temperature alarms and trips, oil pressure and
temperature trip. Motor amps trip.

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M. FLAMMABLE MIXTURES/COMBUSTIBLE DUSTS

129. Are flammable materials processed in open, freely ventilated structures? Yes ☐ No ☒ Partly ☐

130. Are flammable materials stored in your plant? Yes ☒ No ☐
Fuel only.

131. Are flammables loaded/unloaded in your plant? Yes ☒ No ☐
Fuel only.

132. How do you prevent flammable mixtures in the vapor space of process tanks, storage tanks, rail cars, tank trucks, etc.?
Tail gas system monitored for hydrogen/chlorine explosive mixture.
Nitrogen purging in hydrogen equipment and HCl tanks.

133. How do you prevent the events in the above question from happening, or know if they do happen?
Inert purging and process analyzers.

134. Do you monitor system pressure and/or oxygen content in low positive pressure applications? Yes ☒ No ☐
Hydrogen Processing Train

135. Do you have a flare system in your unit? Yes ☐ No ☒ NA ☐
•If yes, how do you prevent backflashes in the system?

•How do you maintain a non-flammable mixture within the flare header?

•How old is your flare tip?

•Has it ever been inspected? Yes ☐ No ☐

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•Is your flare tip on any kind of maintenance schedule?

Yes ☐ No ☐ 17

Describe: _____

•How do you insure that you have a flame? _____

136. Has a study or program taken place to install protective or preventive devices? Yes ☐ No ☐ N/A [x]

137. Have reactive chemical tests been run on various dust mixtures? Yes ☐ No ☐ N/A [x]

138. Does the plant have guidelines and programs addressing static electricity? Yes ☐ No ☐ N/A [x]

139. Are regular checks made for electrical continuity in dust handling systems? Yes ☐ No ☐ N/A [x]

140. Are there plant rules not allowing an accumulation of dust to build up on structural beams, surface of equipment, etc.? Yes ☐ No ☐ N/A [x]

Describe: _____

141. Where dusts exist, have alternate methods of handling or isolation been considered? Yes ☐ No ☐ N/A [x]

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N. CONTROL OF PROCESS CHANGE/SAFETY & LOSS PREVENTION REVIEWS

142. Do you have a formal system in place to control Process Change? Yes ☒ No ☐

If yes, please describe. Project Reviews. Management of Change

Safety Standard implementation in progress.

143. How do you insure that the proper reviews are completed on any Process Change? Utilizing standard checklists and

documenting results.

144. Does your department review projects for Safety & Loss Prevention concerns at each phase? Yes ☒ No ☐

Who is involved? Manufacturing Representative, Plant Superintendent, S&LP depending on project size and scope.

145. Have you done a Hazard and Operability Study (HAZOP) on your process or process changes? Yes ☐ No ☒

146. Do you have plans to do a HAZOP? Yes ☐ No ☒

147. Are pre-start up audits done on all new projects?

Yes ☒ No ☐

Provide examples if appropriate.

Attached.

148. Do you have a way to be certain that the proper materials of construction are used in maintenance of new projects?

Material Controller is our checkpoint. Yes ☒ No ☐

149. Do you have a list of proper gaskets for your plant?

Plant Pipe Specifications Yes ☒ No ☐

150. Do you have cast iron in process service? Yes ☒ No ☐

Hydrogen liquid ring compressors

151. Do you avoid the use of cast iron? Yes ☒ No ☐

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- C. Critical equipment availability.
- D. Total replacement value of plant.

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VI. APPENDIX A

LOSS PREVENTION RESOURCE MATERIALS

Minimum Requirements

Minimum Requirements for S&LP

June 1989

Guidelines

Guidelines for Safety, Loss Prevention & Security Audits	November 1989
Guidelines for Emergency Planning	September 1985
Guidelines for a Motor Vehicle Accident Prevention Program	September 1989
Guidelines for Accident Investigation	November 1985
Fire & Explosion Index, 6th Edition	May 1987
Guidelines for Warehouse Rating	March 1980
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Guidelines for Determining Dust Hazard Potential	October 1989
Guidelines for a Reactive Chemicals Program, 2nd Ed.	January 1987
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Loss Prevention Principles

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Others

Louisiana Division Reactive Chemicals Manual	March 1990
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