

LOSS PREVENTION AUDIT

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Mechanical Integrity

FIRE PROTECTION SYSTEMS

REFERENCES: Minimum Requirements

- C 1. Yes ☒ No ☐ Do you have fire monitors and/or fixed sprinkler systems to protect flammable areas?

Plans: The hazardous waste storage area does not have a fire monitor/sprinkler system. Fire extinguishers are in this area. Fire protection deemed unneeded in 1992.

- A 2. Yes ☒ No ☐ NA ☐ Do you have a plant program to routinely exercise/test fire monitors and fixed sprinkler systems?

Plans: Fire monitors and C-201-A sprinkler are checked monthly by operations (valves stroked).

- A 3. Yes ☒ No ☐ Is your extinguisher inspection and testing up-to-date?

Plans: Tested annually - last date: 11-28-93.

- B 4. Yes ☒ No ☐ 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 ☐ Are they properly located (i.e., office, MCC, switchgear rooms)?

Plans: _____

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- A 5. Yes ☒ No ☐ NA ☐ Have your employees participated in annual fire extinguisher training?

Last Training Date: December, 1993 (annual training).

Plans: Hands-on (3-year training) to be completed by end of 1994.

- B 6. Yes ☐ No ☒ Do you have hose cabinets?
Yes ☐ No ☒ If yes, are employees trained on their use?
Yes ☐ No ☒ Is there a Preventative Maintenance Program on the hoses?
Yes ☐ No ☒ Are the hose cabinets necessary?

Date of last hose test: _____

- C 7. Yes ☐ No ☒ Do office areas, MCC's, switchgear, computer rooms and unoccupied buildings have smoke detectors alarming in a 24-hour/day occupied area? (LPP 9.1 and 9.2)

Plans: Only computer room has smoke and temperature detectors.

Looking at putting smoke detectors in shop, MCC's and 3601.

- A 8. Yes ☒ No ☐ Are checks of smoke detectors made routinely and documented? (LPP 10.13)

Plans: Annual checks performed by Security - last test: 5-27-94.

- C 9. How is your structural steel protected from a spill fire? (LPP 10.10)

Plans: CA II has no fireproofing on structural steel. Basically, CA II has only two flammable materials: Hydrogen, produced in the chlorine cell area and compressed in Hydrogen Recovery. Also, hydrogen is used as cooling medium in two generators and supply is from a tube trailer. The other flammable is fuel gas, used for combustion in gas turbines (no storage). In these areas fireproofing is not existent, however, these areas are within reach of fire monitors.

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B 10. Yes ☐ No ☐ NA ☒ Is fire proofing well maintained? (LPP 10.10.7)

Yes ☐ No ☐ Is there an inspection program?

Date of Last Inspection? _____

Plans: _____

B 11. Yes ☒ No ☐ NA ☐ Is pipe insulation on hot lines (i.e.: 150# steam or DOWTHERM*) in good condition to prevent a chemical leak from entering the insulation and auto-igniting? (LPP 10.12.4)

Plans: Continued routine maintenance.

A 12. Yes ☒ No ☐ NA ☐ Are gas AND spill detectors adequately maintained (LPP 9.9.6) and tested routinely? (LPP 10.13) Provide Documentation.

Plans: Chlorine gas detectors.

B 13. Yes ☐ No ☒ Do you maintain foam within your area to fight fires? (LPP 5.8)

If yes, what kind of foam is used and when was the material last tested?

N/A

Contact the Fire Department for the above information.

Plans: The Division fire department maintains foam.

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B -- DELUGE & SPRINKLER SYSTEMS

REFERENCE: Fire Protection Manual -- The intent of this page is to assure that fire protection systems are properly maintained. Your Loss Prevention contact can assist with filling this out.

	EXAMPLE	1	2	3
Adequate access to valves during an emergency?	Yes	Yes		
Explosion or traffic exposure to valve?	No	No		
Explosion or traffic exposure to piping?	No	No		
Is the valve freeze protected?	Yes	No		
Is the system adequately drained of water?	Yes	Yes		
Is the pilot system adequately drained of condensate?	Yes	N/A		
Is remote dump switch labeled on deluge systems?	Yes	Yes		
Date of most recent 2" drain test?	1/18/85	9-6-94		
Static pressure in recent drain test (psig)?	92	N/A		
Flowing pressure in recent drain test (psig)?	90	N/A		
Design flow (gpm)?	2123	*Manual		
Design pressure at deluge valve inlet (psig)?	11	N/A		
Date of last flow test?	10/12/86	9-6-94		
Were there plugged heads/corrected?	Yes/Yes	N / N/A	/	/
Are any pilot heads painted?	No	N/A		
Is there any missing or damaged pipe?	No	No		

* Never Calculated.

NOTE: CA II does not have a deluge system.

Use another page if you have more than three systems.

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(Revised 02/18/94; cmk)

3/28/95; LAD:bwb

Monitor Gun and Hydrant Flush Log for 1994

Block	Jan - Jun	Jul - Dec
5 Tank Farm	03/94	
6 Tank Farm	03/94	
8 Poly A	02/94	
9 Poly B	02/94	
15 Glycol I	02/94	10/94
16 Solvents	02/94	
17 EDC I	02/94	
19 CPE	02/94	
25 R & D	02/94	
26 Chlorine	02/94	
28 Power I	03/94	10/94
35 ENVIRONMENTAL	02/94	
36 CA II	03/94	10/94
37 Power II	03/94	10/94
41 Tank Car & Bldg	03/94	10/94
48 LHC II	03/94	

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Sprinkler Valve Inspection and Maintenance

Block 36 CA II

Serial # AIR OPERATOR

PSI 0

Valve Size 2

Gals Per Min M

Vent Size 0

of Circuits 0

System 1 West Compressor

Air Line Restrictions 0

08-11-93

AIR OPERATOR, INSPECTED, PULLED NOZZLES .
FLUSHED SYSTEM

09-06-94

AIR OPERATOR, INSPECTED, PULLED NOZZLES .
FLUSHED SYSTEM

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Sprinkler Valve Inspection and Maintenance

Block 36 CA II

Serial # AIR OPERATOR PSI 0
Valve Size 2 Gals Per Min M
Vent Size 0 # of Circuits 0
Air Line Restrictions 0

System 2 East Compressor

08-11-93	AIR OPERATOR, INSPECTED AND PULLED NOZZLES FLUSHED SYSTEM
	AIR OPERATOR, PULLED NOZZLES AND FLUSHED SYSTEM
09-06-94	AIR OPERATOR, INSPECTED AND PULLED NOZZLES FLUSHED SYSTEM
	AIR OPERATOR, PULLED NOZZLES AND FLUSHED SYSTEM

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CHLOR-ALKALAI # 2 FIRE EXTINGUISHER REPORT

11/28/93 SERVICED BY: DOOLEY TACKABERRY

17	10# FORAY
48	15# CO2
22	20# DC
1	75# CO2
6	9# HALON
1	HALON 1301 SYSTEM
1	150# DC

STA NO	TYPE	LOCATION	HST	COMMENTS
		AREA 100 OFFICE BLDG & SHOP AREA		
100	9# HALON	ENTRANCE TO COMPUTER ROOM IN HALLWAY		
101	10# FORAY	OUTSIDE OF OFFICE #14		
102	9# HALON	ENTRANCE TO COMPUTER ROOM		
103	15# CO2	CONTROL ROOM S DOOR		
104	9# HALON	CONTROL ROOM E WALL		
105	10# FORAY	PERMIT OFFICE		
106	15# CO2	NW DOOR CONTROL ROOM		
107	15# CO2	W EXIT OF LAB OUTSIDE		
109	15# CO2	W WALL 480 SWITCH GEAR		
110	9# HALON	TDC FILE ROOM		
111	10# FORAY	S WALL NEW LUNCH ROOM		
112	10# FORAY	W WALL CHANGE ROOM		
113	15# CO2	S DOOR INST. SHOP		
114 [2]	20# DC	S DOOR INST. SHOP		
115	15# CO2	N DOOR OF SHOP		
116	20# DC	N DOOR OF SHOP		
119	15# CO2	I-BEAM IN SHOP AREA		
120	15# CO2	ELECT MAINT SHOP DOOR		
123 (3 EA)	20# DC	FIRE WATCH ONLY - STATION		
124 (3 EA)	15# CO2	FIRE WATCH ONLY - STATION		
125	10# FOEAY	NW IN HALL BY DOOR		
126	10# FORAY	S OF SECRETARY'S OFFICE		
127	10# FORAY	S OF CONF. ROOM		
		AREA 200 LIQUIFACTION & BRINE AREA		

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201	20# DC	SE CORNER DRUM STORAGE AREA		
202	20# DC	NE CORNER DRUM STORAGE AREA		
203	15# CO2	N OF T-35		
204	15# CO2	FREON COMPRESSOR		
205	15# CO2	S OF T-101B		
206	20# DC	W OF D-213		
207	20# DC	S OF SUMP 2 IN PIPEWAY		
208	20# DC	CL2 COMPRESSOR DECK S		
209	15# CO2	CL2 COMPRESSOR DECK N		
210	15# CO2	SE OF CL2 COMP IN PIPEWAY		
211	15# CO2	TOP OF D-101 A & B MIXERS		
		AREA 300 CELL AREA		
301	15# CO2	E END S6 & S7 PLATFORM		
302	15# CO2	WALKWAY BETWEEN SERIES S		
305	15# CO2	WALKWAY BETWEEN SERIES N		
306 (2)	15# CO2	E END S2 & S3 PLATFORM ONE EACH PLATFORM		
307	75# CO2	BETWEEN RECTIFIERS 1 & 2		
		AREA 400 HYDROGEN AREA		
401	20# DC	N OF D 601		
402	20# DC	S OF P 603		
403	20# DC	E OF ARU 601		
404	15# CO2	HYDROGEN RECOVERY MCC 201		
405	20# DC	W OF WP-800		
		AREA 500 POWER AREA		
501	20# DC	N END WALKWAY GT 2 DECK		
502	20# DC	WALKWAY FRONT OF GT 2 DECK		
503	15# CO2	WALKWAY FRONT OF GT 2 DECK		
504	20# DC	WALKWAY FRONT OF GT 1 DECK		
505	15# CO2	WALKWAY FRONT OF GT 1 DECK		
506	15# CO2	S END WALKWAY GT 1 DECK		
508	150# DC	GROUND LEVEL BETWEEN GT 1 & 2		
509	20# DC	BETWEEN AWC-2 & HRU-2		
510	15# CO2	S OF AWC-2		
511	20# DC	BETWEEN AWC-1 & HRU-1		
512	20# DC	S OF AWC-1		
513	15# CO2	E WALL 2400 KV MCC 106		
514	15# CO2	S WALL 2400 KV MCC 106		
515	15# CO2	S END TOP OF CT-401		
516	15# CO2	N END TOP OF CT-401		
518	15# CO2	MCC 109 S OF CT-401		
519	15# CO2	NE OF D-401		

520	15# CO2	MCC - W OF BLDG 3702		
521	15# CO2	MCC - W OF BLDG 3702		
		AREA 600 CAUSTIC AREA		
601	15# CO2	NW E-301		
602	15# CO2	NW OF E-303		
603	15# CO2	S OF EV-303		
604	15# CO2	S OF T-301		
605	15# CO2	W OF D-305		
606	15# CO2	E OF E-404		
607	15# CO2	E OF P-323		
609	15# CO2	N OF S-301		
610	15# CO2	E OF D-302		
611	15# CO2	EV-303 UPPER LEVEL		
612	15# CO2	SW CORNER IRON REMOVAL DECK		
613	15# CO2	W OF CF-350 UPPER LEVEL		
614	15# CO2	W OF T-301		
615	20# DC	S OF ARU-301		
		MISCELLANEOUS EQUIPMENT		
701	10# FORAY	FORKLIFT		
702	10# FORAY	FORKLIFT C-8		
703	10# FORAY	STEVEDORE		
		800 AREA - CA II WAREHOUSE BLOCK 35		
801	9# HALON	E WALL OFFICE AREA		
802	9# HALON	W WALL OFFICE AREA		
803	9# HALON	LUNCH ROOM		
804	10# FORAY	W DOOR WHSE		
805	15# CO2	ELECTRICAL ROOM SW CORNER		
806	10# FORAY	SW DOOR WHSE		
807	10# FORAY	SE DOOR WHSE		
808	10# FORAY	CENTER OF WHSE		
809	10# FORAY	E DOOR OF WHSE		
810	10# FORAY	DATSUN - FORKLIFT		

***** END OF REPORT *****

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Bourgeois & Associates, Inc.
Station 1 - Box 10157
Houma, Louisiana 70363

Houma (504) 851-0881
Telefax (504) 851-0888
Baton Rouge (504) 924-1073

- SALES
- DESIGN
- SERVICE
- INSTALLATION

INVOICE

INVOICE DATE

INVOICE NUMBER

5/27/94

15438

PLEASE REMIT TO

Bourgeois & Associates, Inc.
Station 1 - Box 10157
Houma, Louisiana 70363
FED. I.D. NO. 72-1017064

SOLD
TO

Invoice Section
Dow Chemical USA
PO Box 2047
Midland MI 48641-2047

VENDOR # 9108622

CUSTOMER ORDER NO.		ORDERED BY		Louisiana Contractors License Number 19331	SLM <i>RLG</i>
LA5-1033 1781761		M. Neames		JOB 94-5001	Bourgeois
CHARGE TO		TAXABLE _____ %	RESALE PERMIT NO.	☐ PARTIAL	CUSTOMER NO.
CA II		____ YES ____ X NO		☒ COMPLETE	
TAX EXEMPT NO		DATE SHIPPED	SHIP VIA	F.O.B.	TERMS
6004121-003W/DP		5/25/94	☐ PREPAID Our Del. ☐ COLLECT	Jobsite	Net 30 Days
QUANTITY	UNIT	DESCRIPTION		UNIT PRICE	AMOUNT
4	Hrs	Systems Technician and equipment to perform annual inspection of fire detection system as per attached service ticket		32.50	130.00
				SUB-TOTAL	130.00
				FREIGHT	
				TAX	
				TOTAL INVOICE AMOUNT DUE	130.00

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Thank You

170 Thompson Road
Station 1 - Box 10157
Houma, Louisiana 70363

**FIRE
SUPPRESSION
SYSTEMS
ASSOCIATION**

License Number 19331

(504) 851-0881
FAX (504) 851-0888

PHONE	353-8808	DATE OF ORDER	5-25-94
ORDER TAKEN BY		CUSTOMER'S ORDER NUMBER	1781761
☒ DAY WORK ☐ CONTRACT ☐ EXTRA			
JOB NAME/NUMBER		445001 CATH Block 36	
JOB LOCATION		Bldg 3601	
JOB PHONE		STARTING DATE	
		5-25-94	

TERMS:

QTY.	MATERIAL	PRICE	AMOUNT	DESCRIPTION OF WORK
>	Function Test			Perform Annual maintenance of Inspection ON Firefight
(1)	624 Panel			624 Detection System & Kiddie Water 1301 System.
(2)	Detecting			
(3)	Buss.			
(4)	Kiddie Room Pump Station			
(5)	Kiddie 120VDC Control Panel.			
(6)	Washroom Water Cycle Checked w/2			Cross.
(7)	Checked Roof, Nozzle, 5' Piping & Room Integrity.			OTHER CHARGES
(8)	Alarm to Contact Room.			
All Test Performed				TOTAL OTHER
per Manufacturers Recommendations				LABOR HRS. RATE AMOUNT
				B. Landry 2 32.50 65 00
				E0000365
				D. Pellegrini 2 32.9 65 00
				A 0000352
				TOTAL LABOR 130 01
DATE COMPLETED	TOTAL MATERIALS			TOTAL MATERIALS

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Thank You

Work ordered by

Signature

I hereby acknowledge the satisfactory completion of the above described work

Bourgeois & Associates, Inc.
Engineered Fire Protection Systems

**RECORD OF FIRE SUPPRESSION
CYLINDER WEIGHT**

Station 1-Box 10157

Houma, Louisiana 70363

CUSTOMER Dow Chemical

JOB NO: 94-5001

HALON ☒ CO-2 ☐ OTHER ☐

AREA OR BUILDING CH Bldg 3601

DATE: 5-25-94

MANUFACTURER	CYLINDER SIZE	EMPTY WEIGHT (LB.)	FILL WEIGHT (LB.)	GROSS WEIGHT (LB.)	LAST TEST DATE	DOT NO.	SERIAL NUMBER	TEMP. °F	PRESS. PSI
<u>Kidder</u>	<u>40</u>	<u>68</u>	<u>106</u>	<u>37</u>	<u>2-92</u>	<u>3A2045</u>	<u>27035-EC</u>	<u>70</u>	<u>600</u>
<u>Kidder</u>	<u>40</u>	<u>68</u>	<u>106</u>	<u>37</u>	<u>2-92</u>	<u>3A205</u>	<u>26768-EC</u>	<u>70</u>	<u>600</u>

TECHNICIAN B. Landry

ACCEPTED (SIGNATURE) [Signature]

INSE NO. 50000365

PRINT _____

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MBB/BM
10-24-94

ONLINE MONITOR CHECKSHEET

LOCATION	CHANNEL NO.	HIGH PPM (SPIKE)	CALIBRATE	
			"0" PPM OUTPUT	"5.5" PPM
T-2L OH				
T-505 OH				
T-250 - 309				
T-250 - 319				
W Corner Block	1		2032	2246
est of Haz. Waste	2		2062	2166
est of Cell Area	3		2059	2296
est of Lid.	4		2056	2166
est of D-301	5	CHANGED PPM	2060	2576
W Corner Block	6		2043	2114
outh of D-316B	7	CHANGED CONNECTIONS	2057	2213
orth of S-1	8		2055	2329
E Corner CT-401	9		2048	2195
E Corner near Outfall	10		2056	2192
E of S-2	11		2042	2115
E Corner Block	12		2060	2229
E Corner CT-401	13	CHANGED CONNECTIONS	2060	2400
outh of E-312	14		2060	2152
outh of T-505	15		2057	2395
orth of C-320	16		2053	2276
elow Turbine Deck	17		2064	2382
orth of Sump 1	18		2060	2374
orth of E-404	19		2055	2205
E of S-101	20		2061	2176
W Corner Pur.	21		2025	2084
outside Lab	22		2053	2320
orth of D-301	23		2062	2171
outh of Inst. Shop	24		2066	2209
st Scrubber Deck-NE Corner	25		2062	2318
ast side H2 Recovery	26		2044	2144
	27		-	-
OUTFALL	28		2058	2274
	29			
	30			
	31			
	32			

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