TO: H. R. Jepsen, Jr. FROM: C. S. Cumming

LOCATED AT: Leominster, Ma.

SUBJECT: Monthly Report October, 1977 DATE: November 8, 1977

HIGHLIGHTS:

1. On October 17, 1977, C. Cumming tendered his resignation effective November 15, 1977.
2. Contracts were approved to replace portions and make major repairs to the Polyco alarm and sprinkler systems. Work will commence in November.
3. Acceptance tests were performed on the new diesel fire pumps by the contractor, insurance carrier, and safety departments. The Leominster Fire Department was invited to attend as observers.
4. Operation of the new fire pumps resulted in an overpressure and failure of an underground water main on October 21, 1977. The break was isolated with no fire protection impairment and repairs were completed on October 25, 1977.
5. Industrial Risk Insurers conducted a periodic inspection of the site October 17-21, 1977. A number of formal recommendations were deleted from their list as a result of the extensive work performed in the last few months.
6. Lost Time Injury - October 1, 1977. Sherman Streeter was knocked to the ground by a contractor's supervisor after a steam line ruptured in the new pump house. Sherman sustained a fractured hip and will be out of work for several months.

VINYL CHLORIDE CONTROL:

1. Monitoring Summaries (Personnel)

A. Monthly Monitoring Tests

1.	Personnel on Regulated Roster	188
2.	Personnel Tested	182
3.	Personnel Tests	189
4.	Invalid Tests	13
5.	Repeat Tests	23
6.	Area Tests	5
7.	Total Tests	230

B. Monthly Average by General Job Categories

1.	PVC Operators	1.5
2.	PVC Helpers	2.2
3.	Dryer Bldg.	1.2
4.	PVC Supv. & Eng.	1.2
5.	Polyco	0.9
6.	Shipping	0.3
7.	Maintenance	1.1
8.	Development	1.8
9.	Oper. & Admin.	0.2
10.	Total Site	1.2

2. Area Monitoring

A. VCM Monitoring

1. High Level Alarms

a)	PVC Reactor Rooms	90
b)	PVC Dryer Bldgs.	1
c)	Other PVC Points	13
d)	Polyco Reactor Rooms	9
e)	Other Polyco Points	52

A. VCM Monitoring (con't)

2. Low Level Alarms

a)	PVC Reactor Rooms	356
b)	PVC Dryer Bldgs.	15
c)	Other PVC Points	49
d)	Polyco Reactor Rooms	18
e)	Other Polyco Points	59

B. MAC Room Status

1. Bendix Monitoring System

a) System #1, Monitoring 16 points recorded alarms as listed below:

High Level Alarms 28, duration of alarms in minutes 4,966
Low Level Alarms 537, duration of alarms in minutes 18,205

Percentage of time system 1 points in alarm - 3.24%

b) System #2, Monitoring 15 points recorded alarms as listed below:

High Level Alarms 188, duration of alarms in minutes 8,391
Low Level Alarms 773, duration of alarms in minutes 22,590

Percentage of time system 2 points in alarm - 4.63%

c) System #3, Monitoring 9 points recorded alarms as listed below:

High Level Alarms 61, duration of alarms in minutes 11,757
Low Level Alarms 77, duration of alarms in minutes 1,944

Percentage of time system 3 points in alarm - 3.41%

Total number of alarms for the month of October - 1,664
Total alarm duration in minutes - 67,853
Percentage of time all points in alarm - 3.80%

2. Bendix Monitoring Equipment Downtime

1. Systems 1 & 2 experienced no downtime. System 3 was down for 240 hours (32.2% of available time) due to failure of a heater element.

3. HnU Unit Status

All three units are operational at this time.

4. Monitoring Equipment Expenses

A.	Bendix Corp.	$565.00
B.	HnU, Inc.	39.60
C.	A.J. Sipin & Co.	310.00
D.	Total Expenses	$914.60

5. Summary

Leaking manholes continue to be the primary source of excursions. It appears that operators are not being sufficiently supervised since many leaks are the result of failure to follow procedures. Other excursion sources are leaking flanges and valve packing.

We have a continuing problem with Procedures Supervisors failing to investigate excursions. A critical failure of our present daily and weekly reporting system is the consistent absence of reasons for alarms. This seems to indicate ither that the Supervisors are not investigating any but the most serious alarms or that they are not taking the time to record the data.

5. Summary (con't)
Enforcement of respiratory protection regulations has become virtually nonexistent. Supervisors at all levels below Superint n-dent have been observed in alarm areas with no respiratory protec-tion in use. On several occasions it was pointed out to the Supervisor that protection was required but no cooperation was forthcoming. If supervision continues to set an example like this, we cannot hope to enforce safety regulations of any type on the site.

EPA CONSTRUCTION

1. Procedures
   A. Procedures were written and established, as listed, that will be in effect during the entire construction project:
      1. Hot Work Permits
      2. Coordination of EPA construction and Borden Operational Require-ments
      3. Monitoring of EPA construction personnel for Exposure to Vinyl Chloride
      4. Evacuation of EPA construction personnel during alarm conditions
      5. After hours work by construction personnel
   B. In addition, other policies were established in letter form concerning the following:
      1. Personnel control
      2. Regulated area sign in logs
      3. Reporting of lost construction time during alarm conditions
      4. Weekly C&R manpower report
      5. Entrance to regulated areas
      6. Smoking areas
      7. Fire Watch responsibility
      8. Parking areas
      9. Adherence to Borden safety procedures

      Signs were made and posted at the pipe fabrication facility indicating Hot Work and smoking will cease during alarm conditions. Signs were also posted at entrances to areas off limits to construction personnel.

2. Events
   A. Due to extensive burning and welding at the new recovery building area, the column recovery system was shut down and evacuated for approximately 3 weeks. A fire guard (D. Picard) was in the area during all burning and welding.
   B. An incident occurred on 9/27/77 when construction personnel closed a valve which supplies water to the Bldg. 1-W deluge system. Borden personnel were unaware that the valve had been closed and consequently the deluge system was without supply water overnight. The incident is discussed in detail in C. Cumming's letter dated 9/30/77, subject: Fire Protection Equipment. The incident was discussed with construction supervisors informing them of the seriousness of what occurred and that compliance with the Coordination Procedure would eliminate a recurrence.
   C. While excavating for the gasholder foundation at Polyco, an 8" fire water line was discovered that did not appear on our blueprints. With the aid of DuPont drawings, the line was found to be capped on DuPont property west of the Polyco tank farm. The line was then isolated and capped south of hydrant house #11 near th Polyco railroad siding. This eliminated the interference at the gasholder foundation area.

2. Events (con't)
   D. No major construction delays occurred that were related to Borden operations. Construction personnel evacuated the site twice during the month for approximately 15 minutes on each occasion. Both were the result of activation of PVC fire alarms neither of which was fire connected.

FUTURE ACTIVITIES

1. Take over of Safety Department functions by various operations groups.
2. Commencement of work on Polyco alarm and sprinkler systems (upon award of contracts - November, 1977).

C. S. Cumming
Safety Engineer

CSC/kxs

cc: Book (15)
D. Moreira (10)
R. Slocumb
C. Snyder

	Strains & Sprains	Slips & Falls	Struck By	Struck Against	Caught In Or Between	Chemical Exposure	Dermatitis	Foreign Body In Eye	Hand Tools	Miscellaneous	Total	Lost Time
PVC	7	5	0	0	0	4	1	2	2	1	22	1
POLYCO	0	0	0	1	0	0	1	0	0	2	4	0
MAINTENANCE	1	0	2	3	1	0	0	0	0	1	8	1
SHIPPING	2	1	0	1	0	0	0	1	0	0	5	1
NON-OPER	2	1	0	0	0	0	1	0	0	0	4	1
SALARY	0	0	0	0	0	0	0	0	0	0	1	0
TOTAL	12	7	2	5	1	4	3	3	2	4	43	4

Injury & Accident Statistics
September - October, 197

	Non-Lost Time	Lost Time	Days Lost	Man Hours	1977 Frequency Rate	1976 Frequency Rate	1977 Severity Rate	1976 Severity Rate	Weeks Since Last Lost Time	Hours Since Last Lost Time
PVC	21	1	3	123,480	8.1	25.7	24	322	37	118,694
POLYCO	4	0	0	44,284	0.0	0.0	0	0	135	132,244
MAINT	7	1	6	60,233	16.6	63.1	99	695	21	34,907
SHIPPING	4	1	32	23,995	41.7	0.0	1334	0	4	2,101
NON-OPER	3	1	26	111,606	8.9	6.4	233	103	3	15,543
SALARY	0	0	0	224,533	0.0	0.0	0	0	-	-
TOTAL	39	4	67	590,254	6.77	13.9	113	171	3	42,007

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MANAGER'S PROGRESS REPORT
EMPLOYEE INJURIES AND ILLNESSES

RECORD TYPE ☐ STATISTIC ☐ CONTROL (DIVISION USE ONLY)

ORIGINAL ☐ REVISION ☐ DIVISION CODE ☐ (2) ESIS LOCATION CODE ☐☐☐☐ (3–6)

DIVISION Chemical PLANT or BRANCH Thermoplastics-Leominster MONTH (7–9) October YEAR (10–11) 1977

		MAN HOURS (13–20)	FIRST AID CASES (21–23)	TOTAL RECORDABLE INCIDENTS (24–24)	TOTAL RECORDABLE INCIDENT RATE	TOTAL LOST WORKDAYS (27–29)	NUMBER OF LOST WORKDAY CASES (30–32)	LOST WORKDAY CASE RATE
12								
A	THIS MONTH	56,010	25	2	7.14	57	1	1.8
	THIS YEAR TO DATE	56,010	25	2	7.14	57	1	1.8
B	LAST YEAR TO DATE	29,120 est	N/A	1.0	68.70	0	0	0.0

INCLUDE ONLY LOST WORKDAYS AND LOST WORKDAY CASES UNDER COLUMN 9A OF THE LOG, L-100

CURRENT YEAR GOAL _____

RECORDABLE INCIDENTS

DATE	EMPLOYEE NAME	OCCUPATION	DEPARTMENT	BRIEF DESCRIPTION OF ACCIDENT	CAUSE OF ACCIDENT	LOST WORKDAY CASE (/)	FATALITY (*)
10/5	S. Streeter	Safety Hlp'r	Safety	Employee Knocked Down	Unsafe Act by Contractor	X	
10/11	R. Primeau	Util. Hlp'r	PVC	Chemical in Eye	Unsafe Act by Other Emp.		

COMMENTS ON ANY SAFETY TRAINING, JOB ANALYSES & COMMITTEE ACTIVITIES The increase in first aid cases is primarily a result of an improved reporting system rather than a rash of injuries.

MAIL TO DIVISION SAFETY OFFICE NO LATER THAN THE 2nd WORKING DAY OF THE MONTH COVERING THE PRIOR MONTH RESULTS.

BOR 013662

MANAGER

November 7, 1977
DATE

TOTAL RECORDABLE INCIDENT RATE = NO. OF RECORDABLE INCIDENTS X 200,000 / MANHOURS WORKED

LOST WORKDAY CASE RATE = NO. OF LOST WORKDAY CASES X 200,000 / MANHOURS WORKED

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MANAGER'S PROGRESS REPORT
VEHICLE ACCIDENTS

ORIG NAL ☐
REVISION ☐
DIVISION CODE ☐ (2)
ESIS LOCATION CODE ☐ (3–5)

RECORD TYPE ☐ STATISTIC (1)
☐ CONTROL (DIVISION USE ONLY)

DIVISION Chemical PLANT or BRANCH Thermoplastics Leominster MONTH October (7–9) YEAR 1977 (10–11)

(12)		NUMBER OF VEHICLES	VEHICLE MILES (33 – 40)	NUMBER OF CHARGEABLE ACCIDENTS (41 – 43)	CHARGEABLE FREQUENCY RATE	NUMBER OF PREVENTABLE ACCIDENTS (44 – 46)	PREVENTABLE FREQUENCY RATE
A	THIS MONTH	35	88,793	0	0.0	0	0.0
	YEAR TO DATE	35	88,793	0	0.0	0	0.0
B	LAST YEAR TO DATE	0	0	0	0	0	0

CURRENT YEAR GOAL

VEHICLE ACCIDENTS

DATE	EMPLOYEE NAME	OCCUPATION	DESCRIPTION OF ACCIDENT	PREVENTABLE (P) NON-PREVENTABLE (NP)	DOT REPORTABLE (✓)

MAIL TO DIVISION SAFETY OFFICE NO LATER THAN THE 2nd WORKING DAY OF THE MONTH COVERING THE PRIOR MONTH RESULTS

DRIVER TRAINING

	NUMBER OF SMITH SYSTEM INSTRUCTORS	NUMBER OF SMITH SYSTEM DRIVERS	NUMBER OF DDC INSTRUCTORS	NUMBER OF DDC DRIVERS
THIS MONTH	0	0	0	0
YEAR-TO-DATE	0	0	0	0

COMMENTS ON DEFENSIVE DRIVER TRAINING (e.g., DDC, SMITH SYSTEM, etc.)

MANAGER

November 7, 1977
DATE

CHARGEABLE VEHICLE FREQUENCY RATE = $\frac{\text{NO. OF CHARGEABLE ACCIDENTS X 1,000,000}}{\text{VEHICLE MILES}}$

PREVENTABLE VEHICLE FREQUENCY RATE = $\frac{\text{NO. OF PREVENTABLE ACCIDENTS X 1,000,000}}{\text{VEHICLE MILES}}$

BOR 013663