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: GENE MUSE

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 11:29 a.m.

BEFORE: KARL GUNTHER
Accident Investigator

APPEARANCES:

KARL GUNTHER, Accident Investigator
National Transportation Safety Board
490 L'EnFant Plaza East, S.W.
Washington, D.C. 20594

RAVINDRA M. CHHATRE, Investigator-in-Charge
National Transportation Safety Board
490 L'EnFant Plaza East, S.W.
Washington, D.C. 20594

LAWSON F. NARVELL, JR., Investigator
Human Performance Group
National Transportation Safety Board
490 L'EnFant Plaza East, S.W.
Washington, D.C. 20594

SUNIL K. SHORI, Engineer
California Public Utilities Commission

TOM FINCH, State Liaison
PETER J. KATCHMAR, Senior Accident Investigator
U.S. Department of Transportation
Pipeline and Hazardous Materials Safety
Administration

ROBERT FASSETT, Director
Integrity Management and Technical Services
Pacific Gas & Electric Company

GEOFF CALDWELL, Police Sergeant
City of San Bruno Police Department

DEBBIE MAZZANTI, Business Representative
International Brotherhood of Electrical Workers
Local 1245

JOSHUA SPERRY, Senior Union Representative
Engineers and Scientists of California
Local 20

DANE B. JAQUES, ESQ.
(Counsel for Mr. Muse)
Dombroff, Gilmore, Jaques & French
1676 International Drive, Penthouse
McLean, Virginia 22102

I N D E X

I N T E R V I E W

(11:29 a.m.)

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

What I'd like to do is advise you that you have a right to any counsel that you would wish, of one person. Have you chosen one?

MR. MUSE: Yes.

MR. GUNTHER: And the counsel is?

MR. JAQUES: Dane Jaques, on behalf of the witness.

MR. GUNTHER: What I'd like to do quickly, go around the panel and everybody introduce themselves, name and affiliation.

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, PHMSA.

MR. GUNTHER: And I'm Karl Gunther, NTSB.

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

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

INTERVIEW OF GENE MUSE

BY MR. GUNTHER:

Q. We begin. If I could have your name, address, and phone number for the record?

A. Gene Muse, 375 North Wiget Lane, Walnut Creek 94597 -- or 98, excuse me. Phone number: [redacted]

Q. And your job title?

A. DIMP engineer.

Q. Okay.

COURT REPORTER: I'm sorry?

MR. MUSE: D-I-M-P engineer.

COURT REPORTER: Thank you.

BY MR. GUNTHER:

Q. Okay. What I'd like you to do is describe the process. For example, in this case, you had an old pipe that was put in, in the '50s. How does that get into your new DIMP system and how does that work? From, let's say, a purchase order to completion.

MR. FASSETT: Point of clarification: You mean the GIS system?

BY MR. GUNTHER:

Q. The GIS system. Sorry. And that's a distribution -- yeah, the GIS system. We want to understand how the GIS works.

A. Okay. Say that again? I'm sorry.

Q. I'd like to understand the process of the GIS system from, let's say, a record from the '50s or something of a pipe or something, to how it actually gets into the modern system and the

steps that are -- you know, each step that happens and, you know, what the procedures are.

A. Okay. So, in a regular process -- I'll talk risk management process. When information is gathered from the field or from an engineer or another classification --

MR. FASSETT: Can we go off the record, please?

(Off the record.)

(On the record.)

MR. GUNTHER: Okay. We're on the record.

BY MR. GUNTHER:

Q. Please, can you give me your formal education?

A. I have a BS in surveying engineer out of Fresno State.

Q. Okay. And what courses have you had -- what kind of courses have you had or training through PG&E?

A. I took an NACE CP1 class. I also went through ArcInfo, which is our GIS application that we're using, courses.

Q. Can you say what GIS stands for?

A. Geographical information system.

Q. Okay. And are you under the OQ program?

A. No.

Q. Okay. What I'd like you to do is describe the process of how, let's say, a data record, an old record like the pipe that I'm giving you --

A. Got it.

Q. -- how that ends up into the GIS system and the

different steps that are applied and the procedure.

A. Okay. So, if we are taking this piece of information here -- this pipeline survey sheet that was created, the mapping group or the mapping organization for transmission would take this pipeline survey sheet, draw -- bring in other land-base features, draw in this pipeline according to this plat sheet, and then fill in the information that is on this plat sheet that describes that piece of pipe.

Q. Okay. And as far as what kind of pipe, then, would you go to the other sheet?

A. No, we would only use this when we put in this piece of pipe.

Q. All right. And how about, do you have any idea when, let's say, it went from that sheet in a '50 to that system to -- it looks like '77?

A. '98.

Q. Yeah.

A. This was made obsolete by '98, because our GIS system took full ownership of all of our pipeline survey sheet generation. There was an overlap period of time that that happened. So we did not want to obsolete these yet.

And so on May 28th, 1998, our GIS application at that time was called G-Save, replaced this pipeline survey sheet.

Q. And do you have any idea of how the data from the '56 sheet got onto the obsoleted sheet?

A. Please repeat that.

Q. Do you have any idea -- for example, on the '56 sheet, it's marked, "30-inch seamless pipe." On that sheet, the year before -- pre-GIS -- it's marked "30-inch seamless pipe."

A. Correct.

Q. Do you have any idea how that was transferred?

A. No.

Q. Okay. Fair enough.

MR. GUNTHER: Peter?

MR. KATCHMAR: I'm Peter Katchmar with the US DOT, Pipeline and Hazardous Materials Safety Administration.

BY MR. KATCHMAR:

Q. Is this the eight and a half, eleven -- eight and a half by eleven map, the original size that you had to deal with?

A. No.

Q. Okay. What was the size of that?

A. It was a 36 by 24.

Q. Okay.

A. So it's a pretty good size pipeline survey sheet.

Q. Okay. Are those still available?

A. Yes.

Q. Okay. Are you familiar with any of the information that is on this map or do you strictly take whatever there and put it over to GIS?

MR. SPERRY: Point of order: Can we take what's been

called a map and a plat sheet and designate it as Exhibit 1, so it's clear what we're referring to?

MR. GUNTHER: Okay. So we will call the plat sheet Exhibit 1 and we'll call the purchase order Exhibit 2.

MR. MUSE: This is a pipeline survey sheet.

MR. GUNTHER: Okay. Then, the pipeline survey sheet will be called Exhibit 2. Okay. That will be Exhibit 1, and then the other sheet, which I thought was the purchasing record, will be Exhibit 2.

BY MR. KATCHMAR:

Q. Okay. So the question is on Exhibit 1, when you -- you -- do you do this or do you have people that do this?

A. This was done by a mapping group ~~of~~ OR GM design engineers. This is a group of individuals brought together for their specific specialties. So it's digitizing and so on and so forth.

Q. Sure. And I guess any information that is on Exhibit 1, is it the group's job to just move it from here to the GIS or is there an analysis done on the information when --

A. So to answer the question, the first one -- the sole object was to take our pipeline survey sheets that we used from 1956 to the present, and whatever information was on there, we assumed was accurate and precise. So we took that information and put it into our GIS.

Q. Okay. Was there any analysis performed on any of that data in the process?

A. No.

Q. Okay. All right.

Is -- I guess if -- if there was anything that was wrong -- and help me out here, Dane -- if there was anything wrong with this information and you guys weren't analyzing it, do you know if anybody then post putting it into the GIS system would have looked at it? Are you familiar with who might have done that?

A. Yes.

Q. Who might that be?

A. During certain processes that we have -- for example, our direct assessment process -- we have field engineers that would go out, data collect assumed information or information that we did not know.

These pipeline survey sheets, or Exhibit 1, was assumed accurate and correct. So we would not have gone back to re-analyze this information on this sheet.

Going forward, we have processes in place.

MR. FASSETT: Point of clarification: Bob Fassett, PG&E. Is it accurate to say that during the manual process of the pipeline survey sheet, as the local mappers would have gotten new information, they would have populated that on the pipeline survey sheet? Is was maintained on a regular basis, correct?

MR. MUSE: Correct. And also estimators.

MR. FASSETT: And also estimators. So that was a working map. That was the map that we ran the operations that we

did, right away, for controls based on it. We figured out leak survey requirements, schedules for it. It was an active, maintained working map as the hard copy, paper form, correct?

MR. MUSE: Correct.

MR. FASSETT: So, just so I understand it, you took the information on that hard copy, which is understood to be the operating map for several years -- many years -- and just transferred the data into an electronic form of the pipeline survey sheet?

MR. MUSE: That is correct.

MR. FASSETT: Thank you.

BY MR. KATCHMAR:

Q. Okay. Just -- and if you feel I'm beating a dead horse, just let me know. But I want to just confirm, you -- on Exhibit 1, you take all of this data and you digitize it and you take it for accurate and there's no -- then anything new that the engineers do, they add to it, but there's no analysis of the historical?

A. Correct.

Q. Okay.

MR. KATCHMAR: I'm done. Thank you.

MR. GUNTHER: Sunil? California PUC?

BY MR. SHORI:

Q. Yeah. I guess, just so that I understand it, so this particular plat that was made obsolete in '98 -- do you have a

copy of it?

A. Yes, the pipeline survey sheet.

Q. Okay. And that plat would have been made -- what was the date on the previous plat? It sounds like there were two transfer processes of data. So you took the data from here and put it into GIS?

A. ~~Um-hum.~~ YES GM

Q. And then was there a continuing running plat prior to this that this was maintained in, or did you have transfers that took place prior this, as well, on -- from different plats to different plats?

A. I am not 100 percent sure of the process back in the day when we were converting all of our information into GIS. So all I know is that May 28th, 1998, Exhibit 1 was replaced by our GIS system. So, yeah, anything before that, I'm not 100 percent sure.

Q. Was there -- would there be research done to see if there's any other piece of information or any other -- any other information in addition to this that exists? Is that part of the review process, the data collection process?

MR. FASSETT: Just to clarify, as -- I thought I clarified earlier -- that 24 by 36 hand-drawn pipeline survey sheet that he referred to was a living document. That was the sheet. There was no it went there to another sheet to somewhere else. So when a job would have been built, they would have taken the information off the job and would have populated the data on

that pipeline survey sheet.

Moving forward from then, it would have been assumed that the mapper there in 1956 who populated that plat sheet did it correctly. At that time, I don't know what the union structure was. Today, we have a principal mapper who checks the quality of the mapper's work. I don't know if that existed then.

That becomes the document. And it is maintained and updated.

So if, for example, there's a piece of pipe on there installed in '56 that was replaced in '85, then that updated information would be added to the pipeline survey sheet and you wouldn't have seen the job that was built in '56. You would only see the replacement job that was built in '85. Is that correct?

MR. MUSE: That is correct.

BY MR. SHORI:

Q. So you indicated earlier that going forward you plan to make some changes. Can you elaborate on that?

A. I'm not familiar with that. I mean, I can't remember that. You said make changes?

Q. Earlier you said something about going forward we'll be doing that?

A. I don't understand the question.

Q. Adding new facilities? Were you referring to the addition of new facilities going forward, you'll be confirming -- what changes have you made in addition to your transfer process or

the data that comes into your GIS? Have you made any changes?

A. So we have processes that -- concerning Exhibit 1? Once we brought all of this information, historic information -- or not historic -- this working document, once we brought that in, we replaced this working document with GIS. Any other jobs coming in, through an existing process, is -- is full job packages that come through our mapping organization.

So those are complete job packages. Right now we just -- not right now, excuse me -- when we first created, we took this working document, put it in, made it obsolete, GIS took over this operation.

Q. Okay.

MR. FASSETT: Point of clarification: For the record, we've discussed this off-line. But we've put a team together to go through -- starting with line 132, go through all source data that could have fed the original pipeline survey sheets to validate the original hand-drawn pipeline survey sheets, as part of this requirement of the CPUC to assess our lines. We're considering that part of the effort to assess. Because we, as this team, know that it's probably a material problem and we want to make sure if what we learn from this investigation could be found on any other documents that could give us more information about the rest of the pipeline.

MR. GUNTHER: All right. And, also, maybe a quick -- or a quick question.

You would make changes based on findings, let's say, for example, from the integrity management group? Correct?

MR. MUSE: Correct.

MR. GUNTHER: So, again, we will discuss integrity management later, but I just want to make that clear that these processes meld together, correct?

MR. MUSE: Correct.

MR. GUNTHER: Okay. Sunil?

BY MR. SHORI:

Q. The journal voucher which we've labeled Exhibit 2?

A. Yes.

Q. What does that -- what does that convey? How is that used in determining the joint type on this line? So what is the purpose of that document?

A. This journal voucher would be used by the mapping organization to update and validate Exhibit 1, the pipeline survey sheet.

MR. FASSETT: You mean originally?

MR. MUSE: Excuse me. Yes, originally.

BY MR. SHORI:

Q. And how does it do that?

A. It is letting us know what facilities were put in. It tells the pipe specs. It tells the footage of the pipeline that was put in.

Q. And so does that footage there correlate to the footage

that was put in?

MR. FASSETT: Clarification: It appears that the system -- the numbering system -- would you agree that the numbering system that is used here on this voucher does not appear to be the numbering system we would use today?

MR. MUSE: Correct.

MR. FASSETT: And, therefore, you would have to speculate on what the procurement and materials ordering process was and how it was mapped back in 1956?

MR. MUSE: Correct.

MR. FASSETT: So you would not, therefore, be able to give us that clarification?

MR. MUSE: You are correct, yes.

MR. FASSETT: So, also as a point of clarification, we are in the process of trying to figure out how did we procure materials back in 1956, to understand how they correlated to job orders and things like that. We're trying to rebuild that structure.

BY MR. SHORI:

Q. On that same journal voucher, to the very far right -- the line with the 198 feet --

A. Yes.

Q. -- can you read that for us, please?

A. So, on the same line, far right, are we -- "Plant location, 132, AC 1124."

Q. Do you know what that means?

A. I can only assume.

Q. What do you believe it means?

MR. JAQUES: You mean what does he assume it means?

BY MR. SHORI:

Q. What are you assuming?

A. It's plant location, line 132 -- it went into line 132. And accounting, 1124.

Q. So you've had some -- I don't know if there's been any research or not -- are you aware of any research that's been done to determine what that "AC 1124" means?

A. No.

MR. FASSETT: Point of clarification: We can clarify that subject to check, but in the old accounting system "1124" meant transmission main.

MR. SHORI: All right. That's it for me for now.

MR. GUNTHER: Ravi?

MR. CHHATRE: Yes, sir.

BY MR. CHHATRE:

Q. Can you define your responsibilities as a ~~BING~~ DIMP GM engineer? What actually your duties are?

A. Yes. Currently I am looking into and managing a few programs for distribution integrity management group, under system integrity.

Q. I'm not sure I understand.

A. I am -- I am looking into specific threats, programs that are already existing in our company, but, also, managing the -- certain portions of the code that we need to report on, such as number of ~~(inaudible)~~ EFV's Excess Flow Valves EM installed in our system and compression coupling, the number of failed compression couplings that we have, Grade 1 leaks -- hazardous leaks.

MR. FASSETT: Point of clarification: He referred to himself as the distribution and integrity management program lead. So the new subpart B in the code, subpart B, distribution and integrity management program of Part 192, states that operators have until August of 2011 to develop a distribution and integrity management program. It provides certain minimums that we have to have in the program, like cracking of an installation and excess flow valves, developing or providing a leak management program, et cetera, et cetera.

He's the lead to establish that program for us.

MR. CHHATRE: Lead to establishing an integrity management program for the --

MR. FASSETT: A distribution and integrity management program.

MR. CHHATRE: Okay.

BY MR. CHHATRE:

Q. And what that "lead" means, do you supervise people? Are you in charge of that program? I'm confused. What does "lead" mean to you?

A. "Lead" means I'm assigned to follow up and establish some of our protocols that we are trying to write up for our distribution and integrity management plan.

Q. So there is no other supervisory responsibility than that? Nobody is providing the information that you are compiling?

A. Correct. I am gathering information. I am writing up documentation to support our integrity management plan.

Q. Okay.

A. For approval.

Q. And what other responsibilities besides that?

A. Currently, that's -- that's the extent. That's enough.

Q. Okay. And can you describe your organizational structure? You are an engineer. Who else -- how does that work moving up? Who is your supervisor? How does checks and cross-checks in the system work? I don't know, I thought you were a supervisor coming in. But I just want to understand, who's above you doing the checking and cross-checking of whatever you are doing in the system?

MR. FASSETT: Just to clarify, so we're talking about two different things.

MR. CHHATRE: Okay.

MR. FASSETT: He was brought in because of his experience in having developed -- and assisted in developing the GIS system. He has moved on from being a GIS engineer.

MR. CHHATRE: Okay.

MR. FASSETT: To being the distribution and integrity management program lead.

MR. CHHATRE: Okay.

MR. FASSETT: But because of his experience --

MR. CHHATRE: You brought him in.

MR. FASSETT: -- we brought him in to explain to explain how this was being built.

MR. CHHATRE: Okay.

MR. FASSETT: Because he would have been involved in the program when this sheet became obsolete, because the data was transferred into GIS.

MR. CHHATRE: Okay.

BY MR. CHHATRE:

Q. And then going back -- walk me through how the changes took place within the company from documentation of this sort into -- the current system is "GSAVE"?

A. Our first GIS was called "GSAVE." We upgraded and it's now called "Gas Map." It's a different -- I'll say ESRI operating system. But it's still a GIS, a geographical information system. It's just more robust.

I apologize. Could you repeat the question?

Q. Okay. I'm trying to find out, being an old company -- and this is a 1956 document -- over the years, this kind of documentation currently -- if I'm understanding you're right -- is in a GSAVE kind of a format?

A. Correct.

Q. This is, of course, a hard copy document. And over the years did the system change or the hard copy documentation was continuing until your GIS system came in. Am I clear or --

A. Correct. Correct. This was a -- this -- Exhibit 1, the pipeline survey sheet, it was a working copy until May 28th, 1998, when it was made obsolete by our GIS system.

Q. Okay. And what did that GIS means or did? I mean, how did that system work?

A. So, GIS is a program that takes and matches a graphical representation, spatially accurate, with the data base that's associated to it. So, you have a line segment with pipes, that information.

And what we did was is we created an electronic pipeline survey sheet that we would hand out to the field or to the engineers, because engineering and maintenance groups would use this to do their daily work. So we didn't take it away from them. We just now created electronically and we would print them out.

Q. And can you explain how it was done? How it went from hard copy to electronic?

A. Oh, how we did that?

Q. Yes.

A. There was many steps. What -- we had many sources of information. We had CAD information. We had paper copies and Excel spreadsheets. So the general, overall process was doing a

data dump, manual entry of all pipe spec information off our pipeline survey sheets into an Excel spreadsheet. And then we then took different sources -- hard copy and electronic copy -- of our pipelines in our system and we merged them together through certain GIS processes, so an Excel spreadsheet was merged with a graphical representation once we put it into the GIS.

So GIS, we drew the pipeline in and then brought in an Excel spreadsheet and merged them together.

Q. So they inputted that manually?

A. Correct, by hand.

Q. Okay. And what are the processes, then, to make sure that no errors continued in the data transfer process? What are the cross-checks?

A. During that process, they had a QC or QA process that would go through and take these pipeline survey sheets and then cross-reference them to make sure that they had specific pieces of information. They were validating that everything on this pipeline survey sheet was accurately represented in GIS. We didn't do that with all of them. We just took a random sampling to make sure that the processes were accurate and moving forward.

Q. I think you answered my next question. Was it 100 percent or just random samples? You are telling me it was just random samples?

A. Correct.

Q. So is it reasonable to say, then, that errors could get

translated into your GIS?

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

MR. CHHATRE: Okay.

BY MR. CHHATRE:

Q. How do you ensure -- let me rephrase that question again.

How do you ensure, then, that all of the transfers are accurate?

A. I'm not able to answer that question. I'm not sure. Through our QA process -- I mean through the random validation.

Q. Was that random validation then on a statistical basis of some sort?

A. I can't answer that question. I don't know.

MR. FASSETT: So, to clarify, then, we explained that we believe the mapper back in 1956 would have taken this voucher and any other information, use the information on that voucher to create Exhibit 1. Exhibit 1 calls for the pipe on this rupture site to have been 30-inch seamless pipe. Exhibit 2, the voucher, says, "We purchased 30-inch seamless pipe." That voucher correlates to data that's on the pipeline survey sheet.

There is no quality control error to be perceived through this process, because we have the source data in front of us that confirms the original pipeline survey sheet has the data that we believe was associated with this.

MR. CHHATRE: I think you are taking more into my question than --

MR. FASSETT: No, I'm not taking anything into your question. I'm making a point of clarification.

MR. CHHATRE: Okay.

MR. FASSETT: So that, for the record, it's understood that the source document that we have presented to support the process that we said was used to create the pipeline survey sheet shows a direct correlation between the information that would have come from the job that is on the pipeline survey sheet, from that pipeline survey sheet, the hard copy -- which was then transferred to the electronic system, which this team has a copy of, which also says it's 30-inch seamless pipe, that whole packet was preserved. That's the only clarification I'm trying to make for the record. I'm not trying to be argumentative.

MR. CHHATRE: No, not at all. My question is of a general nature -- let me clarify right up front. All of my questions are going to be in a general nature, not particularly specific to this particular document. I'm trying to understand the process.

I'm not questioning whether this document was transferred accurately or not. I'm trying to understand -- this document, apparently, is transferred to GIS in 1998.

BY MR. CHHATRE:

Q. Is that correct?

A. Correct. It looks like it was replaced in -- it says it was replaced in 1998.

Q. And I believe you said you did random checks for accuracy.

A. Correct.

Q. And the transfer from hard copy to GIS was not 100 percent. Not each document was checked for accuracy as it transferred from your testimony?

A. Correct.

Q. And you do not know if the random sampling came from some statistical study, like every fifth, every fourth -- that kind of stuff?

A. Yes, I was not involved in that.

Q. Okay. And so my question is: If it was not done 100 percent, how do you ensure that all of the document transfer in GIS has no errors? What is the mechanism for that?

A. So there is other checks that we had. We have pipeline engineers that own certain areas. We have submitted to the engineering group -- each engineer who owns his -- I'll say "own" -- or maintains or is responsible for a certain number of these pipelines, they will go through and they would have gone through all of this information to check specific pieces of information.

So pipe specs or that information, I don't think they would have gone through. But pressure information, they would have.

Q. Is that a speculation or you know that for a fact?
A. I know it for a fact.
Q. And every document, respective groups checked?
A. Not documents. The GIS system.
Q. GIS. You said "GIS," but how do they know that a transfer is correct? That's what I'm asking. I'm trying to understand the process, if it is randomly done, how the company knows that all of the transfers is correct. I'm not trying to put you in a corner. If you don't know, you don't know.
MR. FASSETT: Just to clarify, is it your assumption that we have to do 100 percent --
MR. CHHATRE: It is not my assumption. I'm not assuming anything. I'm just asking how do you -- you can just transfer a document from thereafter, eventually it becomes obsolete.
MR. FASSETT: I'm trying to understand. So are you suggesting that the transfer documents in this case was not correctly done?
MR. CHHATRE: I didn't suggest anything. I'm just trying to understand the process of how you do it. That's why I said very clearly, my questions are of a general nature to understand the transfer process.
MR. FASSETT: I believe he has answered that.
MR. JAQUES: I'm going to have to object on this point, because he's fully described the process that was used. And I think factually that's all of the information that he has for you.

MR. CHHATRE: That's fine. I just want to double-check and make sure that there's no misunderstanding. But that is fine.

BY MR. CHHATRE:

Q. Now, what happens after GIS to GSAVE? And does that transfer happen and when did that happen?

A. GSAVE is the name of our GIS.

Q. Oh, okay. So you're using the same system?

A. Correct.

Q. I got confused. I thought there were other transfers from GIS to GSAVE.

A. No. Hard copy into GIS. GIS, we named the application GSAVE. And then we named it -- when we went into a different version and a different operating system, we named it Gas Map.

Q. I'm sorry, repeat that again? GSAVE became now what?

A. Gas Map.

Q. So, now, as we speak, it's called Gas Map?

A. Correct.

Q. Not GIS, not GSAVE?

MR. FASSETT: Point of clarification: GIS is the general terminology for "graphic information system."

MR. CHHATRE: I got that. I got that. And you guys are talking about GSAVE.

MR. FASSETT: No, let me finish.

MR. CHHATRE: Okay.

MR. FASSETT: GIS is the general term. The software

that was used at one time was called GSAVE.

MR. CHHATRE: Okay.

MR. FASSETT: It was upgraded to a different kind of software called Gas Map.

MR. CHHATRE: Okay. It's much clearer now. So the software was for GIS is GSAVE, and now the new software is --

MR. ~~BECK:~~ MUSE GM Excuse me. For clarification -- the clarification is --

MR. FASSETT: Can we go off the record, please?

(Off the record.)

(On the record.)

BY MR. CHHATRE:

Q. Now, what happens if somebody goes in the field with your document, printed from GSAVE, and then they find out that the information is not accurate, for whatever reason? I'm not saying it happens, but if it happens, what is the process for that person to get that thing corrected and that information goes into your system?

A. Okay. So what they would do is mark up that map with the right information, and then from there they would send it into mapping and mapping would make the correction.

Q. And would the person suggesting or identifying that error, would he or she get that information back in the GIS, that action has been taken?

A. Correct. The process would be that mapping would send a

notification that that had been put in.

Q. Okay.

A. But I also want to state that in that process, mapping would go through and pull the job to verify. They would not just take the field personnel's word on it. They would need engineering support and they would pull the job to validate that information. They wouldn't just blindly go where they're told. They have procedures and processes that they follow, pulling jobs, making sure the information that they're going to change is accurate and precise.

Q. And how would they -- I'm glad you said that. How would they check that? You said they would have engineering or somebody to validate that. How would they validate that?

A. They would pull the job -- the actual job, job package, go through that, verify and validate. Because the initial -- again, the initial data source was this working document. So now they would go back in and pull the job --

Q. Pardon me. What do you mean "pull the job"?

A. Yes, thank you. They would go out, research where the job is located and check out the job from the local office that it's stored at.

Q. So would they physically go to the excavation location and find out that the bump or pipe or whatever the component may be, indeed is different than --

A. No, mapping does not do field checks.

Q. No, not mapping. I said the person who edits that, would he or she -- I'm still really confused. I'm the worker. I saw that this particular bump is different than the pipeline survey sheet is different. I make a note on the map. I send it to my team commander -- whoever that may be, and it comes to mapping. Mapping makes the changes and you say mapping makes the changes after somebody has validated all of the information and comes to you. Am I correct? Or am I thinking too fast for you?

A. You may be speaking too fast.

Q. Okay. I'm the person who found the error. It could be a bump, it could be any component.

A. Correct.

Q. Whichever you want. I fill the forms in and I pass it on through my chain of command. I'm a field person and I would have some supervisors.

A. Correct.

Q. Validation is done at that stage?

A. No.

Q. Okay. So it comes to -- the supervisor sends it to you guys?

A. Mapping.

Q. Mapping makes the changes?

A. Mapping will do the investigation to see if the recommendation of what the field person is doing, and then they will enlist an engineer, if needed, who owns -- who is responsible

for that pipeline. Or if it's simple enough, where they can look at the job and say, "Yes, correct." Or it could be as simple as, "You've got the main line valve on the wrong side of the road. You need to put it on the other side."

Q. So independent of the person making the request. Somebody -- mapping will contract somebody within the company, outside the company, and they will go and validate if the information is correct or not correct. And then you make changes? You said --

A. Mapping will receive the record of the change. Then they will go and locate or make a request to the local office for that job.

Q. Okay.

A. And that job will be copied and sent to them. And then they will validate it, look through the job package, make sure everything -- and they won't look at just one specific piece of information. They will look at all of that information along that pipeline.

Q. And how many instances has that happened, that you are aware of?

A. Thousands -- not thousands, excuse me. I'm not 100 percent sure on that. A lot.

Q. A lot. Okay.

A. It is -- it does happen.

Q. And did this happen predominantly on the older system,

compared to the newer system?

A. Correct. Because the newer pipelines that are installed, we have all of the information.

Q. I was thinking about that, but I just want to get confirmation from you.

A. Correct.

Q. And is this information available or where do you keep a record of it?

A. What information? Excuse me.

Q. The changes confirmed as error or --

A. I'm not 100 percent sure.

Q. Okay. The other question I was -- I believe it was Sunil's question, that any time you make a GSAVE -- I think maybe Bob mentioned that it's a working document, the map is a working document. And as you make changes in the pipeline, the changes will be reflected onto the drawing. Is that correct?

A. Say that again. I'm sorry.

Q. Okay. I didn't -- the 28 by 30 inch map that I think you or Bob was talking about -- it's a big map -- as the system evolves -- let's say you put in an additional service line, or whatever, then the changes will be made on that map. And I believe you said it's a working document?

A. Again --

MR. FASSETT: This is a pipeline survey sheet for the purpose of tracking where the transmission line is. It's not a

distribution --

MR. CHHATRE: No, I only gave an example. You can take a transmission line. What I'm saying is any changes that are made --

MR. FASSETT: Well, you said "services." I wanted to clarify that that is not the document that services would be tracked on.

MR. CHHATRE: Okay.

BY MR. CHHATRE:

Q. But any changes that are made are made on that document, right?

A. Were.

Q. Were, okay.

A. Before we went live to GIS.

Q. Right.

A. Okay. And then this hard copy, working document was retired.

Q. Now if changes are made, how do they go into the GIS system?

A. The mapping group would take whatever changes that were handed to them from many different sources --

Q. Right.

A. Okay? And they would, if it was a job package or an as-built or so and so forth, they have that information, they would then put that information in. If it was a recommendation --

Q. Okay. I got that. And my question is, would that be called Revision 1, Revision 2, or the changes are made and the document still remains -- in other words, if I were to go back and look at any one of those drawings, will I see the most recent? And if I were to go back, would I see the original versus all of the changes made, step by step, to the latest version?

A. So we have a process that we have installed -- because of our integrity management program, and it is audit change log, and it tracks all of our changes that we've made to the pipeline from -- I'm not --

Q. But you can go back and see the history of changes?

A. Correct.

Q. That's all I want to know.

A. Yes.

Q. You can view the history?

A. Yes.

Q. Okay. Do you know the oldest system -- transmission system, the year, in the PG&E system?

A. Say that again?

Q. In your GIS or GSAVE system, what is the oldest pipeline in the PG&E transmission, year-wise? 1948? 1956?

A. I can't answer that without --

Q. Okay. That would be available through GSAVE?

A. That would be available through our current application called Gas Map, correct.

Q. Gas Map. I'm sorry. I've got that now. Okay, Gas Map. Okay, great.

MR. CHHATRE: I got all of my questions answered. Thank you very much. Thank you for your patience.

MR. GUNTHER: Mr. Fassett?

MR. FASSETT: No questions.

MR. GUNTHER: IBEW?

BY MS. MAZZANTI:

Q. Would it be safe to say that any changes that are made in these programs at all, that there is what we would refer to as footprints? So that there's a footprint of going in, changes, or any modifications?

A. Correct.

MS. MAZZANTI: No questions.

MR. GUNTHER: Okay. A couple of follow-ups.

BY MR. GUNTHER:

Q. One, I believe it was 1998, you said that the -- it was switched over to GIS. Between '98, let's say, and your present, were you a supervisor in GIS at that time?

A. No.

Q. Okay. What was your function in the GIS?

A. Supporting the mapping group, supporting the field crews, utilizing GIS.

Q. So you had a good view, let's say, of the oversight of the GIS -- a good view of the whole GIS system, how everything

worked?

A. Correct.

MR. GUNTHER: Okay. Peter?

(Off the record.)

(On the record.)

BY MR. KATCHMAR:

Q. Okay. Mr. Muse, Peter Katchmar again with DOT.

On Exhibit 2 in front of you there, there's no -- there's no company -- pipe company associated or listed on this sheet. Have you seen any identifiers on any other sheets that you can remember for 30-inch seamless pipe?

A. No.

MR. KATCHMAR: Okay. Thank you.

MR. GUNTHER: Sunil?

MR. SHORI: No, nothing.

MR. GUNTHER: Ravi?

MR. CHHATRE: One.

BY MR. CHHATRE:

Q. During your tenure in the -- what do you call -- designing or mapping group, who was your supervisor at that time?

A. Chris Warner.

Q. Is he still with the company?

A. No.

Q. And who was Chris' supervisor? Since I do not know the titles.

A. Correct. During that time --

Q. During your tenure when the transfer was happening.

A. Correct. And I'm just trying to think during that moment in time --

Q. And if you do not remember, you can send it to me later.

A. I don't remember.

Q. You can send it to me later. And I just need to know the name if he's still with the company.

A. Okay.

MR. CHHATRE: Thanks. No more questions.

MR. GUNTHER: Okay.

MR. CHHATRE: Can we go off the record for a second?

MR. GUNTHER: Okay.

(Off the record.)

(On the record.)

MR. GUNTHER: Is there anything that we should know that you haven't told us?

MUSE GM

MR. ~~BECK~~: No.

MR. GUNTHER: In your opinion.

Okay. Secondly, is there any statement you would like to make for the record?

MUSE GM

MR. ~~BECK~~: No.

MR. GUNTHER: Thank you very much for your cooperation. Okay, now we're off.

(Whereupon, the interview was concluded.)

[redacted]

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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 Gene Muse
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]
Richard Friant
Official Reporter