UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of: *
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PACIFIC GAS & ELECTRIC COMPANY *
SEPTEMBER 9, 2010 ACCIDENT * Docket No. DCA-10-MP-008
SAN BRUNO, CALIFORNIA *
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Interview of: MARK KAZIMIRSKY

Anaheim Room
Marriott Hotel
San Francisco Airport
1800 Bayshore Highway
Burlingame, California 94010

Friday,
September 17, 2010

The above-captioned matter convened, pursuant to notice, at 8:17 a.m.

BEFORE: KARL GUNTHER
Accident Investigator

APPEARANCES:

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I N D E X

I N T E R V I E W

(8:17 a.m.)

MR. GUNTHER: I'm Karl Gunther, National Transportation Safety Board. We're investigating a September 9th, 2010, accident that occurred in San Bruno, California. It's our document, DCA-10-MP-008.

What I'd like to begin with is make sure that you are aware that you can have anyone you want with you as counsel and -- in this hearing testimony. And, again, are you aware of that and do you have counsel?

MR. KAZIMIRSKY: Yes, I am. And Dane is my counsel.

MR. GUNTHER: Okay.

MR. JAQUES: ~~Dan~~ DANE MK Jaques, I'm noting my appearance on behalf of the witness.

MR. GUNTHER: All right.

MR. GUNTHER: What I'd like to do right now at this point, go around and if everybody could introduce themself briefly and your affiliation.

MR. CALDWELL: Geoff Caldwell, City of San Bruno.

MR. FASSETT: Bob Fassett, PG&E.

MR. CHHATRE: Ravi Chhatre, NTSB. I'm the investigator in charge of this accident.

MR. SHORI: Sunil Shori, California Public Utilities Commission.

MR. KATCHMAR: Peter Katchmar, US DOT, Pipeline and

Hazardous Materials Safety Administration.

MR. NARVELL: Rich Narvell, NTSB.

MR. GUNTHER: Karl Gunther, NTSB.

MS. MAZZANTI: Debbie Mazzanti, IBEW, Local 1245.

MR. SPERRY: Joshua Sperry, Engineers and Scientists of California, Local 20.

INTERVIEW OF MARK KAZIMIRSKY

BY MR. GUNTHER:

Q. Okay. What I'd like for you to do is go back to September 9th, 2010, I guess, from the time that you arrived at Milpitas Station.

Oh, can I get your name, address, and phone for the record?

A. My name is Mark Kazimirsky.

THE REPORTER: Can you spell the last name, sir?

MR. KAZIMIRSKY: K-a-z-i-m-i-r-s-k-y.

My address is -- business address?

BY MR. GUNTHER:

Q. That's fine.

A. 375 North Wiget Lane, W-i-g-e-t, Walnut Creek, California 94598. My phone number is: [redacted]

Q. Okay. What I'd like you to do is from September 9th, just go through what you did and just go ahead and describe the actions you took and what observations you made.

A. On September 9th, I was on my way to San Francisco. When I came out of the Caldicott Tunnel, I noticed a cloud and -- in the direction of the peninsula. And I -- I knew that we were doing some

work in Milpitas, so at first I didn't associate it with the events, but when I heard on the news that there was an explosion and no aircrafts were involved, I made an association that it was potentially work-related.

MR. CHHATRE: Excuse me, can you just speak a little louder?

MR. KAZIMIRSKY: I'll try.

MR. CHHATRE: Thank you.

MR. KAZIMIRSKY: After I arrived in San Francisco, I called gas control and they told me that they lost the data from Milpitas, so they didn't know what was happening.

When I spoke with them once again around -- just before 7:00, they still didn't have the data. And they suspected that something happened with Line 132 and they asked me to go to Milpitas and help with troubleshooting.

I arrived in Milpitas just before 9:00. I didn't see the exact time and just before I arrived there, the data came back.

We didn't notice anything abnormal at Milpitas at that time and since we knew by then that Line 132 had exploded, we left Milpitas to see if we could help in any way.

Later on, we had ~~Jack Louis,~~ CHUCK LEWIS MK one of the PG&E lawyers, arrive to the site to take the statements from everybody at the site. And then we just stayed until about 6:00 in the morning and then we left.

BY MR. GUNTHER:

Q. Can I get your credentials, including formal training, you know, college, university -- whatever?

A. I graduated from the Institute of Technology in Odessa, Ukraine, in automation and control systems. I worked on the pipelines in the former Soviet Union, and then here in the States since 1976. I've always worked in the control system, automation field. And I'm currently supervisor of a SCADA control group for station engineering at PG&E.

Q. And have you had any PG&E courses, training?

A. Over the years, I've taken a lot of different courses, not only with PG&E, but also with the ~~vendor (inaudible)~~ VENDORS like, that we're using in our system.

Q. And are you qualified under the PG&E OQ program?

A. No, I'm not.

MR. GUNTHER: Okay. Go ahead, PHMSA.

BY MR. KATCHMAR:

Q. So your actual title is Supervisor, SCADA, and Control Group?

A. I'm a supervising engineer for SCADA and controls group.

Q. So would Mark be under you?

A. Mark?

Q. Mark Ceniceros, was it?

A. No, Mark Ceniceros was working for gas system operation in Walnut Creek. It's a different department.

Q. Okay.

A. He works for gas control.

Q. Okay. What's the difference, then? Could you explain --

A. We have two different departments within -- or more than two different departments. But in this case, we have gas engineering and planning department and we have gas operations. Gas operations is directly responsible for operating the system. Gas engineering department is responsible for project engineering and tech support on an as-needed basis, to valve controls and maintenance and construction department.

Q. Okay. And where were you earlier in the day?

A. I was in the office earlier in the day and then I left.

Q. Walnut Creek?

A. Yes. Then I went home and after that, I was going to proceed to my daughter's house.

MR. KATCHMAR: Okay. Thank you very much.

MR. GUNTHER: Sunil, from California PUC?

MR. KAZIMIRSKY: I want to make a slight correction. The formal degree that I have is not control system, it's -- I think the degree says electro-mechanical engineering.

MR. CHHATRE: Research -- electrical/mechanical engineering?

MR. KAZIMIRSKY: Electro-mechanical engineering. I was taking both classes, electrical and mechanical.

MR. GUNTHER: Thank you.

BY MR. SHORI:

Q. Could we get an understanding of what happens with the valves at Milpitas on loss of power supply to the UPS?

A. I'm not sure if it was the loss of power supply from the UPS. We lost the power supplies downstream from the UPS. The power supplies that feed pressure transmitters, used for both monitoring and control.

When we lost these two -- voltage from these two power supplies, the signals from the pressure controllers went to zero, which on the scale of zero to 800 pounds was interpreted by the controllers as minus 200. So it was a negative value.

When the controllers saw the negative value, they interpreted it as a low pressure, which results in opening of the regulators. Both monitor and -- I mean the load and ~~primer~~ TRIMMER MV valves. So both load and trimmer valves went wide open.

As it happened, the monitors -- which are set at a slightly higher set point -- take over and they limit the pressure to the set point. And ~~best of~~ BASED ON MV what I saw, that's -- ~~best of~~ BASED ON MV all of the trends that I saw after the fact, that's what happened.

Q. And, for the record, could we get -- in terms of the -- in terms of the pipelines that are connected, essentially they're connected to the same pressure header, which ones are those? Which ones do you have control over and which ones you do not in terms of the pressure that fed from the headers?

A. Well, the header control is up -- we have three regulators, 17, 21 and 27, I believe -- that control pressure coming to the header. Three lines coming out of the header operate at the header pressure. 132 is one of them.

Two other lines have additional regulation downstream from the header. And they operate at a lower pressure than the header, ~~maybe.~~ MV

Q. And the normal status of Milpitas Terminal, as far as manned or not manned?

A. It is an unmanned facility.

Q. And can you state the lines that Milpitas -- the incoming lines into Milpitas?

A. There are four incoming lines: 300-A, 300-B, 107 coming from Livermore Junction, and -- I've forgotten the line number coming from Rio Vista. I think it's 100.

MR. FASSETT: Point of clarification: I believe it's 131. So 131, 107, and 300-A and B. Is that correct?

MR. KAZIMIRSKY: 107, for sure. And 300-A and B, too. The last one, I forget.

MR. FASSETT: Okay. We'll verify.

BY MR. SHORI:

Q. Earlier you said that under a loss of power, the signal that goes to the trimmer --

A. To the controllers.

Q. -- to the controllers and, in turn, to the control valves, it shows a pressure of minus 200?

A. Well, the signal normally is ranged between either four to 20 milliamps or one to five volts. So the controller shall always see at least one volt. One volt ~~can respond~~ CORRESPONDS MV to a zero pressure.

Five volts ~~can respond~~ CORRESPONDS to 800. So a zero volt means 25 percent of full scale, one to five.

So for the controller, that would be 25 percent of 800 pounds, ~~scaled.~~ SCALE

Q. And that's if the default -- the default value in terms of how it interprets that zero?

A. It's not a default, but it's a faulted value. Because we can never have pressure lower than zero.

MR. SHORI: That's it for me. Thank you.

MR. GUNTHER: Are you done?

MR. SHORI: Yes, for now.

MR. GUNTHER: Ravi?

MR. CHHATRE: Yes.

BY MR. CHHATRE:

Q. In an unmanned station, if something like this were to happen, when nobody is there, how would anybody know that the pressure had gone to 685 -- 386? Would anybody -- an alarm, telephone, in-house?

A. All of normal conditions are alarmed to gas control. We also have some local alarms, but since the station is unmanned, these alarms are only -- can only be used while we're doing troubleshooting or maintenance work. But when the station is unmanned, all alarms are sent to SCADA. And the alarms are generated not only by the station control itself, but gas control can also add some alarms on an as-needed basis.

Q. And that is San Francisco?

A. Yes.

Q. And once they see those, can it be remotely control -- can they control any valves, anything from San Francisco to Milpitas Terminal?

A. They can control some of the valves. They can control pressure and flow separation.

Q. Okay. And which valves they can control? I understand maybe the -- the valves which are -- I mean you said the 350 and you said 386.

A. They can control the regulators, the valves that have electronic controls.

Q. Okay.

A. And they can control the valves themselves. They can manually position the valve or they can change a set point and leave the valves in automatic, in which case they will stop on their own. These are the regulators.

The monitors, have strictly pneumatic controls -- gas control has no access to them. They are set to the maximum pressure locally and the set points can only be changed locally. Gas control ~~cannot~~ CAN NOT change neither the set point ~~nor~~ OR NOR position of those valves.

Those are safety valves.

Q. Right. And you may not even be aware, depending upon when you joined -- but is there any incident that is manual valves malfunction or got stuck in any way?

A. I'm not aware of any malfunctions, whatsoever.

Q. Good. Any -- if these valves were to fail, how -- what component of the valve could fail? Not that it would, but could fail?

MR. JAQUES: I'm going to object to that. It calls for speculation.

MR. CHHATRE: Okay. Let me rephrase, then.

BY MR. CHHATRE:

Q. If these valves were to fail, for whatever given reason, what would happen then to the header?

A. The monitor -- the control valves, the controllers, the regulators, are fail-open valves. So if anything -- if there is any failure with the control system, the valves will fail open.

The monitor valves are fail-closed valves. So if anything happens with the monitor valves, they would go closed. That gives us the ability to provide gas to the customers, and yet we always have -- we always -- the system is always protected from high pressure.

Q. And how often is training given to operators for SCADA?

A. Operators in gas control?

Q. Both. To me, I look at it to be gas controllers are also SCADA operators -- whatever the title may be -- because they are controlling SCADA in San Francisco, are they not?

A. Yes, they are in San Francisco and I cannot answer that question completely. I can tell you what training I provide to them, or my group provides to them.

Q. Okay.

A. In addition to that, they have some other trainings that

are part of their work.

Q. Sure.

A. And from my part, when the system had been installed or if we do any work on the system, we will usually schedule a training class with the gas control operators. Depending on the complexity of the system or complexity of the changes, it may be longer or shorter -- a few hours, an hour class with all gas control operators, where we would describe what changes had been made and how the system operates. But that does not involve training them in how to run the system. You tell them what access they have from a control perspective. But as far as running the system, that's not part of what we do.

Q. It is not part of your training to them or it is not part of the training, period?

A. I can speak of how the control system works, but I cannot speak of the pipeline system, as such.

Q. Okay. And how often the training is given?

A. Again, I can't say. Training for the control system is usually done when the changes are made or a new system is installed. After that, they have -- perhaps they have a routine training or refreshers, but, again, I'm not familiar with how they get trained.

Q. So gas control has -- if I can use the term -- like do they have your equivalent in San Francisco?

A. I'm sorry?

Q. The gas control operators, do they have kind of your equivalent or supervisor doing training in San Francisco?

A. No, I wouldn't say it's equivalent. They have their own structure.

Q. Okay.

A. And I can't speak of that.

Q. Okay. We'll check our records, and if we don't have that information, then we'll investigate it. We haven't gone through all of the documents yet.

In this particular situation for line 132, that happened on September 9th, when did you become aware of it?

A. About --

Q. Let me even clarify it more: The loss of power from UPS -- uninterrupted power supply?

A. I became aware of something abnormal -- some abnormality around 6:30.

Q. Okay.

A. When I called gas control and then I called Milpitas and I spoke with people in both locations.

Q. And I don't know what this is called, but I guess there are two UPS connections by diodes?

A. Two power supplies, not two UPSs.

Q. Okay. Two power supplies with one diode connected to them in between?

A. No, each of them has an diode on the outgoing power. So they can work in parallel as a redundant system.

Q. That -- I was told yesterday by somebody, if I remember

it correct, the troubleshooting, because of the loss of power when they are doing it, the thinking was either the diode failed --

A. That's correct.

Q. -- and that needs to be replaced. And I thought that diode was between the two units. Or am I wrong?

A. No, you're correct. There are two diodes between the units.

Q. Okay.

A. And should either one of them fail, that could cause a problem with the power supply. What really happened, we don't know yet.

Q. I understand. Everything is on a stand-still right now. But my question is do you keep those diodes at the compressor station, like supplies?

A. You mean as spare parts?

Q. Right.

A. I'm not sure if we keep them, but they're available off the shelf in any ~~(inaudible)~~ electronic supply store.

Q. So what happens if the diode were to fail, do you need to kind of goes down there for a while?

A. You mean what we could do if ~~it~~ we didn't have a spare diode?

Q. Correct.

A. We could disconnect one power supply and leave the system on the other one and it would work just fine.

Q. And the system is still capable of running with one?

A. Right. The diodes are only necessary to run two power

supplies in parallel. So if one of them fails, the other will continue to work.

Q. Still, the system is good. I'm just trying to understand.

A. Right.

Q. The system is still good, then?

A. Absolutely.

Q. Okay. And the comment was made also that where the diode is it is either cumbersome or difficult to reach that, to check that out if the diode is working or not working. There was a comment made. Was it ever discussed internally, that, you know, maybe we should change or do something?

A. I don't think replacing a diode would be difficult. They're easily accessible.

Q. Okay. Now, was any --

MR. FASSETT: Point of clarification?

MR. CHHATRE: Sure.

MR. FASSETT: I think the record will show, if you're speaking about Mr. Beck, I think that the record will show that it was an uncomfortable position.

MR. CHHATRE: Something like that. I remember -- there was some comment made.

MR. FASSETT: He didn't say it was difficult. I believe it said it was an uncomfortable position to work in.

MR. KAZIMIRSKY: Yes, it is uncomfortable, because it's at about knee level.

MR. CHHATRE: Okay.

MR. KAZIMIRSKY: But it's very easily accessible.

BY MR. CHHATRE:

Q. Okay. Now, on September 9, when there was a problem with the power supply -- I think whatever the problem may be -- the system was backed up with the wire changing -- and I'm using that term very loosely here -- but whatever the technicians did, they started getting the juice at 34 volts from the two units. And my question is: Was anything discussed to find out what happened and why the power came back on, when you came?

A. Yeah, we tried to guess what could have happened. Obviously, we wanted -- we wanted to understand what caused the problem.

We still don't know the answer to that.

Q. Sure. But I'm trying to understand. You did the repair work that needs to be done. I believe that some kind of a ticket or something needs to be done? We were told yesterday if we get the repair work done, something needs to be done in the system -- and I forget what the terminology was, but something has to be initiated, is what I was told. And was that being discussed? Do you know what I'm talking about? And, if you don't --

A. I'm not sure that I understand.

Q. Okay. If something has failed and you want to repair something, what is the process?

A. There -- we'll try to get to the real cause of that problem, especially when the problem is intermittent. We need to find out

what it is. We haven't done anything yet, other than kind of discussing it. In order to find the problem, we need to get to the site and we need to start checking the components and checking the wires.

Q. Sure.

A. And, obviously, we haven't done it yet.

Q. But, I guess, my last question: Have you got any paperwork initiated to look at the problem -- or was it initiated that day between 6:00 and whatever time the technicians went home -- 4:00 in the morning?

A. We pulled -- well, we made a record of -- Jody Garcia made the record of the sequence of events. We pulled out all of the drawings we had at the site, to start troubleshooting. And that's about as much as we could do that night. We did pull more drawings back at the office and we are looking into what could have caused the problem. But, like I said, it's -- so far it's strictly on paper. We haven't done any physical work yet.

Q. I'm a little confused. When you say "on the paper," meaning what --

A. ~~I'm -- troubleshooting, we are doing.~~ We were looking at the drawings and trying to understand what could have failed. But to do the real troubleshooting, we need to get to the site and we need to start testing the components of the system.

Q. So you will do your own troubleshooting? You do not have to request anybody outside of Milpitas?

A. No.

Q. Okay. And you can order your own diodes or whatever needs

to be ordered at Milpitas?

A. We will test the existing diodes to see if they failed. We will probably replace them, but, again, it's really early to talk about what we're going to be doing.

Q. Sure. I understand.

A. It will take more work.

MR. CHHATRE: Okay.

MR. GUNTHER: Are you done?

MR. CHHATRE: Thank you.

MR. GUNTHER: Mr. Fassett, PG&E?

BY MR. FASSETT:

Q. Good morning. We've been throwing "SCADA" around. It's an acronym, I understand that. But can you explain -- at least define what SCADA means?

A. Yeah. SCADA is Supervisory Control and Data Acquisition System. Different companies, different industries are using it in kind of different ways.

In PG&E terminology, we call SCADA a part of a control system that is used by gas control to operate the pipeline.

So in our terminology, SCADA is the computer ~~is the~~ OR WAS servers that run the software for the gas control operators. Everything else we have in the field, we consider local control systems that provide data to SCADA or accept commands from the SCADA. That's the context in PG&E.

Q. Okay. So, to clarify, there's really two things in there.

There's supervisory control and there's data acquisition. So sometimes they're just acquiring data. They have no control at the locations it's coming from. It could be just a pressure -- and something they can control the device at their location that they're reading?

A. Even the supervisory part is -- for gas control is fairly limited. What we call supervisory part for gas control is their ability to send a command or a set point. Start, stop, open, close, so many psi.

That's what we call supervisory points. These are commands that are generated in San Francisco, sent to the local control system, and the execution of that command is done always by a local control system.

MR. FASSETT: Thank you.

MR. CHHATRE: Thank you.

MR. GUNTHER: City of San Bruno?

MR. CALDWELL: Yeah, Geoff Caldwell.

BY MR. CALDWELL:

Q. Thanks for being here today.

The one question you -- or the one answer to a question earlier was what -- when you were gaining information when you driving over through the Caldicott. I'm led to believe that you were calling gas control when they told you that there was no -- there was a loss of data from Milpitas?

A. I called gas control and they told me that they lost data

from -- some of the data from Milpitas.

Q. And that data has been retrieved eventually. It was just not sent up immediately --

A. No, that was when the power supply failed.

Q. Right.

A. So during that time, they did not have some of the data.

Q. Okay.

A. Some of the points are fed off the power supplies that failed and some are fed from different power supplies. We have several different power supplies. So they lost the data that were related to the failed power supplies. They still had the data from the other points.

Q. Okay.

A. And that data is not retrievable, because we didn't read anything.

Q. The other part of this question is: Is it possible that due to that power loss an alarm would not be sent via SCADA to gas control or did the alarms operate properly during the whole time?

A. We might have missed some of the alarms, as well.

Q. Okay.

A. The alarms are triggered generally when the parameter is -- either the pressure or valve position or anything else -- is outside of the limits. So if we didn't have the data, we probably could have missed some of the alarms, as well.

MR. CALDWELL: Got you. Thank you.

MR. GUNTHER: International Brotherhood of Electrical Workers?

MS. MAZZANTI: No.

MR. GUNTHER: Engineers and Scientists?

MR. SPERRY: No questions.

MR. GUNTHER: PHMSA?

MR. KATCHMAR: Yes, sir.

BY MR. KATCHMAR:

Q. You mentioned about how the voltage from zero to five or the milliamps from four to 20 works. Is there -- how do you know those facts? Is there a log that you looked at when you went to Milpitas?

A. How do I know?

Q. That the voltage actually went to zero or one and you said it was equal -- equivalent to minus 200 psi.

A. I don't have a record. I have the statement from the crew that was working there. They told me that they lost power supplies. On the loss of a power supply, like I said, the readings go to minus 25 percent of a full scale.

Q. Okay.

A. So that's kind of -- for me, it was self-evident.

Q. Okay. No, I was just wondering if you actually looked at a log or if it was a deduction.

A. There was no log at the time.

Q. All right. Can you discuss the remainder of your forensic

analysis of the event after you arrived at Milpitas through the evening? You mentioned something about pulling drawings. Could you just go through a little bit more detail of, you know -- did they do any testing in the boxes or --

MR. JAQUES: Do you mean after he arrived?

MR. KATCHMAR: Yes.

MR. JAQUES: Okay.

MR. KAZIMIRSKY: After I arrived, the power has already been restored. Just a few minutes before I arrived, the power was back in place. So we pulled out all of the drawings that we had available at the site.

I discussed what happened and what's been done with the crew working there, with the engineer and the construction technician personnel. And I tried to follow through the drawings to see how the wire -- how the wiring was done, what could have caused that problem. What sensors they lost and which ones were still operational. But there was very little more we could have done -- or I could have done than become familiar with the work that we're doing -- or with the events that happened while they didn't have power.

Q. Yes, sir. Did any one of the workers express to you something that you said, "Ah ha"? You know, like did they mention something that you went, "Oh, that's significant"?

A. No.

Q. Okay. What -- you discussed the control valves as regulators and then the monitor valve. Could you explain, are they the same?

Do you know the manufacturer? How is the monitor valve?

A. I don't remember the manufacturer. The monitor valves have pneumatic actuators with a spring return. They're fail-closed valves. So in a loss of signal, the spring will push the valves in a closed position.

The -- the regs, the loads and the trimmers are electric actuators. I believe the load valves there are ~~limit arcs~~ LIMITORQUE MX, but that's just the best I remember.

Q. I was just wondering about the actual monitor valve. And is it -- does it look exactly like the control valves, but it's just operating differently?

A. It is a control valve. It just has a different type actuator.

Q. Actuator, okay. Thank you.

If you had, you know, all the time and money in the world and you wanted to make an enhancement to this system, to make it better to be operated, easier to be operated, or some enhancement that you would like to see on this line, what would that be?

MR. JAQUES: I'm going to have to object to that. It calls for speculation and unless he's actually gone through that analysis, I don't think it's appropriate for him to respond.

MR. KATCHMAR: Okay.

BY MR. KATCHMAR:

Q. Have you gone through an analysis of what the next enhancement to this control system might be?

A. I didn't look from the standpoint of an enhancement. So

far, I've been trying to figure out what could have caused the problem.

Q. Right. I'm not asking since September 9th. I'm asking -- you know, you've been doing this job for how many years?

A. Close to 40.

Q. Okay. You've probably, in that time, seen different systems -- you've worked for different companies, like in the USSR. Have you -- and I understand that in 2006, and you -- and I'm saying "you" as the company -- PG&E installed a -- the current SCADA system. And it took maybe a year to get it in. And so I do understand that you had to put PLCs in the field. You had to put remote transmitting units in the field, so that you could see at the control center. But it appears that that's -- yes, sir?

MR. FASSETT: You're losing me.

MR. KATCHMAR: I'm sorry. I'll ask it more direct.

MR. FASSETT: Let me clarify.

You gave him no boundaries of a solution.

MR. KATCHMAR: Right.

MR. FASSETT: And you asked, in heaven, how would you like to operate the system? We are not in heaven.

MR. KATCHMAR: No, you're right.

MR. FASSETT: Any solution is bounded by parameters that come from various degrees. They come from business needs, they come from customer needs. They come from codification needs. They come from a lot of things.

MR. KATCHMAR: Right.

MR. FASSETT: I do not see why this is at all relevant.

MR. KATCHMAR: I will change my question.

MR. FASSETT: There's been no analysis done. The purpose for this meeting is to acquire facts to write a factual report. It is not, at this point, to determine what the root cause is. We cannot determine what the root cause is until there is further work done at the lab.

MR. KATCHMAR: Right. I will change my question.

BY MR. KATCHMAR:

Q. Would a good enhancement to this control system be adding flow monitors?

MR. JAQUES: I'm going to object to the question.

MR. KATCHMAR: Okay.

MR. JAQUES: It's not appropriate.

MR. KATCHMAR: Okay.

MR. GUNTHER: Sunil, California Public Utilities Commission?

BY MR. SHORI:

Q. Just some follow-up questions. Okay? It was indicated by another witness that the power supply was being changed from a three-phase to a single-phase for the new power supply.

A. Not the power supply. Not the power supply. We were going to be changing the UPS power from three-phase to one phase. But that -- that's the limit of the change.

Q. And you're correct, it is UPS.

Any particular reason for that?

A. Perhaps lower cost. From the engineering perspective, there is no need for a three-phase.

Q. Okay.

A. I frankly don't remember, maybe 20 years we simply didn't have a choice but to go with the three-phase system.

Q. Okay. Fair enough.

What written procedure would you expect to be in place for the kind of work that was being performed for the UPS replacement? And what existed, that you know of -- written procedure-wise?

A. We would need construction drawings, which we do have. We would need all wiring diagrams, how the existing system is wired. We would need -- which we also have. We would need a sequence -- sequential steps on how we're going to perform the work, which we partially have. And we would need a start-up procedure for the new system, which we also have. We scheduled having a vendor representative come to the site to assist with the start-up. We never got to that point, but that was the plan. And their representative was scheduled to be at the site -- I don't remember the date, but we have it scheduled.

Q. Okay. So there is a written -- a copy of the written procedure that you reviewed that would be available to us?

A. I didn't review it. I wasn't directly involved with the project.

Q. Okay. But you would expect as a supervisor for this, to

-- there would be one in place?

A. Yes.

Q. Would you expect --

A. There is different -- there is various level of details, but it was a fairly simple job, so I wouldn't expect many details on that.

Q. Would you expect the procedure to detail -- in terms of any abnormal conditions or how to respond to abnormal events that could occur in the performance of that procedure?

A. Probably not.

Q. What -- other than electronic monitoring for pressures at Milpitas, and in regards to the supply into 132, are there any charts -- non-electronic pressure monitoring?

A. Not that I'm aware of, no.

Q. As far as the work that's being done --

A. Excuse me, back to the charts. When you say "charts," do you mean mechanical charts?

Q. Some sort of mechanical charts, something not relying on an electronic SCADA signal or --

A. No. We don't have that.

Q. Is there -- in the course of this kind of work, is there an expectation to have some non-electrical pressure monitoring? Some sort of physical, on-the-line, gauges?

A. In some cases, yes. Where we expect losing the data, we do install temporary pressure gauges.

Q. In this particular work being performed, were there any temporary pressure gauges installed?

A. As far as I know, yes. Again, I haven't seen it myself, directly, but from talking to the technicians, I know that they installed some gauges.

Q. Was there anybody that was monitoring those gauges?

A. Part of the construction crew. Again, I don't know the details. I don't know how frequently they did it or they -- or if they were planning on doing it on an as-needed basis.

Q. One of your -- who -- which techs are normally assigned to this Milpitas Terminal -- techs to main the control facilities of the SCADA facilities?

MR. FASSETT: He's not the supervisor of the facility. He's a supervising engineer. He's supervises engineers, not the technicians of the facility.

BY MR. SHORI:

Q. Do you supervise employees that program controllers?

A. Yes, I do.

Q. Okay. So if you've go a tech person or an employee that's capable of programming controller, who would be the -- is there an individual assigned to this particular area to do that kind of programming for the controllers?

A. We have a policy of all programming to be done by the engineers on the control group. The techs are not doing any programming. They may be allowed to install a program to a controller, but the

program will be developed by someone in my group.

They can work with the program, they can use it for troubleshooting, but not to -- not edit it or change it in any way.

Q. What does the program involve? What essentially -- what does the program entail?

A. We would develop a system description -- system functionality that would be reviewed and approved by the operating department, by gas control. And once we agree on how the system shall operate, then one of the controls engineers would use as software for the controller that is going to be used to write the actual code.

Q. So if a tech did have, for example, programming for a Siemens 352, what would be the purpose of him having that if, essentially, the tech can't do any programming on it?

A. He can -- he can install the program to a new controller. If the controller needs to be replaced, he can download the program to the controller. And in many cases knowing how to use the program is a troubleshooting tool. They can see some of the data that may not be readily available elsewhere. Or they can look in the program to confirm that what they see on the display, for example, is indeed what comes to the controller.

Q. And are you aware of which controllers are installed at Milpitas?

A. We have 26 or 28 Siemens controllers.

Q. Which model?

A. 353s, I believe.

Q. Do you have any Siemens 352s?

A. Elsewhere in the system?

Q. No, at Milpitas.

A. At Milpitas? I do not remember. And I know we had 352s. I believe they have been upgraded several years ago to 353s, but I can't say that with certainty.

Q. As part of the UPS work taking place at Milpitas, was there -- were there any temporary measures that could have been taken by the crew doing that work to reduce -- or, basically, retain control of the controller and the trimmer?

A. I don't believe so. I -- the failure that we experienced, in my opinion, was unrelated to the work that they did.

And when they did the work related to the valves directly, they did do what would be expected. They switched the controllers to manual, froze the position of the valves, and did the work, and then switched the controllers back to auto. So they did it exactly as it should have been done.

Q. Okay.

A. When they lost power, that was unanticipated. That was unexpected.

MR. SHORI: Thank you. That's it for me.

MR. GUNTHER: Ravi?

MR. CHHATRE: Yeah, just a couple of questions.

BY MR. CHHATRE:

Q. For this SCADA unit at Milpitas, do you have any document

like operation --

A. When you say "SCADA," do you mean -- what do you mean?

Q. I'm talking about the control unit that we visited the other day.

A. Yes, we have -- we have a complete station description that describes essentially how all the components of the control system work. How the terminal works and how the control system components work.

Q. No, I wasn't looking for a description. I said operation and repairs. I mean, if you want to maintain that unit, how you do --

MR. FASSETT: Clarification: Code requires us to have an operations, maintenance, and instructions for the appropriate station. I believe he's referring to -- we have an OM&I for that station.

MR. CHHATRE: You do have that, okay. And have we requested a copy already for that, Karl?

MR. GUNTHER: We may already have a copy of that.

MR. CHHATRE: Okay. We'll check. If not, we request a copy of that.

BY MR. CHHATRE:

Q. And would that procedure review replacing components like diodes or diagnostic steps a person should be taking?

A. Probably not, if -- if the diagnostic is involved, generally you would expect to find that information in the manufacturer manuals, not our manuals.

Our manuals may include manufacturer manuals, in which case, yes, it would be there.

Q. Okay. And what I was referring to, like, first disconnect this and then disconnect that and then follow whatever the -- I'm looking for like a step-by-step procedure and --

A. No, if you think about the entire system, no. And I think it's impractical. I think it's impossible for us to write that.

MR. CHHATRE: Thanks. That's all I have.

MR. GUNTHER: Mr. Fassett, PG&E?

BY MR. FASSETT:

Q. The word "troubleshooting," that's an interesting word. It means you have found trouble and you have to figure it out, is that correct?

A. Yes, it is.

Q. Generally, it means you have found an anomaly and to this point you don't know what it is or how to solve it, is that correct?

A. Yes.

Q. So to have a procedure to address an anomaly that you've never seen before, is, therefore, impractical, is that correct?

A. That's correct.

Q. Thank you.

So to clarify and to sum all of this up, we've stated that the regulators are electrically controlled?

A. Electronically.

Q. Electronically controlled. The monitor is pneumatically

controlled, is that correct?

A. Yes.

Q. The work that they were assigned to do was completed --

A. That's correct.

Q. -- and control was re-established.

A. That's correct.

Q. So it went from manual to automatic?

A. That's right.

Q. It was some time after that switch-over that they lost power. Therefore, the regulator saw, in its mind, zero pressure and went wide open, is that correct?

A. That's what I've been told, yes.

Q. At which point the monitor, also sensing downstream pressure like the regulator does, said, "Regulator is wide open. I need to catch this." Is that correct?

A. Yes.

Q. Oscar mentioned earlier that he went out and checked monitor pressure.

A. Yes, he did. I was at the site. I was already at the site when we checked the calibration on every monitor.

Q. So is it accurate, therefore, to say that there are gauge taps on each monitor that he could put his analog gauge on and read?

A. Yes.

Q. And there were at that time?

A. I'm not sure if they were gauges. But, like I said, the

monitor are controlled, clearly, on automatic, an each monitor controller -- we have Bristol controllers there -- each controller actually has a dial where you see the actual line pressure.

Q. Built into the Bristol itself?

A. Right. So if you want to verify it, he checked the set point of each Bristol controller, as well as what the actual pressure was.

MR. FASSETT: Thank you.

MR. GUNTHER: City of San Bruno?

MR. CALDWELL: No, sir.

MR. GUNTHER: International IBEW --

MS. MAZZANTI: No.

MR. GUNTHER: Engineers union?

MR. SPERRY: No.

MR. CHHATRE: Can I ask one question?

MR. GUNTHER: Okay.

MR. CHHATRE: Just one question.

BY MR. CHHATRE:

Q. On this particular event, the power was lost from 34 volts to three or seven volts, somewhere around that line. The people working on it initially could not diagnose it, but they pulled all of the wires and they put all of the wires in. And somehow the power came back to 24 volts. That is what I was told. Is that correct?

A. I didn't see what they were doing. I can only tell you what they told me and I'm not sure if they pulled the wires out or

not.

Q. Okay. Let me back up, then.

Did they tell you what I've just described, in so many words?

A. They told me that they checked the voltage on both power supplies and the voltage was, like I said, within about three to five volts. They didn't tell me exactly they disconnected any wires or they simply pulled on them to see if they had a good connection.

I can't answer that.

Q. Did you ask them?

A. I didn't really watch them.

Q. Did you ask them what did they do and how the power came back on?

A. I did. And, like I said, they told me that they were wiggling wires, trying to figure out what it was. And then all of the sudden, the power came back. There was no -- they could not pinpoint what made the power to come back.

Q. And would you consider that as problem resolved?

A. No.

MR. CHHATRE: Thank you.

MR. GUNTHER: Okay. Does anybody have any more operations questions?

All right. Go ahead, Rick?

MR. NARVELL: No questions.

MR. GUNTHER: Okay. In that case, is there anything that you haven't told us that we should know?

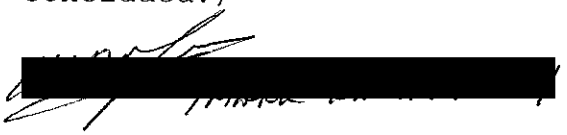
MR. KAZIMIRSKY: No.

MR. GUNTHER: Would you like to make a statement for the record?

MR. KAZIMIRSKY: No.

MR. GUNTHER: Okay. Now, we're off.

(Whereupon, the interview was concluded.)



CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	PACIFIC GAS & ELECTRIC COMPANY SEPTEMBER 9, 2010 ACCIDENT SAN BRUNO, CALIFORNIA Interview of Mark Kazimirsky
DOCKET NUMBER:	DCA-10-MP-008
PLACE:	Burlingame, California
DATE:	September 17, 2010

was held according to the record, and that this is the original, complete, true and accurate transcript which has been compared to the recording accomplished at the hearing.

[redacted]/kmm
Richard Friant
Official Reporter