

Interview of David Zavala – 8/23/00

(Draft) INTERVIEW SUMMARY

David Zuvala
2/16/2001

Witness: David ^{Z, Dg:}Xavala, [REDACTED], Senior Technical Analyst, El Paso Natural Gas Company

Time and Date of Interview: 1:00 PM August 23, 2000

Location: El Paso Natural Gas Company Corporate Offices, 100 N. Stanton St., El Paso, Texas

Investigator: Eric Sager

Accident: El Paso Natural Gas Company Pipeline Rupture and Fire Near Carlsbad, New Mexico (August 19, 2000)

Digest:

El Paso Natural Gas officials indicated that Mr. Xavala was familiar with computer-related activities in the control center during the pipeline rupture and fire. He was interviewed to discuss entries recorded on the control center event log, and he commented on the log on a line-by-line basis. Mr. Xavala also explained codes and abbreviations used in the text.

^{Z Dg} Mr. Xavala said he had worked for El Paso Natural Gas since ^{1975 Dg}1987. He indicated that his duties have been to maintain and support ^{the SCADA SYSTEM AND TIMES OTHER Dg}electronic equipment at the control center including the ^{Dg}SCADA system (since it was put in service). He said he also ^{MANAGES THE}installs software and otherwise makes provisions at the control center for field equipment modifications and installations.

^{Dg} FUNCTIONALITY OF THE

^{Z Dg} Mr. Xavala described the controller's actions and the conditions recorded on the event log during the accident scenario. Mr. Xavala pointed out that he could see no operating conditions or actions taken by the controller that would have caused damage to the pipeline. He stated that it was the controller's first priority to ^{EXECUTE DEMAND SCANS Dg}determine that the control center computer was not the source of the alarms and data at the onset of the problem that morning. Mr. ^{Z Dg}Xavala explained that when ^{THE DATA INDICATED AN ABNORMAL CONDITION,}anomalous data was displayed ^{Dg}.

Z 03
Xavala, page 2

03
IT WAS THE CONTROLLERS ACTION TO DEMAND SCAN IN AN EFFORT TO VERIFY THE INFORMATION.
03 and SCADA commands could not be executed, it was control center practice to rule out
03 the computer before controllers took actions on the pipeline. Mr. Xavala identified event
log entries showing the controller's efforts 1) to ^{ACQUIRE DATA FROM 03} regain communication with the Pecos
River station after it went off line and 2) to obtain data needed ^{TO DETERMINE THE STATION'S STATUS} for resolving his
03 uncertainties after the station shut down.

Z 03
Mr. Xavala said that after alarms pertaining to the station status first ^{LOGGED}
~~annunciated~~, the controller ^{IS 03} apparently had the idea that the computer was not sending
03 to him. Mr. Xavala pointed out significant station information displayed on the screens
as the situation progressed:

- a drop in operating speed for unit 3
- low suction and discharge pressures on unit 2
- excessive operating speed fluctuations on unit 2 (ROC, i.e. rate of change)
- an overspeed trip for unit 1

Mr. Xavala showed where the controller acknowledged these alarms as they occurred.

He pointed out where the event log indicated the controller's requests for data where he probably attempted to see if the same numbers would replace those he had seen displayed earlier or "[if they] would come back on the screen." He said that the controller appeared to be ^{EXPEDITING THE INTERPOLATION OF THE STATION COMPUTER} checking out the computer as the possible reason for the
03 ^{TO GET REFRESHED DATA.} anomalous data. He also said the controller was ^{DEMAND SCANNING} trying "to force" the computer to show
him specific data needed to ^{03 ASSESS THE SITUATION.} understand the problem. Mr. Xavala indicated where the controller had issued *demand scan* and *interleave scan* commands to ^{EXPEDITE POLLS} directly poll for
data. These commands were intended to eliminate his having to wait for the computer to complete a full scan of the system (about four minutes between updating displays).
Z 03
Mr. Xavala explained that these commands were executed properly despite the
03 inconsistent computer responses to his requests.

He said that the event log showed the Pecos River station came back after the controller's first demand scan, but the station did not answer ~~consistently~~ ^{COMPLETELY 03} after that. Mr.

03 Z Xavala indicated that data obtained about the status of the station was acquired in increments, and therefore it may not have seemed credible to the controller without additional verification. ^{THE CONTROLLER NEEDED ADDITIONAL INFORMATION TO FULLY ASSESS THE SITUATION. 03}

When Mr. ^{Z 03} Xavala was asked about entries on the event log for a four minute interval between 5:26 and 5:30 he stated that the data shown in that time frame was "uncertain." He pointed out that the controller's attempts at 5:31, 5:33, and 5:45 failed to obtain data from the station.

^{Z 03} Mr. Xavala said the "appropriate" alarms occurred for the unit trips at the station and the data appeared to be normal ^{RELATED TO 03} as the station shut down. He pointed out, for example, that the unit turbine bearings were cooling ⁰³ rapidly which was an ⁰³ indication of turbine shutdown.

⁰³ AND ⁰³ indication that the cooling pumps had started automatically as intended. He explained that when the units tripped at the station, the plant was supposed to go ⁰³ through an automatic shutdown. ^{BEGIN AN AUTOMATIC SHUTDOWN DUE TO LOW SUCTION PRESSURE, THE STATION INITIATED UNIT SHUTDOWN. 03}

⁰³ ~~SUCTION PRESSURE~~ In response to an investigator's question about the number of unacknowledged and standing alarms on the event log, he stated that alarms stayed on the SCADA screens until they were acknowledged. He said that he believed ⁰³ the intensity of the controller's activity ⁰³ during this time would have prevented resolution ⁰³ of many individual alarms. ⁰³ ~~of many individual alarms.~~ ⁰³ ~~RELATED TO RESPONDING TO THE EVENTS.~~ ⁰³

⁰³ ~~of many individual alarms.~~ ⁰³ ~~DELAYED THE ACKNOWLEDGEMENT OF ALARMS.~~ ⁰³ ⁰³ ~~INTERRUPTION OF DATA ACQUISITION~~

^{Z 03} Mr. Xavala indicated that he didn't know ⁰³ why there was ~~not more data shown~~ ⁰³ on the event log for identifying the damage to the pipeline. He said that the data "just may not have been there" at the time of the poll by the computer. However, he noted where the controller had checked a meter ⁰³ (sic) located on the pipeline near the station, the data showed "some kind of problem on the pipeline."

^{Z 03}
Mr. Xavala briefly discussed the control center computer network for pipeline control. He noted that time stamps on the log indicated when information was processed by the computer, not ^{NECESSARILY 03} when the events occurred. He said clock times shown on the event log were standard time rather than daylight savings time. Mr. ^{Z 03}Xavala recalled that on the morning of the fire, Mr. Wilcox beeped him on the pager at 5:39 AM; however, Mr. ^{Z 03}Xavala's activities during the fire were not discussed during the interview.

The investigator indicated that another interview may be conducted in the follow-up phase of the investigation. Mr. ^{Z 03}Xavala would be asked to assist with interpretation of Pecos River station and pipeline conditions, and to identify controller actions based on the event log. No arrangements during the on scene investigation were made for the second interview.

End Digest.