



Interoffice Communication

To R. D. Gamblin
From F. M. Willson
Date 6/26/75
Subject VCM EMERGENCY, JUNE 20, 1975

*Plg return
Bob*

I. CHRONOLOGY

- 08:42 - The new Aberdeen Sub Station failed interrupting all plant electrical power.
- 08:50 - D-500, in latter reaction stage was manually vented from the board.
- 09:00 - Attempted to vent D-400, two hours into reaction, to D-300 which had been under recovery. After trying 3-5 minutes, it was found that the N2 back-up system had failed and the valve could not be opened.
- 09:07 - D-400, two hours into reaction, blew its safety valve at 200+ psig.
- 09:17 - D-600, four hours into reaction. blew its safety valve.
- 09:25 - Evacuation ordered.

II. PERSONNEL EXPOSURES:

The only VCM data we have is Bobby Hawkins' gas bag which was in the Large Reactor Control Room through out the emergency. It measured 3.2 ppm immediately after the emergency. The exposures listed below are estimated giving consideration to the facts that:
The VCM was discharged straight up at high velocity from points well above grade; and there was a 5-10 mph N.E. wind through out the emergency. The names marked (*) were contacted with falling slurry. People are grouped according to the area of their highest probable exposure. No breathing protection was used.

In Control Room - VCM Exposure Estimate - 10 ppm

J. Barton (*)
H. Sanders (*)
D. Michels (*)
F. Willson (*)

DTH 000083004

On Top Of Reactors - VCM Exposure Estimate - Average <100 PPM,
Possible Peaks To 500 PPM

K. Bishop
L. Munn
B. Hawkins
J. Powell
R. Seymour

N. E. Corner Of Unit, Near New N2 Cylinder - VCM Exposure
Estimate 10 PPM

D. Johnson
O. Tubb
J. Roberts
J. Moore
B. Harrison

East Of Unit Near MEC - VCM Exposure Estimate - 10 PPM

W. Browning
R. Gamblin
E. Bishop
D. Cox
J. Uptain
J. White (*)

Lagoon Area - VCM Exposure Estimate - 100 PPM - Possibly
Peaking To 1,000 PPM

Solids Recovery Basin NPD-1 - VCM Exposure Estimate - 100 PPM
Possibly Peaking To 1,000 PPM

R. Miller (*)	Bradley Lumber Company			
L. Rye (*)	"	"	"	"
M. Camp (*)	"	"	"	"
J. Rice (*)	"	"	"	"
E. Hood (*)	"	"	"	"
M. Martin (*)	"	"	"	"

III. EMERGENCY PLAN

We have reviewed the Power Failure Section of our Emergency Plan under action from the standpoints of:

- A. Where did we deviate from the plan, and
- B. Did we learn any lessons that should cause us to modify the plan.

Starting with Section F, Power Failure, deviations and malfunctions are:

- (IV F-3) - AMS was not injected into all reactors because we lost manual venting capability.
AMS injection was increased from 1/2 to 3 gallons.
- (IV F-4) - Additional help was not sent to Highway 25. The plan is being modified to have the Dryer Shift Supervisor send someone to the highway.
- (IV F-5) - Messengers were not sent by the Vinyl Reactor Shift Supervisor. Most affected by not being notified of a Vapor Release were the Bradley people at NPD-1 and a student engineer at the lagoons.

The Supervisor does not have enough people to send all messengers that might be needed. Also, he does not know the whereabouts of all people that need to be notified. An air horn appears to be the best solution to this problem.

- (IV E-3) - Head counts were not taken by all Supervisors. Department Heads are asked to reinstruct their Supervisors.

- (V) - The plan will be modified:

1. To have all personnel go to their primary assembly location on the first Vapor Alarm.
2. Have Vinyl Shift Supervisor announce needed secondary location evacuation.
3. State that all Supervisors should remain continuously alert during an emergency for the need to evacuate their people without an alarm.

- (VII) - The Medical Surveillance Section will be modified to:

1. Change the first paragraph to read, "Any person possibly exposed to VCM who lost consciousness, or has symptoms of: drowsiness, blurred vision, dizziness, staggering gate, or numbness in hands or feet will be taken immediately to the Company Doctor or Hospital."

2. The second paragraph will be moved to the end of Section VII.

Other items which will be added to the plan are:

1. The Vinyl Shift Supervisor will notify the Yard people if and when VCM R/R cars should be isolated.
2. Large Reactor Deluge Systems will be activated when the area is evacuated.
3. On Large Reactor Power Failure all operators will go to the Control Room after they have injected AMS.

IV. SPECIAL PROBLEMS WHICH DEVELOPED DURING THE EMERGENCY AND CORRECTIVE ACTION TAKEN

A. The Plant Air N2 Back-Up System Failed.

The system was inspected and no specific defect was found. We suspect that the small bore tubing was plugged. It has been replaced with larger tubing and was functioning properly.

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Bore was
to do job

B. The Honeywell Units Went Down Due To Power & Air Loss.

Frank Willson has written a W/O to supply back-ups.

C. D-500 & 600 Instruments Did Not Function Without Power.

R. W. Seymour has found a defective relay and had it replaced.

D. D-500 & 600 Deluge Systems Were Not Tied Into The Battery Back-Up Power System. R. W. Seymour has written a W/O to have this done.

E. The Wind Sock Was Defective & Would Not Indicate Wind Direction. R. W. Seymour has written a W/O to have it replaced. Also, the sock will be placed on the Safety Inspector's inspection list.

F. No One Used Breathing Protection During The Emergency. To correct this problem:

1. Three Scott Air Paks, from V-12 Area will be mounted just outside the Control Room.
2. Department Heads are asked to reinstruct their people that breathing protection is mandatory when VCM is over 25 ppm.

Done
Done
Done

G. With Power Loss The Paging System Was Inoperable. Sound Engineering of Columbus, estimates \$800-\$100 to provide battery.

However, even with the paging system working, there would have been many unaware that an emergency was taking place: anyone in a vehicle; contractors at NPD-1 and new offices; and most anyone outside a building such as the person at the lagoons.

An N2 powered air horn would solve both problems. It would be independent of outside power and be audible almost everywhere in the plant. F. Willson is investigating a horn.

- H. Two Problems With The Monitor Nozzles Came Into Sharper Focus: First, it is difficult to open the pit valves; and second, it would be advantageous to leave individual nozzles positioned and open, and operated by one remote valve.

R. W. Seymour has written a W/O to extend the pit valve handles. J. Uptain has written a W/O to install a P.I.V. on the line feeding the nozzles.

- I. The fire pump did not start automatically. When the pumps were put on time delay start it was known the pumps 2, 3, & 4 required AC to start, but it was thought that pump 1 was independent of AC power. We found this was incorrect. Pump 1 also requires AC.

Three corrective steps are being taken:

1. Pump #1 has been temporarily rigged to start independent of AC.
2. The Guards are being trained to start the pumps in the event a shift mechanic does not respond.
3. Jerald Uptain is investigating methods to make all pumps independent of AC.

- J. Vinyl's Century OVA's were not operational. R. W. Seymour developed a program to keep them working.

- K. The telephone battery back-up system did not kick out when AC power returned. N. B. Ketterman has been advised by the telephone company on how to check the system after a power failure. He has assumed this responsibility.

- L. We discovered the need for emergency lights in the First Aid Room and Fire Pump House. V. Belk and J. Uptain have written W/O's to have emergency lights installed.

V. MEDICAL SURVEILLANCE

At 15:15, F. Willson contacted Dr. Whetstone in Ponca City. He described the emergency and gave our estimated exposures. Dr. Whetstone's response was since no one: lost consciousness, voiced complaints; was unable to resume normal job functions; or failed to wash resin slurry off, no special medical surveillance is required.

VI. OSHA AREA DIRECTOR NOTIFICATION

At 15: 20, F. Willson contacted Mr. James E. Blount, OSHA Area Director. Mr. Blount had Dr. C. Crowe join the telephone conversation.

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6/30/75

They asked questions on: exposure level; exposure duration, number of people involved; injuries and unconsciousness, which Willson answered. These OSHA people did not know what specific reporting requirements we had under the law. They said no written report would be required unless they requested one at a later date.



F. M. Willson
Safety Director

FMW/lpb

C: Department Heads
VAB
JWP
COT
JVU

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