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In the Matter of an Investigation Into an Incident in December 2005 at the Taum Sauk Pumped Storage Project Owned and Operated by the Union Electric Company, doing business as AmerenUE.	)))))))	Case No. ES-2007-0474

COLLEEN M. DALE, Presiding,
CHIEF REGULATORY LAW JUDGE
JEFF DAVIS, CHAIRMAN,
STEVE GAW,
LINWARD "LIN" APPLING,

COMMISSIONERS.

REPORTED BY:

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P R O C E E D I N G S

JUDGE DALE: Good morning. We are back on the record in Case No. ES-2007-0474, and we are about ready for Staff to begin examination of Mr. Voss. If you will raise your right hand.

(THE WITNESS WAS SWORN.)

JUDGE DALE: Thank you. You may inquire.

MR. THOMPSON: Thank you, Judge.

DIRECT EXAMINATION BY MR. THOMPSON:

Q. Good morning, Mr. Voss.

A. Good morning.

Q. How are you employed?

A. I'm employed by Ameren.

Q. And what is your position?

A. My current position is the chairman, president and CEO of AmerenUE.

Q. And did you hold that same position in December of 2005?

A. I did not.

Q. What was your position at that time?

A. At that time I was executive vice president and chief operating officer of Ameren Corporation.

Q. And what was your relationship, if any,

to the corporation, AmerenUE, in 2005?

A. I was responsible for the operations of AmerenUE except for the nuclear operations.

Q. Okay. Let me make sure I understand. In 2005 your position was with Ameren, the holding corporation; is that correct?

A. That's correct.

Q. Okay. But you still had responsibilities at that time for AmerenUE, one of the subsidiaries?

A. Yeah, actually, all the operations of all the subsidiaries.

Q. Of all the subsidiaries?

A. Except for the nuclear operations.

Q. Were you also an officer of AmerenUE at that time?

A. Yes. Yes, I was.

Q. Okay. What -- what position did you hold with AmerenUE in 2005?

A. It was executive vice president.

Q. Okay. And it's true, isn't it, that you reported to Mr. Gary Rainwater?

A. Yes, it is.

Q. And that's still true today, isn't it?

A. Yes, it is.

Q. Okay. And in December of 2005, how many subsidiaries were there of Ameren?

A. I actually don't know the total number. I think there's a large number of them.

Q. Okay. I wonder if you could tell me what your education is.

A. Sure. I have a bachelor of science degree in electrical engineering. That's my only -- I also attended the Westinghouse Penn State Power Systems engineering course which was like a three-month course in systems engineering in the University of Michigan, executive -- public utility executive program.

Q. So would you describe yourself as an electrical engineer?

A. Yes.

Q. Okay. And do you recall what year you received that degree?

A. 1969.

Q. Okay. And what was your first job after receiving that degree?

A. My first job was at Union Electric. I came in and was hired in as what they call the student engineer.

Q. Okay. Have you been with Union Electric

or some corporation in the Ameren family your entire working career?

A. Yes, except for the time when I was in the U.S. Air Force.

Q. Okay. So after being a student engineer, what did you do?

A. I worked for Union Electric for several months, and then I enlisted in the U.S. Air Force and went to officer training school and became a commissioned officer in the United States Air Force, was assigned engineering tasks for those -- for my four years as -- at an aerospace guidance and metrology center where I worked on inertial guidance equipment and calibration systems.

And then I -- then I got out of the Air Force and went back to Union Electric as an assistant engineer in an underground planning department.

Q. What exactly is an underground planning department?

A. Did planning for the St. Louis downtown network design and then also cable systems in general and underground transformer systems.

Q. Okay. And how about after that what did you do?

A. I did that for a few years, and then I

was transferred as an engineer into our meter group and served as an engineer there. That was in, I think, 1978. And 1979 was when I went to the Westinghouse Penn State Power Systems engineering program, and then came back to the meter department and worked there until 1982.

Q. And in 1982 what did you do?

A. I was given a operating assignment. It was the time when the Meramec River floods in -- in Times Beach and Valley Park, and I was given responsibility for the restoration of our facilities there.

So I -- they moved me into our distribution operating department as a staff engineer and then later kept me there as an assistant engineer -- I mean assistant superintendent and a superintendent primarily doing PCV removal work.

Q. Okay. And how long did you do that?

A. Did that until 1987 when I became a district manager of our Geraldine district which our -- in the north city in the Clayton area of St. Louis.

Q. And how long did you do that?

A. Did that for one year, and then in 1988 I became manager of our distribution operating

department which was responsible for the system-wide metering forestry dispatch operations and substation operations.

Q. Okay. And how about after that?

A. I did that job for ten years, and during that time I was involved in the great earthquake scare of 1990 and the floods of 1993 and the automatic meter reading system installation in '95.

In '98 I was moved to Springfield, Illinois where I was made a regional vice president for Central Illinois Public Service. It was after we had -- they had just merged with Union Electric to form Ameren.

Q. Okay. And the title, I'm sorry, was?

A. It was vice president of regional operations for Central Illinois Public Service.

Q. Okay. And what did you do after that?

A. I did that for one year, and then in 1999 I was moved back to St. Louis and was made senior vice president of customer service and was responsible for the -- the T&D business and customer service business for both Union Electric and Central Illinois Public Service.

Q. And after that?

A. I did that through the acquisition of -

of Silco, and then in, I believe it was 2003, I became senior vice president of generation and was put in charge of all Ameren generating facilities, marketing, trading and fuels, except for nuclear.

Q. Okay. And how long did you hold that position?

A. Held that position until January of 2005 when I was made executive vice president and chief operating officer of Ameren, and then was given responsibilities for all the operational functions of the company except for the nuclear operations.

Q. And that was the position you held in December of 2005?

A. That is correct.

Q. And when were you transferred or promoted to your present position?

A. Present position was in January of this year.

Q. Okay. And you didn't hold any intervening position, did you?

A. No.

Q. Okay. And now, you've made it clear that your responsibilities don't extend to nuclear operations. Who is responsible for Ameren's nuclear operations?

A. Well, I -- I do now. Since January of -- of this year, I'm responsible for all of Union Electric's operations and just of the entire company --

Q. I see.

A. -- so it's including nuclear. But that only happened in January of this year.

Q. So in December of 2005, I wonder if you could tell me who reported to you directly.

A. All my direct reports?

Q. If possible.

A. Well, I had Richard Mark, Scott Cisel, Andy Serri, Alan Kelley, Dave Whiteley, Mike Miller. I think that was it.

Q. Okay. And Richard Mark, what was his responsibility at that time?

A. He's senior vice president of energy delivery at Union Electric.

Q. And Scott Cisel?

A. He was vice president of Central Illinois Light Company. And actually he was vice president of really all the Illinois operating companies.

Q. And Andy Serri?

A. He's president of AmerenEnergy and

AmerenEnergy Marketing.

Q. And Alan Kelley?

A. He was senior vice president of generation.

Q. A position you had formerly held yourself?

A. Yes, but it was -- it was -- it wasn't exactly the same position.

Q. Had been somewhat restructured?

A. Yes, somewhat.

Q. Okay. How about Dave Whiteley?

A. He was -- I think he was senior vice president of services -- energy delivery services.

Q. And finally, Mike Miller?

A. He was president of our fuels company, AmerenEnergy Fuels and Services.

Q. Now, of these, I think it's six people who reported directly to you in December of 2005, which of them was responsible for the operation of Taum Sauk? In other words, in whose chain of command was the Taum Sauk plant?

A. Came under Alan Kelley.

Q. Okay. The senior vice president of generation?

A. That's correct.

Q. And do you know who reported to Alan Kelley in the -- in the line that led to Taum Sauk?
A. It would be Mark Birk.
Q. And again, in the line that leads to Taum Sauk, who reported to Mark Birk?
A. The plant managers, the Union Electric plant managers as it related to Taum Sauk. I think at the time of the failure it would have been Warren Wood.
Q. Okay. If you recall in December of 2005, how many generating units did AmerenUE have?
A. Oh, I -- I couldn't tell you. There's a -- there's a lot of generating units. I mean, there's small ones that are scattered all over Missouri and Illinois. I don't have an exact number.
Q. So it's a large enough number that you can't recall it offhand?
A. I can't recall it offhand. It would be somewhere between 40 or 50 units, I -- something.
Q. Okay.
A. I'm not really sure of the number. There was a large number of them, though.
Q. And in the organization that you headed in December of 2005, who was responsible for safety?
A. Well, you know, I -- we -- everyone is

responsible for safety in the organization.

Q. Okay. So there was -- there was no single individual who was primarily or particularly charged with safety?

A. Oh, there are. There are people that are -- there's corporate safety staff, there's energy delivery safety staff, there's also safety individuals that are located within the divisions that are safety supervisors, safety professionals. Plants have safety professionals. There's -- there are people that are full-time safety specialists.

Q. Okay. And they would have been part of your organization?

A. In some manner or another, yes.

Q. Now, how familiar are you with Taum Sauk?

A. I don't know how to answer that. I -- I know the facility and I've seen it a couple times and I know what it did.

Q. So you visited the site a couple times?

A. Uh-huh, correct.

Q. And you know how it operated?

A. Somewhat.

Q. Okay.

A. Not -- not in detail but in general

terms.

Q. We have heard that there was a project or projects at Taum Sauk in 2004, the liner was installed in order to stop leakage and that the control system was replaced or upgraded. Are you aware of those projects?

A. I'm aware of the liner being replaced and some of the instrumentation. I don't believe the control system itself was replaced.

Q. Okay.

A. But some of the instrumentation was replaced and some of the controls of some of the instrumentation was replaced.

Q. And were you aware of the -- those projects at the time?

A. Yes, I was.

Q. Did you --

A. Well, I was aware of the liner replacement. I was not aware of the -- of the instrumentation changes.

Q. Was that something that you would not typically be aware of in your position?

A. That's correct.

Q. If you know, how did those projects come to be?

A. Well, they would -- and I don't know those specific projects but usually the plant -- people initiate projects that they think their plant needs and those are submitted up through their management for approval.

Q. So as far as you know, they were initiated by people at the plant?

A. Yes.

Q. Okay.

A. As far as I know. I don't exactly know who initiated it.

Q. I understand. And if you know, were those routine projects or were they unusual projects?

A. The liner was an unusual project, but there are routine projects that are submitted at times by plant people.

Q. Okay. And who are they submitted to?

A. Through their management.

Q. So in other words, who -- who would have approved those projects?

A. The -- eventually they get approved -- depending on their level of -- of complexity, they're usually approved, though, by the vice president of their -- of their area.

Q. So would that have been the vice

president of generation?

A. It would have been the vice president of power operations for Union Electric.

Q. Okay. And who was that, if you know?

A. I'm not sure at that point in time. When that project was initiated it was -- it was -- it could have been Mark Birk or it could have been his predecessor.

Q. Okay. And would that individual have had the responsibility and the authority to set a budget for the project?

A. Yes.

Q. How did you first learn of the collapse of the upper reservoir at Taum Sauk?

A. I was at home and was called on the phone.

Q. Who called you?

A. I believe it was Alan Kelley.

Q. Do you recall what time of day it was?

A. It was in the morning. It was 6:30 or seven o'clock in the morning. I was actually on a day of vacation.

Q. It probably ruined your day.

A. It certainly did.

Q. Would there have been a protocol as to

who was informed of this kind of event? In other words, is it something that was done on an ad hoc basis or was there actually a designated or set order of providing information to officers of the corporation?

A. There's a protocol for the Taum Sauk operating instructions about who they notify of certain events, but as far as who would be notified in the -- you know, a significant event, you would normally notify your direct supervisor and he would determine whether it was appropriate to notify -- keep increasing the notification. That's kind of how the policy's been.

Q. Okay. So did you then call Mr. Rainwater?

A. I did. He was already in the office and I told him I would come in. I don't recall, but I think he already knew about it when I called him.

Q. Going back to the corporate organization, I think you told me that in 1998 you worked for CIPS and that the Ameren group had just been formed?

A. That is correct.

Q. So that did occur in 1998?

A. I believe it was in January of 1998 when

Ameren Corp. was formed.

Q. Do you recall when the Public Utility Holding Company Act was repealed?

A. I don't know.

Q. Okay. If you know, had that been an impediment to the creation of that sort of structure previous to 1998?

A. It's my recollection that -- that the Holding Act was repealed since then.

Q. Okay. So if you know, why did -- why did UE adopt this new structure in 1998?

A. I don't know that at that time.

Q. Who would know that?

A. I -- whoever was the corporate -- you know, corporate president at that time.

Q. And who was that, do you know?

A. I think it was Chuck Miller.

Q. If you know, when did UE begin making significant off-system sales?

A. UE has always made off-system sales. I don't know that you would ever characterize them as significant.

Q. And when you say that you don't know that you would ever characterize them as significant, do you mean that they are not -- they are significant

in size?

A. The UE system, its reserved margins are such that it -- there really isn't all that much of a reserve, so that we -- at time of peak there really isn't that much to sell in products that you can't sell around the clock, really -- around the yearly things, really aren't -- I wouldn't say significant.

Q. Okay.

A. However, you know, off-system sales does help reduce customers' rates, so it's a good thing.

Q. Because customers are credited with that income?

A. It sees a factor in -- in -- our revenues are factored or offset against our expenses.

Q. Now, in 2003 you told me you were the senior vice president of generation; is that correct?

A. Yes, towards the end of 2003.

Q. And that included, I think you said, the trading organization?

A. Yes, it did.

Q. Tell me about the trading organization. What -- what's its purpose?

A. Well, actually, there was -- there was two trading organizations, and since we had an unregulated generation business in Illinois, their -

their job was to sell the excess generation off those unregulated assets. The trading organization that was -- that covered AmerenEnergy, was -- their purpose was to sell the excess assets for the UE and the parts of the joint -- that was part of the joint dispatch agreement of the plants that were in Illinois.

And if they could -- if they -- they would participate in day-to-day activities. It would be to make up for when we were short and then to see if you could sell if we were long.

Q. So they both bought and sold power as needed?

A. Exactly.

Q. Okay. Have you ever met Richard Cooper?

A. Yes, I have.

Q. And he was part of your organization, wasn't he?

A. Yes, he was.

Q. Are you familiar with the report into the Taum Sauk incident that was done by an independent consultant hired by Ameren, what we've referred to as the Rizzo report?

A. Yes, I've read it.

Q. And are you familiar with the FERC staff

report?

A. Yes, I've read it.

Q. And are you familiar with the FERC independent panel of consultants report?

A. I think I've read all of them, possibly not all of the appendixes.

Q. And all of those reports reach the conclusion, do they not, that the cause of the incident was human error?

A. I think they were fairly all consistent that the cause was the facility was not built properly originally in 1963, whenever it was built, and then also that there was an overtopping of the facility at the time of the breach.

Q. That -- okay. Those reports suggest that there were defects in the original construction, don't they?

A. Yes.

Q. And that those defects made the upper reservoir dam particularly susceptible to destruction through an overtopping event?

A. I don't know if I could characterize it that way, but I do know that when you did overtop it, the severity was greater than what would have been expected. So more destruction occurred than what

would have been predicted by the models.

Q. Okay.

A. Due to the fact that it wasn't -- it wasn't built as -- as thought.

Q. And with respect to the construction defects, if you recall, they suggested that perhaps the slope was too steep?

A. I don't remember that particularly. I remember the fact of the fines and the fact that the materials were -- were not sufficient and it wasn't -- I believe it wasn't actually built on bedrock as -- as designed and it was actually some layer of -- of dirt or something there that wasn't supposed to be there.

Q. Okay. Do you recall the conclusions reached by those reports with respect to the overtopping event on the night of December 14th/15th?

A. Yes, I -- well, I -- I recall those.

Q. Okay. And those reports concluded that there was human error involved in that overtopping, did they not?

A. Yes.

Q. Well, have you fired anyone as a result of this incident?

A. Well, we have not fired anyone.

Q. Why not?

A. Well, normally it's been our culture to fire people for doing intentional wrongdoing, things like, you know, stealing, cheating, something intentional. Errors in judgment usually results in demotions, changes of responsibility, things like that, but not necessarily firing.

Plus investigations. All those things are usually reviewed when all investigations are completed, and investigations here are still continuing.

Q. Okay. I think we've heard from your counsel that this event has cost Ameren upwards of $40 million to date; is that correct as far as you know?

A. I think we said it was something like 20 million a year, and then there's -- in operating costs, and then there's also been fines and penalties. So that sounds like a reasonably good number.

Q. Would you agree with me that that was a fairly significant error in judgment?

A. Yes.

Q. Were you involved in hiring Anthony Zamberlan to work on the instrumentation project at

Taum Sauk?

A. I was not.

Q. Who would have made that decision?

A. Actually, I -- I'm not aware of who would have made that decision.

Q. Okay. So it's -- that decision was made in -- in a -- in a -- by a person so removed from you in the organization you're not even aware who it was?

A. That's correct.

Q. Okay. Now, you indicated that the project would have been approved perhaps by Mr. Birk or his predecessor?

A. That's correct.

Q. Do you think that that is the person who would have hired Mr. Zamberlan?

A. I doubt it.

Q. You think it would have been someone other than that person?

A. Yes.

Q. Now, we've learned -- we've learned in these hearings that the operation of the dam is the responsibility of one organization or corporation, and that the projects at Taum Sauk in the summer of 2004 were undertaken by another organization or corporation; is that your understanding?

A. Yes.

Q. Okay. That other organization, the one that Mr. Bluemner and Mr. Pierie worked for, is that also within the structure that you are the executive of?

A. At that point in time, yes.

Q. Okay. And was that Ameren Services?

A. Yes.

Q. Am I correct in understanding that Ameren Services had an engineering staff who did projects at any Ameren facility depending on need?

A. That's correct.

Q. If you know, what was the -- what was the interplay between the project engineers who came from Ameren Services to do a project at a facility and the people charged with operating that facility on a day-to-day basis?

A. Well, I guess you -- you could characterize it as the plant people would be -- who operate the plant, I would characterize it as if they're hiring them to do work for them just as you would if you hired an outside engineering firm to do work for you, for instance, for McDonnell's or Black & Veatch.

And so I would say here the plant people

would view -- should view themselves as being the -- as the employer, and the engineering people would view themselves as being people providing the service.

Q. So they were essentially in the position of being the customer?

A. Yes.

Q. Okay. Did that -- in your understanding, did that mean that they had the ability to indicate how they wanted the work done?

A. Absolutely.

Q. Okay. So -- so the authority, in your view, lay in the people who were charged with operating the plant on a day-to-day basis?

A. Absolutely.

Q. I wonder if you know how outages are arranged?

A. Well, there's a number of ways. You know, if a -- if a plant -- sometimes it just shuts down and you have an outage because of some kind of component issue. You certainly have plants shutting down because of safety concerns, and they're just taken down.

And then if there's a need to -- to perform a modification where it's not considered an

emergency condition or a safety condition or a thing that you could actually schedule it, then the plant people tend to arrange a schedule with the trading people to work out an appropriate time to take the plant out of service.

Q. Okay. So there are forced outages when something breaks?

A. Correct.

Q. And there are safety-related outages, maybe in an emergency situation or to avoid an emergency?

A. Correct.

Q. And then there are scheduled outages when modification work can be undertaken?

A. Correct.

Q. Okay. And in the case of a safety outage, how does such an outage occur?

A. Plant -- plant operational management just takes the plant down.

Q. So in the case of Taum Sauk, would I be correct in understanding that that would be the prerogative and responsibility of Mr. Cooper?

A. Yes.

Q. Okay. And what --

A. Ultimately his responsibility.

Q. Ultimately. What if Mr. Cooper is unavailable, would there have been anyone else at the plant who could cause a safety outage?

A. Well, whoever else was left in -- responsible. Mr. Scott, if he was left responsible for the plant if Mr. Cooper wasn't there, or whoever else they would decide -- designate. If they both were unavailable, I'm sure they would make -- someone else was then made responsible. And of course, the operator at Osage could always shut the plant down too.

Q. Okay. Let's take the operator at Osage. Did the operator have to get permission or authorization from anyone to take the plant out of service?

A. Not for a safety-related issue or an emergency situation.

MR. THOMPSON: If I could approach, your Honor?

JUDGE DALE: Yes.

BY MR. THOMPSON:

Q. I'm gonna show you an e-mail that I think is already in evidence as Exhibit No. 44. I think it's actually two e-mails. The top is an e-mail from you to Mark Birk; is that correct?

A. That's correct.

Q. And the bottom is an e-mail from Mark Birk to a number of different people and evidently copied to you as well; is that correct?

A. That's correct.

Q. Now, the e-mail from Mr. Birk seems to describe a situation -- and correct me if I'm wrong -- where the trading organization would push the generating units to remain on line as much as possible, and it seems to say that the generating organization is expected to push back. Is that a correct characterization or a fair characterization?

A. I wouldn't characterize that that way.

Q. How would you characterize it?

A. Well, I think what Mark was trying to do with this note was to make it crystal clear to the plant operating personnel that they were responsible for deciding the operations of the plant, and that they shouldn't push off that responsibility to another organization.

Q. Okay. And, in fact, that's exactly what you described to me when we were discussing outages, isn't it?

A. That's correct.

Q. Okay. So tell me if I'm wrong, then, in

concluding that the plant operators at Taum Sauk failed to cause a safety outage when perhaps they should have.

A. Well, I think we've said many times that they never felt it was a safety issue. If they had, I think they would have taken the appropriate action.

Q. Okay.

A. It's great looking at it from hindsight.

Q. I understand that, and it's -- and it's unfair, isn't it?

A. I don't know if it's unfair. It's just everybody does it.

Q. Okay.

A. But I'm just saying at the time we never got any indication that any of them at any time ever thought the facility was in danger of rupturing or failing. And I don't think anybody ever made a decision in the organization at any time that would have put the facility -- that they thought they were putting the facility in danger.

Q. Okay. If you can remember back to that period, were you ever aware that the -- the pipes in which the control instrumentation was located had broken loose of their attachments and were, in fact, floating or moving in the reservoir? Were you ever

aware of that?

A. I was not aware of that. I didn't even know there were instruments in pipes.

Q. Okay. So your comment -- looking at your e-mail, you would agree with me that your comment was, "Great note. I'm proud of you." And did you mean by that that you felt that Mr. Birk had accurately and clearly expressed the responsibilities?

A. He was fairly new on the position and I was -- I was proud that he took the initiative to tell his operating personnel what their responsibilities were.

Q. Who was responsible for asset preservation in your organization?

A. Whoever is operating that asset.

Q. So, again, it would have -- at Taum Sauk it would have been the plant operating personnel?

A. Yes.

Q. Okay. As far as you know, has Taum Sauk recouped the investment that was made to construct it?

A. I'm not aware of those figures.

Q. Who would know?

A. Probably somebody in our property

accounting.

Q. That's not something that you're aware of in the top executive level of Ameren?

A. I've been pretty much focused on operations my whole career.

Q. Okay. If I told you that we think that Taum Sauk had recouped the investment made to construct it by September of 1999, would you have any reason to disbelieve that?

A. I would have no -- I don't have any opinion on that. I don't know if it did or didn't.

Q. Okay.

A. I just don't know.

MR. THOMPSON: I have no further questions. Thank you, your Honor.

JUDGE DALE: Thank you. Mr. Mills?

CROSS-EXAMINATION BY MR. MILLS:

Q. Good morning, Mr. Voss.

A. Good morning.

Q. Mr. Voss, who's in charge of the internal investigation at UE into the Taum Sauk incident?

A. Well, there's -- there's a lot of people that were involved in it, but primarily Mark Birk.

Q. You said "were involved." Is that - is

that investigation concluded?

A. I said are involved. No.

Q. It's ongoing? And Mr. Birk is -- is in charge of the investigation?

A. It's a -- overall, yes.

Q. And are you kept abreast of the -- the progress of that investigation?

A. At times.

Q. Are you current as you sit here today with the progress of that investigation?

A. I think I'm part of the investigation today.

Q. Okay. And is the internal investigation -- excuse me -- turning up any different information than either this PSC investigation, the Highway Patrol investigation or the FERC investigations?

A. I don't think there's been any new information turned up. The -- all the -- all the investigations, I think, have been pretty consistent.

Q. What is the purpose of the internal investigation?

A. To cooperate with all the other external investigations.

Q. Does it have a goal in and of itself?

A. I think we achieved our goal is when the FERC and the Rizzo investigation were completed, that we had an understanding then of what was -- how the facility failed and what was involved in the errors that were made.

Q. Did either of the FERC reports identify particular UE employees who could have or should have prevented the failures?

A. I -- there were people who -- I think there was -- there was judgment that was determined that could have been -- people could have made better decision-making processes, some of the people as we talked about, some of the operating people and some of the engineering staff.

Q. And you think those conclusions were drawn in which reports?

A. Well, I think as a -- as a -- as a result of all those reports, we would draw some conclusions that some people -- there was some mistakes made.

Q. Okay. And who were those people that made mistakes and what specifically were the mistakes that UE has concluded?

A. I think we -- we concluded there was some problems in communications between the

engineering and the operating staff. There was some errors in taking a conservative view of the facilities -- operating facilities in a conservative and safe manner. You know, some of these things that -- procedures and policies needed to be more rigorous.

And so I think we've -- since then we've taken some steps to form like a dam safety group to ensure that there's -- no one person makes a decision that would affect a facility like that. We've reemphasized the operational responsibilities of management, and we've also formed a quality management organization to -- to make sure that those gaps are all filled that we -- that we felt that we identified.

Q. Now, one of the things that you said in that answer is that you formed a dam safety group so that not one person is not solely responsible for making these kinds of decisions; is that part of your answer?

A. Well, you know, I -- and when I think of it, I meant to say is that part of the dam safety processes is that there will be more peer reviews of changes that are made, design -- that would affect design -- design basis decisions and

operations. Of course, the head of the dam safety group has -- has responsibilities to make sure all that happens.

Q. And who is that?

A. That's Tom Hollenkamp.

Q. Okay. Was Mr. Hollenkamp an employee of AmerenUE or Ameren at the time of the Taum Sauk disaster?

A. Yes, he was.

Q. And what was his role then?

A. He was a -- I believe he was a supervising engineer in our civil engineering group.

Q. Okay.

A. But he may have been a manager in our civil engineering group.

Q. Okay. Now, I think you referred several times to errors in judgment. Who specifically made errors of judgment? And in as much detail as you can, describe for me those errors.

A. Well, you know, I think the -- there's a -- there was a number of them. I think you'd have to start with --

Q. Please list them all if you can.

A. Well, I don't know if I can remember them all offhand in this setting. I could write

them down and submit them to you later, maybe, but the ones I remember that would be significant would be probably not lowering the level of the upper reservoir sufficiently, not immediately taking an outage and fixing the facility, probably not -- trying to change the design of the sensors kind of on the fly without a proper peer review and proper documentation and investigation.

You know, I think these are some of the highlights.

Q. And for each of those errors of judgment, with -- with whom does the responsibility lie? I mean, specifically who made those errors in judgment?

A. Well, it was varied. I think the engineering wasn't rigorous enough, the engineering supervisor wasn't involved enough.

Q. I'm sorry. Just to sort of track them down as we go through, the -- you say the engineering wasn't rigorous enough. Which engineering?

A. The engineering and design of the -- of the probe system that was put in when the liner was put in.

Q. Okay. And I'm gonna -- I'm gonna drill down on that a little bit more too. Do you mean

the -- the physical layout of the instrumentation itself or do you mean the design of the control system or both?

A. Both.

Q. Okay. And specifically, who made the error of judgment with respect to the design of the physical layout and installation of the control system?

A. I actually don't know who did that.

Q. Okay. How about with respect to the -- the software control system?

A. I don't know who did that.

Q. Okay. But you believe that there were errors in judgment in the installations of both -- of that system from both of those aspects?

A. The software system may have been designed properly, but I think there wasn't proper controls over its change -- the change structures of when you'd make changes or modifications to it.

Q. Okay. And as you sit there today, are you comfortable that you know who -- or if you don't know it off the top of your head, that you have access to information about who made changes to it and when?

A. From reading FERC reports, I think it

leads you to a conclusion of who did it and when it was done.

Q. All right. And who was your understanding of who did it and when it was done?

A. What specifically are you referring to?

Q. Changes to the PLC control system.

A. Okay. I think that was done by Mr. Sanborn.

Q. Do you think he's the only one that made changes to that system?

A. I think so.

Q. Would it surprise you to learn that under oath earlier this week Mr. Jeff Scott testified that he made changes on at least three occasions that he can recall?

A. It wouldn't surprise me. I just didn't know that.

Q. Okay.

A. And if he did, I think that would be a good thing.

Q. Okay. And are you aware that -- that both Mr. Scott and -- and Mr. Hawkins, Chris Hawkins, were able to make changes to that system?

A. I didn't know who had -- who was able to make changes to it, but, you know, Mr. Scott was

the plant engineer and he should know how it works.

Q. Uh-huh. Okay. I'm sorry. I interrupted you. You were starting to go through some errors of judgment and we --

A. I think I covered most of them.

Q. We'd gotten -- in terms of specific people involved, we drilled down a little bit on the control systems, both the software side and the actual hardware installation. Can you point to some other errors of judgment?

A. Well, I -- you know, I -- the -- after the facility was -- if there was notice that the sensors -- the level sensors weren't working properly, adjustments were made, probably wasn't as conservative as it should have been and --

Q. And now, do -- you say that they were not as conservative as they should have been. Do you say that based on hindsight or is there something that -- that you know about how those adjustments were determined at the time?

A. It's basically hindsight.

Q. Do you have any knowledge about how -- and when you say adjustments were made, which adjustments are you speaking about specifically?

A. There were adjustments to account for

for the difference in the readings, and then there was level adjustments later on of -- to taking the facility down a couple feet.

Q. Okay. The first one you referred to, are you referring to what was noted at least in some parts of the record as a four-tenths of a foot fudge factor?

A. Correct.

Q. Okay. And what is your understanding of how that four-tenths of a foot amount was determined?

A. I don't know.

Q. Okay.

A. It's like -- like I say, I don't think there was proper rigor in the -- in the process.

Q. Okay. And then you also mentioned that -- the lowering of the level. There, are you referring to the -- the -- well, I'll call it, for lack of a better term, the standard operating procedure that was changed to -- to -- to fill the upper reservoir -- upper reservoir to 14 -- to 1594 as opposed to 1596 routinely.

A. I'm not familiar with the elevation numbers, but I -- as I remember it, they lowered it by two feet.

Q. By two feet, okay. And is that -- is that another change on the fly that you believe wasn't conservative enough?

A. Correct.

Q. And again, did you base that on some knowledge of how that was determined or do you base that on hindsight given the fact that it was clearly not sufficient?

A. Mostly on hindsight, although I didn't see the rigor that was involved in how that was determined either, so somewhat of both.

Q. Okay. Do you have any knowledge of how that was determined?

A. I do not.

Q. Now, from that -- from that last discussion, and correct me if I'm getting the wrong impression, but it sounds as though you're comfortable with the concept of making those kinds of adjustments on the fly, but you think they should have been more conservative; is that correct?

A. I think there should be more rigor involved to determine whether those were sufficient. There should have been more peer review discussion to determine how -- whether that was a sound decision or not.

Q. Okay.

A. The best decision in hindsight could have been just shut the facility down until a proper evaluation could be made of whether those were conservative enough decisions.

Q. Well, and that was gonna be my next question. How could you possibly determine whether or not they were conservative enough without actually knowing what problems it was they were trying to fix and the extent of those problems?

A. It's -- I think that's what you would have to get at, yes.

Q. And from your knowledge of the chronology of events, do you see that there was much effort made at that time to try to get at the underlying causes and the extent of the problems?

A. I think, you know, they -- everybody took actions that they thought were proper at that time to ensure that they were doing the right thing.

Q. If you had been in Mr. Cooper's shoes, would you have taken more action?

A. I think in hindsight everybody would say they would take more action.

Q. Well, I'm asking you to hypothetically

put yourself in his shoes knowing what he knew at the time, not what you know now.

A. I'm -- I'm not a plant operator, never have been, so I don't know how I would have reacted. But I think in hindsight everybody would have thought that you should have been more conservative.

Q. Now, I'm gonna switch to a different area for a while now. Are you familiar with the -- the incentive compensation system at AmerenUE?

A. Yes, I am.

Q. Is it substantially the same now as it was in the fall of 2005?

A. Yes, it is.

Q. Okay. In terms of -- well, let me -- let me back up a little bit. For employees such as Mr. Scott and Mr. Cooper, that's Mr. Jeffrey Scott and Mr. Richard Cooper, would -- was their compensation in 2005 based in part on the availability of the Taum Sauk facility?

A. Yes.

Q. Okay.

A. I believe it was 5 percent or less.

Q. Okay. And was it based in part on output from the Taum Sauk facility?

A. No.

Q. Okay. Was it based in part on any sort of safety measurements or metrics at the Taum Sauk facility?

A. Yes.

Q. And do you know that percentage?

A. 5 percent.

Q. Okay. And with respect to Mr. Pierie, for example, who didn't work at the Taum Sauk facility, was any portion of his incentive compensation at the time based on the performance of the Taum Sauk facility or the safety of the Taum Sauk facility?

A. He was in Ameren Services, so I'm not exactly sure of his incentive thing. I believe it was -- it was based, though, on the overall Ameren fleet performance.

Q. Okay. So there would have been some impact on his incentive if any plant didn't perform well; is that your understanding?

A. Yes.

Q. Would any of it -- his incentive compensation been based on the successful completion or timeliness or ongoing reliability of the projects he was involved in such as the Taum Sauk controls upgrade?

A. Absolutely.

Q. Okay. And similar questions from Mr. Bluemner, would -- would any of his compensation be specifically tied to the performance or the safety of the Taum Sauk facility?

A. The same characteristic.

Q. Okay. And so with respect to his responsibility in terms of the liner install, he would have had the same kinds of incentive compensation as Mr. Pierie did for the controls upgrade?

A. You know, I believe the engineers had a -- well, as Mr. Cooper too, all of them had a 25 percent option where their individual supervisor would base their -- make an assessment of their performance on their projects, and it would be a discretionary decision about whether he thought that that particular engineer or superintendent had done a good job of serving the customers or -- and protecting their facility.

Q. Okay. Do you know with respect to those four individuals specifically whether or not any changes were made to their incentive compensation as a result of the Taum Sauk incident?

MR. HAAR: Judge, to the extent now

we're getting into personnel matters, if we're going to explore that, we ask that it be in-camera if you're asking about specific compensation of specific employees.

MR. MILLS: And I'm certainly not gonna get into actual dollar amounts or levels, but if the general idea of whether or not incentive compensation was affected is highly confidential, I do have just a handful of questions in this area.

MR. HAAR: Again, to the extent --

JUDGE DALE: Are they -- are they -- I'm sorry. Are they specific compensation questions about specific individuals' incentive compensation?

MR. MILLS: Certainly, I could ask it more broadly first as to whether or not Mr. Voss knows if any individuals had their incentive compensation decreased as a result, and if so, then I would like to know who those were. But if he doesn't know of any, then it doesn't need -- I don't need to get into employee-specific information. So with that --

JUDGE DALE: Go ahead and ask the general question, and if there's anything specific, we'll go in-camera.

BY MR. MILLS:

Q. Okay. Mr. Voss, I -- you were listening intently to that conversation, so I think you know the question coming. Were any AmerenUE employees docked, for lack of a better word, in terms of their incentive compensation as a result of the Taum Sauk breach?

A. I am aware of some.

Q. Okay.

JUDGE DALE: With that, then, we'll go in-camera. You'll need to leave.

MR. MILLS: Judge, just so I don't disrupt things unduly, I think that's gonna be a relatively short line of questioning. I can -- I can do a lot of other stuff and then come back to that later if that would be more convenient for the -- for the bench and for the audience.

JUDGE DALE: The -- if -- if we go in-camera now, I will -- for everyone who has questions about compensation relating to individuals to ask them at this point.

So we can either do that -- let's go ahead and do it now.

MR. MILLS: Okay. That's fine.

COMMISSIONER GAW: That's -- well, okay.

MR. MILLS: Whatever's most convenient for you.

(REPORTER'S NOTE: At this point, an in-camera session was held, which is contained in Volume 12, pages 2198 through 2208 of the transcript.)

COMMISSIONER GAW: And by the way, Judge, in regard to that in-camera proceeding, I would like that reviewed to see whether any of that needs to -- some of it may need to remain confidential, but some of it may not, and I think that ought to be reviewed to determine which portions should be kept from the public and which should not.

MR. MILLS: From my perspective, I think if we simply eliminated any specific names, that should do it, but ...

MR. HAAR: Judge, we would just like to -- I mean, if that determination's gonna be made, we would just like to have an opportunity to comment on it, obviously, before any final decision is made.

JUDGE DALE: I think once the transcript comes out, I would like for the parties to propose redactions that would enable us to release as much as possible.

MR. HAAR: Okay. Thank you, Judge.

MR. MILLS: And before we get back into it, one housekeeping matter I wanted to pick up on. Mr. Voss offered to give me a detailed list of all the errors in judgment, and I'd like to reserve a late-filed exhibit number for that.

And I would assume that that will

probably have names of specific employees, but I don't know that -- I mean, it certainly shouldn't have anything to do with incentive compensation or -- or changes in employment, so I don't see that it would need to be highly confidential.

JUDGE DALE: Well, if -- if it does include names, then I would expect that a highly confidential version be submitted as well as a redacted version that's available to the public the same way we do with testimony.

COMMISSIONER GAW: And Judge, I suspect all of that's already public. The names of individuals involved in these matters have -- have been thoroughly placed forward, I think, in several documents.

MR. MILLS: Yeah, and as I understand Mr. Voss's offer, it didn't really have anything to do with incentive compensation or demotion or changes in employment, so I think just the names should not required to be confidential.

MR. HAAR: Again, Judge, our objection to it would be that, in fact, all of this information -- I mean, the identity of the people involved in the various decisions have been disclosed, are part of the public record with respect

to the FERC report and the -- the other reports, and so we -- we would object, particularly, again, since this is the Commission's investigation, inquiries we believe should be initiated by the Commission, we would object to what we think is a highly unusual and an unnecessary procedure with respect to what Public Counsel is talking about.

JUDGE DALE: Well, Mr. Voss did volunteer to provide that information, so in light of that, I will reserve 53 for that exhibit, and at such time that he submits it, if you have continuing objections, please make them at that time.

MR. HAAR: Okay, Judge, thank you.

MR. MILLS: Thank you.

CROSS-EXAMINATION (CONTINUED) BY MR. MILLS:

Q. Now, Mr. Voss, we were -- we were talking about incentive compensation and -- and prospective terminations or changes in employment while we were off the record. And I'd like to get to a -- perhaps a somewhat related topic which is what -- what sort of procedural and policy changes have been made in a -- in a more generic sense at AmerenUE as a result of the Taum Sauk incident.

A. Well, I'd say they were fairly significant in the sense that we've created the dam

safety group foremost, and, you know, that -- that was given the responsibility for hydro facility safety and reporting requirements and processes have been written and procedures in place for that.

We've also established a quality control -- quality management process which is patterned after an ISO 9000 process where certain, I think it's 22 elements of quality management are being implemented in the plant operations and engineering -- plant engineering areas including things like policies, procedures, processes, training, auditing, performance monitoring.

Q. And will those changes extend to units beyond Taum Sauk?

A. Absolutely. All the -- all the Union Electric facilities.

Q. Okay. So -- and my next question would be, and it's beyond the hydro units, this will extend to all units?

A. Yes. Yes.

Q. Okay.

A. It's already in place at the nuclear unit but this would be -- this would be essentially for all the fossil and hydro and combustion turbine facilities and engineering.

Q. Now, with respect to some of the specific findings --

A. By the way, those were only the two. There are more things that were done also as far as operational instructions about reinforcing principles of -- of public safety, personnel safety, environmental compliance and preserving the asset of being -- overriding principles and everything else being secondary, those were reinforced.

People were given training on all those instructions and placed on bulletin boards. And, you know, there was -- there were -- there are other operational things. There were -- like I said, plant changes were made and who is operating Taum Sauk plant. You know, there -- there's a number of things that were -- were initiated and accomplished since then.

Q. What -- and it may be too early to say this, but with respect to Taum Sauk, will there be changes in terms of how it's operated at Osage as opposed to locally at Taum Sauk or do we know yet?

A. I -- I have no idea yet at this point in time, but that will be determined.

Q. Okay. Now, with -- with respect -- with respect to the specific chronology of events – and

I'm particularly talking about the independent panel of consultants report. Are you familiar with that?

A. Partially.

Q. Are you familiar with the -- with the placement of the -- the upper Warrick probes, the Hi and the Hi-Hi probes?

A. I know what their function is.

Q. Okay. Do you know when they were placed and when they were moved?

A. I do not except for what was in the report.

Q. And -- and -- and at least one point in the report -- well, the report seems to conclude that they were -- they were moved from the initial level to an intermediate level to the final level; is that your understanding?

A. That was not my understanding.

Q. Okay. What is -- what is your understanding?

A. Was that they were only moved once.

Q. Okay. So that they were moved from their initial location to the --

A. To where they ended up.

Q. To where they ended up. And where they ended up we know, as a result of the post breach

investigation, was higher than the lower points in the wall?

A. Correct.

Q. Okay. And do you have -- are you satisfied in your own mind that you know when that happened?

A. Yes.

Q. And do you know who did it?

A. In my own mind.

Q. Okay. And when did that happen and who did it?

A. I think it was related to Mr. Zamberlan's e-mail where he stated he moved the probes -- or the probes were moved at that point in time, and I don't know the exact date. But that's my understanding of the only time they were moved.

Q. Okay. Do you happen to have a copy of the independent panel report with you?

A. I do not.

MR. MILLS: May I approach? Oh, I've got an extra copy.

JUDGE DALE: Okay.

BY MR. MILLS:

Q. Mr. Voss, can I get -- first of all, at what general time do you believe that that -- if you

know the exact date, you can tell me that, but do you recall when it was that that change was made?

A. Seems to me it was in the December/January time frame.

Q. December/January of --

A. December 2004, January 2005. Somewhere in that time frame. I'm not sure of the exact date.

Q. Okay. If I can get you to turn to figure 5.2 in that report.

A. You -- do you know the page it might be on?

Q. Well, it's not -- the pages aren't marked very well. It's probably three quarters of the way through, maybe even further back. But there's a -- there's a series of diagrams at the very end of the report and it's near the beginning of those diagrams. It's perhaps 20 or 30 pages in from the back.

A. I'm on page 32. Is it further back?

Q. It's way further back than that.

A. Okay. 5.3, there's 5.2. Okay.

Q. Okay. Does figure 5.2 appear to show the -- the Taum Sauk pump shutdown logic as of December 1st, 2004?

A. That's the title on it.

Q. Okay. And in the upper left-hand corner, what -- what does it show for the Hi and the Hi-Hi probe levels?

A. It says elevation 1597.7 feet.

Q. For the Hi-Hi?

A. For the Hi-Hi.

Q. And then the low below that, does it show the elevation for --

A. Oh, Hi is elevation 1597.4.

Q. And is that consistent with your understanding of where they were found to be after the breach?

A. I'm not -- I'm not that familiar with the details.

Q. Okay. But at least according to this report and the shutdown logic as of December 1st, 2004, that's where they were?

A. According to this report, I guess. I'm not familiar with this diagram.

Q. Okay. Okay. Why don't you hang on to that. I might have another question or two.

A. Okay.

Q. Are you familiar enough with the operation of the Taum Sauk facility to know that there is a group of three transducers placed together

in the upper reservoir that -- that typically take care of the day-to-day measurement of the reservoir levels?

A. I know there's level transducers, pressure transducers, and I know there's more than one.

Q. Okay.

A. But I -- I'm -- I didn't know that until I read some of these reports.

Q. Okay. Are you aware now that there is yet another transducer down in the penstock?

A. I believe there's always been one there.

Q. Okay. And --

A. But I didn't know that until I read the report.

Q. You didn't know that until after the -- after the breach?

A. Yes.

Q. Okay.

A. I'm not familiar with how the plant specifically operates, technically operates.

Q. Okay. Now, I believe you answered in response to Mr. Thompson's questions that the -- typically employees are not terminated as a result of errors in judgment, correct? Is that the general UE

policy?

A. Well, I think what I said was we normally terminate people for making intentional mistakes. You know, obviously, there are people that are terminated for repeatedly not being able to perform their job that they're assigned to do, but, you know, generally, most of the time we usually try and do reassignments or, you know, find some work that people can do. But there are people that have been terminated for repeatedly poor performance.

Q. Does it make any difference whether or not the error of judgment has to do with safety?

A. Yes.

Q. And --

A. As -- as many other factors.

Q. Okay.

A. Like criminal activity, things like that would also be factors.

Q. And I think also in response to a question from -- from Mr. Thompson, I believe you stated that the -- that the main cause of the failure was the way that the reservoir -- the way that the upper reservoir was built? Was that your -- was that your testimony?

A. I think my testimony was that I thought

all the reports were consistent in that the cause of failure was two factors: One was that the reservoir wasn't built properly initially, and second, that it was overtopped on the day of the breach.

Q. Okay. And you say first and second. Are you implying any sort of -- of ranking in terms of the --

A. No.

Q. Okay.

A. Well, I think if the thing hadn't been built -- if it was built the way we assumed it would, it wouldn't have failed catastrophically. So that was actually a -- if you're looking at the consequences, then it would have been way less if the facility would have been built properly, built as designed.

Q. Okay. As -- as designed, it didn't have a spillway?

A. That's correct.

Q. All right. And that was readily apparent to anyone who's ever seen it; is that correct?

A. I don't know.

Q. Okay. Certainly, it was -- it was something that the people operating the facilities

should have known?

A. I'm sure that the people operating the facility knew it didn't have a spillway.

Q. And as it was designed, was it designed for water to be filled and kept up on the parapet wall?

A. Yes, it was.

Q. Okay. Is it your understanding that -- that the operation of a facility like this that is filling and holding water up on the parapet wall is unprecedented?

A. I'm not aware of that. The -- the operational levels were submitted when the plant went into operation and approved by the FERC and they've been reviewed on a regular basis by the -- by the FERC organization. I assume that if there was some unusual thing, it would have been brought to our attention.

MR. MILLS: I think that's all the questions I have. Thank you.

JUDGE DALE: Thank you. DNR?

MS. VALENTINE: Thank you, Judge.

CROSS-EXAMINATION BY MS. VALENTINE:

Q. Mr. Voss, my name is Kara Valentine. I'm with the Department of Natural Resources, and I

have just a few questions for you, please.

A. Okay.

Q. Explain to us the kind of issues at Taum Sauk that would typically be brought to your attention.

A. Well, typically, a major project that they wanted to do or were planning on doing, possibly extended maintenance, whether they were gonna do some major upgrade or some major maintenance activity that would extend for months on end.

Q. Can you recall any type of safety issues at Taum Sauk that were brought to your attention prior to the -- to the failure in 2005?

A. No, I do not.

Q. If the Warrick probes that we've been talking about, if those probes were repeatedly --

A. Well, possibly the leakage was always somewhat of a concern. That was part of the reason for the liner.

Q. Okay. And you're talking about the leakage from the upper reservoir prior to the -- the liner being soiled?

A. The insulation liner, right.

Q. If the Warrick probes were repeatedly false tripping prior to the breach in 2005, is that

the type of thing that should have been brought to your attention?

A. I wouldn't think so.

Q. All right. At what level of Ameren management do you think an issue like that should have been brought to?

A. Well, the plant manager would normally handle something like that.

Q. All right. How about the gauge piping? I believe you testified earlier that you weren't aware that the piping was bowed, but do you believe that's something that you should have been told about?

A. You know, I -- there's a lot of details about plant operations that happen on a daily basis and also operations in the other facilities on our system, and we have good people that we put in place and layers of management to make those kind of decisions and handle those kind of circumstances. I would never presume to be able to make all the technical decisions for this organization.

Q. Well, with a broken gauge piping, do you believe that the plant manager should have been aware of something like that?

A. Yes.

Q. Do you think it's important to Ameren that Ameren designate at least one individual who is responsible for receiving and managing that type of information?

A. Well, I think we've put this dam safety program in place where if there's an issue at a hydro facility, it is appropriate now that the dam safety group be notified and have that group be aware of the information, and that he could decide if there's some further action that needs to be taken.

Q. Do you believe, sir, that part of the problem that led to this failure in 2005 was that there was not one single individual at Taum Sauk who was aware of the problems with both the Warrick probes and the pressure transducers?

A. I think there was a lack of communication in general that was part of the problem.

Q. In your position with Ameren, what do you think Ameren can do to address that problem in the future with the lack of communication?

A. Well, as I said, I think we've already taken steps to address that. We've established this quality management program, these 22 steps of a -- that was a -- kind of an ISO 9000 type process where

you -- we have specific programs and policies and processes that are involved with the major components, things like design basis and design change, things that are critical, and that's involved with training and retraining and auditing and performance monitoring.

So I think -- I think we've already taken those steps. And part of the -- part of the thing, particularly in the Taum Sauk and in the hydro areas, the establishment of the dam safety group and their procedures and processes. And I think that we put more rigor into the -- into the issues that are related to -- to those kind of facilities.

Q. As chairman, president and chief operating officer of Ameren UE, are you in a position to set the corporate philosophy for Ameren?

A. I -- I'm -- I certainly set the corporate philosophy for AmerenUE.

Q. Could you describe for us Ameren's philosophy in balancing the desire to produce energy or power with the need to schedule certain outages in order to make repairs at Taum Sauk?

A. Well, as I said, we've also -- one of the things we've done since the facility was also reinforce the operating responsibilities. And we've

made it very clear that the operating personnel have a responsibility to public safety, to employee safety, to environmental concerns and to facility preservation that are overriding all other principles.

So -- and every plant manager has taken that pledge since the event, and we've posted it up in all the plants. So reinforce those principles that those are the overriding principles.

Q. Okay. There has been some testimony from your employees that -- that there were some safety issues at Taum Sauk, but there was some question whether those safety issues rose to the level of triggering an automatic outage in order to make repairs. What can you do at Ameren to make sure that your staff know what type of safety issues rise to that level where there has to be an automatic shutoff?

A. I think it's the -- any that they feel are true safety issues that would either endanger the public or endanger the employees or endanger the facility. So it would be a judgment of those operating individuals.

Q. In addition to that person's judgment, do you think it would be beneficial for Ameren to

have some written safety protocols that said these type of problems or shortcomings do present safety issues and should trigger the immediate call to shut down power generation until those issues are fixed?

A. Some of those already exist in the plant's operating manuals and operating procedures and control systems and -- which will automatically shut it down on certain issues that come up. But it's also very much a part of this new quality management program where we have more detailed instructions as regards to operating limits and safety concern.

Q. There has been some testimony at this hearing from your employees that at one point for a short period of time, Taum Sauk was actually operated without any emergency shutoffs working. When something like that happens, would you be consulted in that type of a decision?

A. I was never aware of that and I don't think any of our employees were ever aware of that.

Q. Now, sir, it's my understanding that FERC recently gave Ameren approval to rebuild the upper reservoir; is that correct?

A. I believe that happened yesterday.

Q. Can you describe for us, if you know,

some of the safety features that Ameren intends to build into the upper reservoir to address some of the problems that led to the -- the catastrophic failure in 2005?

A. Well, I'm not -- you know, I'm not aware of the detailed designs that are in there for safety, but I do know that it's gonna be a concrete facility versus the rock facility before. And -- and I do know there will be a spillway and there will be new control systems, and -- and there will be multiple -- multiple safety features built into those control systems, but I don't know the details.

Q. Okay. How about the -- the use of the Warrick probes, do you know if that will be part of Ameren's plan?

A. I do not know anything about the types of probes that will be used. The final design, I think, is being finished, but I wouldn't be technically qualified to review that.

Q. Do you think it's important for Ameren to have somebody physically on-site to periodically check the level of water in the upper reservoir to make sure that the level readings there are accurately reflected in the computer readings that the staff use in the -- at the remote operating

center in Osage?

A. I think that has -- that was the practice.

Q. It's your understanding that Ameren was doing that prior to the breach?

A. Yes, that's my understanding.

Q. And do you think it's important that a practice like that continue with the rebuild?

A. Absolutely. Although it could be, you know, technology's amazing. Maybe someday you'd be able to do that with a GPS system or something. I have no idea. But that had been our practice before it failed.

MS. VALENTINE: Thank you, sir. I don't have any further questions.

MR. BYRNE: Could we take a break, your Honor? It's been an hour and a half.

JUDGE DALE: Yes, indeed. Let's go off the record.

(DISCUSSION HELD OFF THE RECORD.)

COMMISSIONER GAW: We might as well start.

JUDGE DALE: Okay. Let's take a break for ten minutes, and then we will be stopping at 11:30 so that Commissioner Gaw can go to the agenda

session. Off the record.

(A RECESS WAS TAKEN.)

JUDGE DALE: All right. Let's go back on the record. And we are ready for commissioner questions for Mr. Voss. Commissioner Gaw?

COMMISSIONER GAW: Thank you very much.

QUESTIONS BY COMMISSIONER GAW:

Q. Good morning, Mr. Voss.

A. Good morning, Commissioner.

Q. First of all, I want to ask you, in regard to the structural changes that were made in the hierarchy of -- in January of '05, was it?

A. Yes.

Q. Was it '05?

A. '05 and '07.

Q. And '07 both. The differences in '05 were related to what again?

A. Well, before that I was primarily just responsible for the generation, marketing, trading fuels. And then in '05 I was responsible for all operations, including the energy delivery business at the companies, except for nuclear. And then in '07 my focus really became on AmerenUE.

Q. Okay.

A. In total, not just in operational

issues.

Q. Were other people moved around during both of those time periods?

A. There -- there was some other structural changes also, yes.

Q. Okay. The decision to make those changes, where did that come from? Who had -- who had the authority to do it and --

A. That was Gary Rainwater.

Q. Okay. And the rationale in '05 for the changes, do you know?

A. I had a lot of experience. In fact, most of my career was in energy delivery. And as he portrayed it to me, he wanted me to back -- to have some responsibilities for those areas again.

Q. Okay. How about with other -- other people in the hierarchy, just from a -- from a high level -- this structural changes, did they -- were they intended to accomplish a particular purpose?

A. Well, the ones in '07 were to concentrate on the three main businesses of Ameren and to put more focus on those areas.

Q. And "those" being?

A. The Missouri operations of Union Electric, the Illinois delivery operations and then

the unregulated generation business.

Q. Okay. And --

A. Sorry. My voice keeps cutting. I've got some sinus drainage.

Q. That's all right, it's that time of year.

A. Yes.

Q. The -- the -- the '07 changes, was there -- was there was a perception that there was a lack of focus on those three areas before, or help me to understand --

A. I think we were organized with the thought that -- that someday the whole industry was gonna deregulate into segments, and I think the change in January was to -- was more to recognize the reality that it isn't gonna happen anymore.

Q. Okay. Well, it had happened in Illinois?

A. Yes.

Q. And that occurred approximately when?

A. Well, it occurred in 1997, I believe, but the effects of it really didn't occur until this year.

Q. Right. So were -- was part of the reason for the '07 changes the changes that were

occurring in Illinois in regard to the opening of that deregulated market?

A. I wouldn't characterize it that way, particularly. It was just the refocus on the three main ways that Ameren does business and to recognize that organizationally. We were -- we were organizing across lines instead of the way it actually existed.

Q. When you say you were "organizing across lines," was that the way it was prior to the reorganization in '07 or after?

A. Yes, prior to that.

Q. Prior. You described it a little bit this morning about your knowledge of Taum Sauk. As I understand it, your -- your -- your working knowledge of the intricacies of the plant itself was fairly limited before the breach; is that correct?

A. That's correct.

Q. Your background is engineering?

A. Yes.

Q. Which -- which branch again?

A. Electrical engineering.

Q. That's what I thought. And in regard to that -- that knowledge of Taum Sauk, how did you acquire that knowledge that you had prior to the breach?

A. Well, I visited the facility -- the facility a couple times and I understood the basics of why you would do pump storage because of power systems are generally a -- an electrical engineering topic.

Q. Okay. That -- that being the concept that -- that you can -- you can store energy in a different form and that's basically the concept, right, part of it?

A. Of course, you -- electricity can't be stored itself in any kind of quantity, so this was a way of storing electricity in a -- in a --

Q. Energy in different form --

A. In -- energy, a different form, yes.

Q. -- basically? And so, of course, the basic premise is that the energy that's required to utilize this different -- different form of storage expends more energy than you end up being able to access after the storage?

A. Correct.

Q. So you have to be able, for it to make sense, to see a difference in the price it takes for pumping up the water into the upper reservoir as opposed to the amount you can receive from the electricity when you use it after it's pumped up

there to generate electricity through the turbines?

A. Well, from an economic point of view, but there's another point of view also.

Q. Let me hear that.

A. Well, it's the -- you have the -- have the generation available at the time when you need it.

Q. Okay. So --

A. And, see --

Q. -- that's a -- that's a reliability issue?

A. Reliability, stability, capacity, things like that.

Q. Okay. Of course, you can -- you can supply that reliability from a number of different sources, can't you?

A. Yes.

Q. Reliability of that sort could be supplied through additional types of generation that you could have access to, that would be one way?

A. Correct.

Q. You could also do it through some sort of demand response, lowering of demand out there at times when you -- when you would otherwise need extra generation, perhaps, that could be offset or

diminished some by reduction in the amount of load?

A. Might work.

Q. Okay. Might work or it does work?

A. Well, demand response hasn't been overly successful in Missouri.

Q. Well, we can talk about that if you'd like, but I'm sure that discussion will take us more time than we have this morning.

A. Sure.

Q. But it does -- it does make me want to inquire more when you say that.

A. I mentioned before, if -- if you -- our rates are so low it doesn't make it very attractive. If you raise the rates, it would probably be more of an attractiveness for that.

Q. So you're saying you're encouraging us not to raise rates, is that -- is that -- am I understanding you? I want to make sure I get this on the record.

A. I'm just saying it is a factor.

Q. Okay. Now, we were talking about -- when we're talking about this -- this particular storage facility, you understood it to work basically like you're saying. Of course, the -- the fact of the matter is, if you -- you're looking at this from

a reliability standpoint, you still will overall be looking at it from the standpoint of economics and finances, will you not, because you're not gonna run this unit if you've got cheaper alternatives to reliability?

A. I -- you know, I think you have to power --

Q. That's a yes or no, first of all.

A. Could you repeat the question?

Q. She can read it back.

A. Okay.

Q. That probably would be easier.

(THE REPORTER READ BACK THE PREVIOUS QUESTION.)

THE WITNESS: I don't think I can answer that yes or no.

BY COMMISSIONER GAW:

Q. Okay.

A. I'll say no.

Q. Let me rephrase it.

A. I'll say no, then, if I have to.

Q. Okay.

A. Because there --

Q. Well, I want to -- I want to have you explain it.

A. Okay.

Q. I'm not trying to prohibit you from talking. I just want to make sure I get my basic question and answer first.

A. Okay.

Q. So the answer is, if you've got a cheaper alternative to a Taum Sauk available to you, you're gonna run the cheaper unit, and if Taum Sauk is a -- is a cheaper source for a reliability standpoint or -- to serve your load, you want to run it, right?

A. But there is a basic concept. The electrical system becomes more unstable as the generation gets more separated from the load. So we have a -- we have a preference in our company, in operating to try and get -- ensure that we have enough generation in our load area to serve -- to serve our load. And the further you -- you move and take generation from outside your area, the more unstable and the more unreliable the system becomes.

So I would say on a toss-up, you would probably take something that's less economical if it gives you better reliability. If it becomes a tremendous difference, then you may -- you may go ahead and take the thing that's more economical.

Q. Mr. --
A. As long as it doesn't exceed our stability requirements.
Q. Mr. Voss, every day currently, today while we're sitting here with the lights on, there is a dispatch of units that causes the whole system regardless of who owns the facilities, to keep -- to keep the lights on around -- around the eastern interconnect doesn't it?
A. Yes.
Q. And when you -- and the decision in regard to the units being dispatched in part relates to what units are made available to be generated to organizations now that -- particularly if you're in a -- an RTO footprint that decide in order of dispatch based upon the units that are made available to them?
A. They decide a part of economic dispatch but you can still self-dispatch your own units.
Q. Could. Do you do that today?
A. Yes, we do at times.
Q. Is that the general rule?
A. It's not the general rule. It is --
Q. Okay.
A. -- it is the general rule for a facility

like Taum Sauk, though.

Q. Okay. Well, that's interesting because I've heard testimony, I thought previous to this, that the dispatch of Taum Sauk was controlled by MISO based upon bidding it in from -- a bidding-in process that was done by Ameren; is that not the case?

A. And it's my understanding, and I'm not a MISO expert, that it was unique to MISO, the Taum Sauk facility, and it didn't fit into their normal way of doing business because you have to schedule in your loads. So you have to schedule in when you're going to pump it back up again, and you have to schedule in -- if you don't know when it's gonna be used or how long it's gonna be used, you wouldn't be able to schedule in the loads.

So to get over that dilemma, we generally self-schedule the facility to cover our peaks, and then we'd schedule the loading time later when we knew it was off-peak times. So we tended, as I recall, to self-schedule it because of reliability and stability concerns and there's a lot of uncertainties about economics.

Q. So it's your testimony that the entire -- that most of the time the decisions in regard to when to dispatch Taum Sauk was - had

nothing to do with the normal bidding-in process with MISO but rather was self-dispatched from AmerenUE?

A. Well, you still had to bid in the loads when you were gonna pump it up and the time you were gonna pump it up, so it had some bearing.

Q. Okay.

A. And I wouldn't say that there wasn't some times that MISO dispatched it. I just said I think in general we tended to self-schedule it. Now, Shawn's gonna be here tomorrow, he can tell you better.

But -- and when you self-schedule and you schedule the loads, as you know, the Day-Ahead pricing, you're just a price-taker, if you -- if you -- if the prices come in, they come in, you don't have any control over it.

Q. Do you have -- this -- you're -- I don't know whether I'm not tracking your testimony, Mr. Voss, or whether I'm not tracking the previous testimony well, but I'll ask Mr. Schukar some more of those questions tomorrow.

A. Okay. It's just my understanding and it -- as I remember it, how it was operating. It was particularly useful during the period of time that Callaway was out of service that fall, so there was a

lot of -- I believe we self-scheduled it to cover our peak times for reliability and stability purposes.

Q. So when you say "that fall," first of all, you're talking about 2005?

A. Yes.

Q. Okay. And it's your testimony that during the fall of 2005, rather than this being what you might have been doing with your other units dealing with -- with normal MISO dispatch, the Taum Sauk unit was being self-dispatched internally within your control centers?

A. That was my understanding of how it was being done since the time of the Day-Two Market came on. There was a lot of different ways that were experimented with of trying to make Taum Sauk work in MISO and they think that turned out to be the most acceptable.

Q. That's interesting. Okay. So --

A. Of course, the Day-Two Market only came in in April of 2005.

Q. April of 2005. And -- and then would it have then caused there to be, as you're -- as you're pointing out, you could -- you could withhold your generator from the market and self-dispatch or -- or bid it into the market and allow MISO to dispatch it?

A. Yes, but you could not just withhold generation.

Q. Well, some did.

A. That would be a market manipulation.

Q. Okay. So from your standpoint, then, the decision about when to run Taum Sauk was based upon what?

A. Our peak.

Q. Your peak, being AmerenUE's peak?

A. Well, at that time we were in a joint dispatch agreement so it would be the JDA peak.

Q. When did that JDA terminate?

A. I think in January, this last January.

Q. Of which year?

A. 2007.

Q. This -- this year?

A. Correct.

Q. The joint dispatch agreement being the agreement which provided that generation that was held by Ameren's affiliates would be dispatched as though they were all owned in -- in one company, basically, for the overall benefit of all of the companies or affiliates within Ameren?

A. Not all the affiliates. It was just the -- the old CIPS loads, plants and loads, but not

the -- not any of the other affiliates.

Q. All right. So -- and the way the charges worked back and forth on that were -- as I understand it, you tell me if this is right or wrong, were that basically if an AmerenUE unit was serving an Illinois load, the -- the cost to the -- to the company in Illinois for utilizing that generation would be incremental cost of running the unit?

A. You know, I'm not familiar with how it was done economically after-the-fact. The joint dispatch was pretty much a financial instrument and -- as far as the settlement. I didn't understand -- I'm not familiar. I think there was a change made at some time during the -- during the life of the agreement and I'm not -- I'm just not familiar with how it was settled.

Q. Who knows about that?

A. I -- somebody that would be familiar with the financial parts of the company.

Q. Such as?

A. Our chief financial officer or one of those people.

Q. Who is that?

A. Warner Baxter.

Q. Warner Baxter. Mr. Rainwater, I

believe, testified about this issue in the rate case, didn't he?

A. I'm not sure if he did.

Q. Okay. Now, so if we go back and look at when Taum Sauk was being run during the fall of '05, it's your belief that the period of time when it was being used for generation will -- will match Ameren -- Ameren's companies, either Illinois -- well, the -- let me rephrase that.

It will match AmerenUE's company's peak rather than the pricing that might have been out there on the MISO market and matching the higher prices on the market?

A. That would be my understanding. Now, they -- you know, there -- there's flexibility in the realtime market, as you know, to -- to turn more units on or off. But -- but I think it was generally so scheduled for -- on the Day-Ahead Market to be self-scheduled on our peaks.

But again, you may -- you may want to talk to the people that are more involved in it. I know there was some discussions that it was difficult to -- to get an agreement with MISO on how the facilities should be used.

(COMMISSIONER APPLING ENTERED THE ROOM.)

BY COMMISSIONER GAW:

Q. And how do you know that?

A. Because I just heard general discussions that was -- since we didn't know the prices when it was going to be used and didn't know the prices of when it was gonna be pumped back up again, and MISO didn't know how they should -- how they should -- how long they could operate. They didn't have anything with time limitations on it before us, I believe, that could only go for so many hours and shut down.

So there was things that had to be on for a certain amount time before they could turn them on, or they had agreed to leave it on, but there wasn't anything that they had to come off. So they were having difficulties, I think, in figuring out how to schedule it in.

Q. Well, how did Ameren ensure that it was utilizing the least cost units that were available to them during those periods of time?

A. We -- we would bid in our units on -- economically bid in on what their incremental costs were.

Q. Including Taum Sauk?

A. Well, as I said before, I think we generally bid in the load portion of Taum Sauk on

off-peak times --

Q. Yes.

A. -- when we thought it wouldn't be scheduled. And then we had to -- in order to make sure of that, we generally self-scheduled it.

Q. On the generation mode or the --

A. On the generation mode. And then we took the prices as they came.

Q. So -- so from -- from the standpoint of ensuring that -- that -- that Ameren was -- AmerenUE was looking after being prudent in regard to the generation it was utilizing, do you know how -- how that process would work?

A. I think there was generally after-the-fact reviews to see if generally it was falling into what you would normally expect for a peaking unit.

Q. Well, if you've got -- if you've got AmerenUE peaks going on -- well, let's say AmerenUE and Ameren Illinois companies who are -- who are under the JDA having a peak at a different time than when the MISO market is -- is reaching high -- its highest prices, and there was other cheaper generation available to AmerenUE at the time that it was using Taum Sauk, are you saying they would have

still dispatched Taum Sauk?

A. Now, in realtime, I think you'd have to -- you could make adjustments either through realtime changes or virtuals, but again, I think you need to talk to someone like Shawn of how they would operate it.

Q. All right. So your knowledge --

A. I'm certainly not a day-to-day operator or trader.

Q. Your knowledge in regard to the issue of how the facility work did not involve any -- any great degree of knowledge in regard to the financial side?

A. Correct.

Q. And your knowledge in regard to the mechanical side of it in regard to what was going on with the -- with the physical dam and the -- the way the -- the unit was actually being handled at Taum Sauk and at Osage and from St. Louis, how familiar were you with anything other than, hey, we've got a reservoir that goes up and down and it dispatches energy according to some basic needs within the company?

A. Well, I knew it was monitored at St. Louis and at Osage and at Taum Sauk. I knew the

operator who actually controlled it was from Osage. And you know, I knew the -- you know, I knew the generators and the turbines were at the control -- where they were in the facility, in a block house, and I knew about the lower reservoir and things like that.

Q. Okay.

A. But I didn't know any great details. I couldn't tell you operational levels of -- in the reservoirs or anything like that.

Q. And you knew the location of the plant that was on -- on Proffit Mountain?

A. Yes.

Q. You knew that there was a state park down below that mountain?

A. Yes.

Q. You knew that there were at times many people that lived -- or lived -- that visited that area?

A. Yes.

Q. You also knew that there was -- there was at least -- at least the park superintendent down there or did you know that?

A. I did not know that.

Q. Do you know what the -- what revenues

were attributed to the Taum Sauk plant as far as Ameren's revenues were concerned from year to year?

A. I heard in the rate case there was something somewhere around 20 million, or 15 to 20 million or something like that.

Q. Now, is that a net figure?

A. I believe it was, but I -- to tell you the truth, as I said before, I'm not that familiar -- I was more operationally focused on the company than I was financially focused.

Q. Okay. Now, if you would -- if at the time that Taum Sauk was actually running, you would have been holding the job that you have now, how much more familiarity would you expect to have in regard to those -- the revenues produced by Taum Sauk?

A. Somewhat more, although usually at my level we looked at things in a summary mode rather than a specific. We looked to see if plants were -- I generally would look from my point of view usually of are they following -- are they meeting their, their output that was projected to meet, and if not, why kind of thing. But generally not -- we don't usually do a profitability analysis by plant.

Q. Okay. But there was a -- there was some projection for -- you have some projection for plants

in regard to what they're expected to do for a year?

A. Expected megawatt hour outputs.

Q. Okay. And is that something that's adjusted from one year to another and -- can you answer that?

A. Yes.

Q. Okay. And how does it -- how is a determination made about how many megawatt hours should be expected out of a plant?

A. Well, usually one of the first factors is whether there's a major outage on the plants that year, whether you're gonna have it out for several months to --

Q. A scheduled outage?

A. Scheduled outage. So --

Q. And that would be -- you'd take that into account. Go ahead.

A. And then also you'd look at its history of unscheduled outages and would there be anything that you would have done to either make that better or worse.

Q. Okay.

A. And then, of course, plants like, you know, you may make an adjustment like on Osage if you think there's prediction that there's gonna be a

drought or something like that.

Q. Okay.

A. But generally not, but usually its main factors are scheduled outages and historical availability.

Q. Okay. And then also what their -- what the nameplate capacity is, there's some other -- some other determination of what they tend to produce; would that be a factor in regard to --

A. Generally, you would certainly -- you know, we know what their -- what their outputs are and --

Q. Okay.

A. -- if you've done something to improve the output, if you put a new turbine in where you would get an improved efficiency or improved output.

Q. Okay.

A. And then the opposite could be true too. You could have some kind of degradation of the precipitator or something that would cause you to have to operate it at a different level --

Q. Okay.

A. -- and you wouldn't get the expected values. So there's adjustments made every year.

Q. Okay. And then also, you would have to

calculate -- have to have some calculation about the expected run time, I suppose, based upon some historical information and predictions on weather? What -- does it get that intricate?

A. Weather projections would -- we normalize all of our yearly loads to -- to what we would consider a normal weather pattern. So normally that -- it wouldn't particularly be a factor. It wouldn't -- it's more based on availability of the plants.

Q. Okay. Are those things put into some sort of a model and software and then it gets some sort of prediction out?

A. Yes.

Q. Okay. Now, what do you do with that information?

A. Well, it's the basis of our -- you know, we -- our expectations of the plants, it's a basis for the -- for the budget expectations and --

Q. Okay.

A. -- how the corporate -- how -- how everything will come together, whether you'll have the proper -- the reserve margins are proper, whether you need to go out and buy additional capacity or buy additional units or -- it's all used for a variety of

purposes.

Q. Any -- any of it used for predictions of -- of earnings?

A. Of course.

Q. And is it -- is it true that generally there is -- that part of the compensation of some employees is based upon meeting earnings goals?

A. Yes.

Q. And those earnings goals that -- that are set forth, generally, which -- what classes of employees are impacted by whether or not earnings goals are met?

A. Basically all employees.

Q. Okay. All right. And so when -- when that's examined, is there -- if -- if the earnings goals are met, does that -- how -- how much of a factor is that in regard to the -- the compensation that employees receive? And I know that varies from employee to employee, but if there's a way to generalize it on percentages or something, that would be helpful.

A. Well, it tends to be based on what they -- the -- our board of directors feels that employee's contribution is towards that earnings achievement. So if you would think you would have a

greater influence over it, then you would -- then you would have a greater component.

Q. Okay. And so does that mean as you work your way up toward the top of the -- of the Ameren hierarchy, the -- there is -- is there a change as you move up or is it -- is it different than that?

A. No, there is -- there is more pay at risk as you move up into the organization.

Q. Okay. So the incentives grow greater in regard to -- to meeting earnings expectations?

A. Both ways.

Q. The risk grows greater also; would that be -- is that what you mean?

A. Yes, you know, or -- we have a variable pay system and if we don't meet our targets, then you get paid less than market; if you get better than targets, you would get paid more than market.

Q. Okay. So overall, then, this -- this -- this idea that -- that you meet your earnings expectations is -- is important to a number of employees within Ameren?

A. Yes. Actually, all employees, I would say.

Q. All employees. Okay. Is this the same basic thing that existed in regard to – to

compensation in 2005?

A. Basically.

Q. And it does exist today?

A. Yes, sir.

Q. Okay. I may come back to that but I want to get into some other areas for just a minute. Well, that's a good question of whether I should do that because of the time.

Let me -- let me ask this, though. In regard to -- you've talked a little about this, but in 2005, can you tell me what written protocols existed in regard to running the generation units of Ameren?

A. Well, each -- each individual unit has an -- operating procedures.

Q. And is that in an operating manual?

A. Yes.

Q. Okay.

A. And there's also built in, you know, into the digital control systems also, there are, you know, it will -- it -- there was prompts and alarms built into that system.

Q. Okay. Can you explain that a little more? Because I need to understand what that means. I think I understand the basic concept but go into a

little detail.

A. Well, the operator would get alarms about conditions where the system says -- where it just says the operator will get a warning and an alarm telling him that a system is reaching some situation that could require operator action.

Q. Okay. And give me an example so that we can tie that in.

A. It could be, you know, running low on coal in a hopper or it could be a bearing is running hot on a motor --

Q. Okay.

A. -- or it could be you know, emissions levels are moving in the wrong direction or something like that.

Q. Okay. Those are -- those are matters that would come up as a result of sensing devices that might be within the generation unit?

A. Yes.

Q. And there would be some sort of notification that would hopefully occur if everything's working right to the operators that there's a -- there's a problem that needs attention?

A. Yes. Sometimes they're trending issues too.

Q. Okay.

A. Not necessarily -- that you would necessarily have to do anything, but it might just be an alert to be watching it.

Q. Well, let's -- if I have a car and I'm driving down the road and I have a temperature gauge and the -- and the temperature gauge is starting to creep over toward the hot area but it's not moved clear over there, is that -- would that be something close to what you're talking about?

A. It could be. There are things similar to that.

Q. Yeah. Okay.

A. Where you may have a limit where it's well within the limits of the -- of the facility, its operational limits, but you can see a trend that may not be favorable.

Q. Okay. Now, in regard to the -- to the written protocols that existed, was there any requirement within Ameren that those protocols be -- those operating manuals be updated at certain times, if you know?

A. I don't know that there was a requirement that they had to be updated at certain times.

Q. Okay. And if those -- if those operating -- if a plant were -- were upgraded and the upgrades in that plant changed some of the things that were discussed in the operating manual, what written protocols or what written policies existed to ensure that those operating manuals were also updated?

A. I'm not intimately familiar but I would think that they would be updated.

Q. And -- and I understand that. I would think so too, but what I'm looking for is what -- what in Ameren's policies that were written down or what checks and balances existed to ensure that didn't occur?

A. I'm not familiar enough to tell you but I believe it's in the -- you know, as part of the project management that that is revised when the project is implemented.

Q. Okay.

A. But I'm not -- I've not been a project engineer.

Q. Okay. Would it surprise you if I told that you in the Taum Sauk manual there are pages and pages of the manual that were not updated since 1999 and sometimes -- and perhaps before?

A. If there hadn't been changes in those particular areas of the plant, it wouldn't surprise me.

Q. Would it surprise you to know that there were no updates, at least that I can find so far, that indicate there were any updates as a result of the changes that were made in the outage in 2004?

A. I -- I'm not familiar enough to tell you whether there should have been changes due to that outage or not. Actually, the operational levels didn't change and the -- as I believe, all the parameters pretty much stayed the same. So --

Q. Well, okay. So you don't think there should have been any changes?

A. I'm just saying I don't know.

Q. Well, you do know, though, Mr. Voss, subsequently as a result of reading various reports on this investigation, that there were changes in regard to the safety devices in the Warrick probes, correct? Correct?

A. Yes.

Q. And there were also changes in regard to the -- to the piezometers, the transducers that were used in regard to measuring how deep the water was, that was a change from –

A. Correct.

Q. -- the previous system? So at least -- and there was a change in the software being used as well?

A. Correct.

Q. Do you think that there should not have been some mention of that in the operating manual for Taum Sauk?

A. As I said, I'm not familiar. If it was that none of the parameters changed, that if the levels were reached at a certain level on the old transducers and nothing changed to reflect a change in operations, then there might not necessarily have been a requirement to make a change in the manual.

Q. Well, should there --

A. But if --

Q. Go ahead.

A. -- changes -- level changes were made or it was operated in a different manner than it was before, and I don't know that it was.

Q. Well, and maybe -- maybe what we're talking about here is entirely about the fact we're talking about an operating manual. But in regard to the maintenance of the plant and the -- to -- in order to ensure that -- that things were working or

that there was some understanding of how to ensure that things continued to work properly, where would those things have been written down?

A. I believe they would have a maintenance schedule.

Q. Is that a different book?

A. I would think so, but I'm not familiar with that plant.

Q. Should there have been one at Taum Sauk?

A. I'm sure they have a maintenance schedule when they would do certain operations, when they would do inspections and when they would do routine maintenance of various pieces of equipment. And that would have -- would probably have been -- should have been updated when the changes were made to those pieces of equipment.

Q. Do you know whether it was done at Taum Sauk?

A. I do not know.

Q. If it were not done, what would your reaction to that be?

A. It was an error.

Q. Who -- and whose responsibility would that have been?

A. It would have been the plant

superintendent's to make sure that the facility is operated properly.

COMMISSIONER GAW: I guess I have to break.

JUDGE DALE: Well, we can meet at 1:00.

COMMISSIONER GAW: Okay. Thank you very much. Mr. Voss, thank you. I'm sorry I have to wait on this. I apologize for the inconvenience.

THE WITNESS: It's okay. Thank you.

JUDGE DALE: We will be in recess until one o'clock.

(THE NOON RECESS WAS TAKEN.)

JUDGE DALE: Go back on the record and we are ready for Commissioner Gaw to resume his inquiry of Mr. Voss.

COMMISSIONER GAW: Thank you.

BY COMMISSIONER GAW:

Q. I want to go back to a -- to a written process again, Mr. Voss, and -- if I could. The -- the operating manuals that were available in regard to the plans, was there a requirement in 2005 that those operating manuals be placed at each plant?

A. I don't know.

Q. And in regard to the -- to the maintenance protocols, where -- was there – was

there a requirement within Ameren that those maintenance -- written maintenance protocols be kept at every plant?

A. I think the maintenance protocols are electronically-based.

Q. Ah, okay. So are they accessible from a central database within Ameren?

A. Yes.

Q. Okay. So anyone within UE itself could access any of the maintenance written protocols for any plant within the AmerenUE system?

A. With the proper access.

Q. With -- so if they had proper clearance; would that be correct?

A. Correct.

Q. And those maintenance protocols, who develops -- or who did developed them in 2005?

A. Well, I believe they've been -- they existed before that and they're on the system, and then when major projects are done, then they are updated.

COMMISSIONER GAW: Okay. And I'll ask Staff whether they have a copy of that document or a set of documents from AmerenUE for Taum Sauk?

MR. THOMPSON: It's my understanding

that we do, your Honor.

COMMISSIONER GAW: I'm not talking about the operating manual, I'm talking about the maintenance logs and protocols.

MR. THOMPSON: I don't know the answer to that.

COMMISSIONER GAW: Okay. Does Ameren know whether that's been provided?

MR. HAAR: I know certain of them, Commissioner Gaw, are part of the Highway Patrol report because they were produced to the Highway Patrol. Now, specifically which ones, I can't tell you.

COMMISSIONER GAW: Okay. How would I know whether or not that -- that universe in regard to Taum Sauk had been provided in the Highway Patrol report? Is that -- is that something I can tell by looking in the patrol report that all of them are there?

MR. HAAR: I -- I think in the report, though, there's a report of investigation that describes the universe of the ones that they have and then they're part of the 2000 pages. But again, from memory, I can't tell you which one -- which period of time. Obviously, it covered the previous breach

period but whether it covers the entire period you might be interested in, I don't know.

BY COMMISSIONER GAW:

Q. Particularly, Mr. Voss, what I'm trying to get to is, again, if there would have been changes -- of course, we know there were changes in regard to the probes and other things during the 2004 outage at Taum Sauk, whether or not the documents that would have reflected those changes would be available in regard to the maintenance of those systems.

A. I believe those are electronic.

Q. And how -- how do I get -- how do I make sure that I can see those? I want to know whether or not those updates were made and whether or not those updates are contained in the documents that were available to the Taum Sauk staff in 2005.

MR. BYRNE: We can get that for you.

COMMISSIONER GAW: Okay. Mr. Mills?

MR. MILLS: I was just gonna say I think there may have been a miscommunication. I think what was in the Highway Patrol report are actually some maintenance logs rather than maintenance manuals.

COMMISSIONER GAW: See, I think so too, but I need that clarified.

MR. MILLS: I think those are two different animals, and I don't think the maintenance manuals were in the Highway Patrol report.

COMMISSIONER GAW: Okay. Thank you for that. Ameren, did you want to --

MR. HAAR: No, Judge -- or Commissioner Gaw. It's something we just need to clarify because -- and maybe -- and maybe we can clarify it with this witness. I think some of the maintenance protocols are also electrically-based.

COMMISSIONER GAW: Now, are those two separate things as far as documents are concerned, or would they be housed in the same general electronic documents?

MR. HAAR: That, I think -- and again, I don't know if Mr. Voss knows, and I can't answer that question.

BY COMMISSIONER GAW:

Q. Mr. Voss?

A. I'm not -- I'm not familiar with the electronic maintenance system. I was under the impression, though, that it has the schedules and protocols, and -- but I'd never accessed it.

Q. Okay. How much difficulty is there in finding that and producing it? And is it -- and the

next part is how extensive is that? I mean, is it thousands and thousands of pages that we're talking about?

MR. BYRNE: Mr. Birk can tell you, I think. Basically, if you go into a fossil plant, it's thousands and thousands of pages because you're gonna get into a piece of equipment and it not only tells you how to maintain that equipment but it may have specific pictures and documents and tools required. I mean, it can get quite extensive.

So basically, we have our improved systems put up by -- by categories of equipment, and in each category, then, you have specific equipment, and with that specific equipment you can really drill down into, you know, when is the next time the oil has to be changed --

COMMISSIONER GAW: Right.

MR. BYRNE: -- all the way up the line to the last time they did a major overhaul and everything required to do that, along with parts lists -- I mean, it can get quite extensive.

COMMISSIONER GAW: If I -- if I wanted to see anything related to the Warrick probes and the piezometers and their maintenance, both in regard to what occurred with them and in regard to what was -

what the protocols were in doing any checks in regard to how often, what should be done when that occurred, how difficult would that be to separate out?

MR. BYRNE: I think we could separate that out.

COMMISSIONER GAW: Okay. Would it have the dates when those things were entered?

MR. BYRNE: Our -- our improved system, typically that's one of the important things you track, is you put dates when you do things.

COMMISSIONER GAW: Okay. Okay. How long would that take to get?

MR. BYRNE: We could -- we could probably have something in -- within a week or so.

COMMISSIONER GAW: Okay.

BY COMMISSIONER GAW:

Q. Now, Mr. -- Mr. Voss, those -- those things, as I understand it, that we're talking about in regard to maintenance protocols and maintenance logs exist for all of the -- all of the generation units; is that correct?

A. Correct.

Q. Okay. And since 2005 has anything changed in regard to the written protocol as far as general policy is concerned?

A. I don't know.

Q. Okay. And who would know that?

A. As far as, you know, there's changes probably made at each plant. That's why I wouldn't know if any one person could know what changes are made at all the plants.

Q. Right.

A. I just -- I don't think there probably is a person.

Q. Well, I understand what -- how you're answering the question and why you're answering it, I think, but what I -- that way, but what I'm asking you is, generally, as far as policy's concerned regarding -- in regard to maintaining those logs, in regard to how protocols are placed within the -- the maintenance system that you maintain, has that changed since 2005?

A. Well, I'm personally not aware.

Q. Okay. Now, in regard to scheduled outages, would you define that for me, if that's a term that you're used to using?

A. I guess I would -- this is my version of it, is if -- if you want to make a modification to a plant and it's -- and it's not a emergency nature, you would arrange a time to do it.

Q. All right. Now, when you -- when we're talking about scheduled outages, would that include outages that are scheduled months in advance?

A. Yes.

Q. Okay. Would it include outages that might need to be scheduled in a near term, say, within a week?

A. Yes.

Q. Okay. At what point does it become an unscheduled outage? Where is the line?

A. When the plant shuts down without any prior notification.

Q. Without any prior notification. So -- so there is -- if it's something that just happens immediately, that's unscheduled as far as you -- as far as your definition is concerned?

A. Well, you know, immediately may be within a few hours and you may get a condition where you'll say I'm going to be taking it down --

Q. Okay.

A. -- and it will be off-line at midnight tonight.

Q. All right.

A. I don't know if you'd call that scheduled or unscheduled, but it's -- I would call it

unscheduled.

Q. Okay. Now, is there a definition of scheduled outage and/or unscheduled outage in any of the written protocols within AmerenUE?

A. I'm not sure.

Q. Okay. Do you know whether or not there is a -- a -- okay. Let me -- let me back up. If there is a -- if something falls into the category of a scheduled outage, who is involved as far as personnel are concerned, not names, but in general title and position in determining the timing of that outage?

A. Well, it could be a number of people, again, depending on how far ahead it is. If it's -- if it's years ahead, then, you know, you would probably schedule it in with -- I think you already talked to Mr. Schoolcraft, but his group would look at trying to arrange so you don't have all the plants going off at the same time, and so you try and work them into some kind of a reasonable schedule.

Q. Okay.

A. Now, if it's --

Q. And the -- and the factors that would go into that category that you were just talking about would be?

A. You wouldn't want all the plants being off at the same time.

Q. Okay.

A. You'd want to have it at a time when the load would be lowest normally so that you would keep the reliability and stability of the system up.

Q. Okay. Would the type and size of the plant play in to trying to time out when to do an outage that you could have that much advanced warning on?

A. I'm sure everything would factor into it.

Q. Okay. Then you said years. What's another subcategory on timing that advance warning that you would have?

A. You know, most of them are years --

Q. Okay.

A. -- you know, where you plan major outages, year, year and a half. The subcategory would be maybe a plant manager feels like he's -- he's got a condition that he thinks he should get corrected within the next week or month --

Q. Okay.

A. -- and then we would schedule something in.

Q. All right. Now, if it's something that's shorter, say, with -- that there's discussion that something needs more immediate attention that falls in the category of within a month or within a week, who is involved in the discussion on timing there?

A. Would normally be the operating personnel at the plant in cooperation with the organizer, Mr. Schoolcraft who you talked to, that would try and coordinate it. You need somebody to centrally coordinate so that you wouldn't have different plants, you know, trying to schedule at the same time.

Q. Okay. And -- and who has -- who has the decision -- final decision if there's a disagreement in that category?

A. Well, there's really not a disagreement. If the plant manager wants to take the plant down, he takes it down.

Q. Okay. And there would be no dispute about or consequence about that?

A. I've never been aware of one.

Q. Okay. So in -- but in regard to -- to the reasons why a plant manager or superintendent might not just say, well, I want to do this in five

minutes, what would be the factors that would going in -- go into saying -- to the discussions as you're pointing among the people that would be involved, what would be the factors that would go into deciding when to time that outage?

A. Well, the major factor would be will it affect the reliability or stability of the system and what would be the best time to not have it affect the reliability or stability of the system. And the other factor would be how serious is the problem and whether it needs immediate attention or not.

Q. Okay. And when that discussion is being held, is there -- are there written policies -- were there written policies in effect in 2005 that dictated how those factors should be weighed and what factors should be looked at?

A. I'm -- I'm not sure of that. I don't know.

Q. Okay. Have you looked to see or had someone look to see whether or not such written protocols existed in 2005?

A. I have not.

Q. Do you know whether or not they exist today?

A. I'm -- I'm not sure.

Q. Okay. Do you know whether anyone is looking into that?

A. I'm not aware.

Q. Okay. Earlier there -- in the -- in the testimony, we've had a number of people talk about safety issues in regard to the safe running of a plant from a -- and my -- my question relates to that. Is there -- was there in 2005 a definition of what constituted a -- an unsafe condition such that a plant should be immediately shut down?

A. I think as we discussed, some of those are embedded in the operating instructions of the plant --

Q. Okay.

A. -- and some of those are embedded in the control systems of the plant and some of it's in the training that the people receive.

Q. Do you know specifically in regard to Taum Sauk what existed in regard to those directives?

A. I do not know specifically about Taum Sauk's directives.

Q. And do you -- do you recall seeing anything any of the various reports, Rizzo, that were made to FERC that would indicate that such directives existed in writing?

A. Yes, I think I remember seeing, you know, like elevation directives, high levels, low levels, seems to me were in those reports.

Q. Okay. Anything else?

A. Offhand, I don't -- I'm not sure.

Q. And the elevation factors that you're talking about have -- has to do with the actual limits on the fill in the reservoirs?

A. Correct.

Q. Okay. But in regard to -- to any particulars as to if -- if the sensing devices are inhibited or in error or not properly working, do you recall seeing anything in writing that indicated whether -- whether or not that would -- or should be considered an unsafe condition?

A. I've never read the operating manuals.

Q. Have -- have you talked to individuals within Ameren who have looked to see whether or not that exists?

A. I -- I don't think so.

Q. Okay. Do you believe that such direction should exist in writing?

A. I think good instructions are a good thing.

Q. Okay. So the answer to that would be

yes?

A. Yes. In fact, our -- our quality management system is developing more detailed policies and procedures for all of our plants --

Q. You mentioned that earlier and I do want to get into that.

A. -- for various operations.

Q. Yes. Can -- can you point out anything to me that you have discovered or been made aware of that -- that specifically deals with the timing of shutting down a plant due to factors that involve some degree of safety?

A. Well, our overall operating philosophy is to protect the public, protect the employees, protect the environment and protect the facility above all other factors. That is our operating philosophy.

Q. That's a philosophy that's in writing currently, right?

A. Correct.

Q. And that philosophy was adopted when?

A. Well, I think it's always existed but we put it in writing sometime after the failure.

Q. Okay. Well, what I'm really asking you about is those -- I understand that – that

there's -- there's an importance to enunciating that general policy. I'm looking for specific directions in regard to those -- how different matters might meet different degrees of attention from a safety standpoint and whether or not you're aware of whether or not those kinds of directives exist.

A. Well, you know, I haven't -- as I said before, I haven't read the operating manuals of the various plants but they are embedded in those operating manuals in the control systems and in the training programs.

Q. Okay. In the operating -- in the operating systems, is that a separate -- I want to make sure I'm following you when you're using that phrase. Is that a separate document from the separating manual?

A. No, it's how the system -- how the plant is operated.

Q. Okay. Is that -- is that something that's in writing or is that just -- just the way things are understood?

A. Well, it's a system. I mean, it's how you run the plant and it comes back with guidance and limits and instructions and alarms and -- you know, and certain operations have them automatically that

are programmed into that operational system.

Q. Okay.

A. And they're trained on it, there's training simulators and training programs and it gives the operators supplemental information and at times just takes over and shuts the facility down if it finds certain limits are exceeded.

Q. Okay. And that assumes that those instrumentations that would give you those alarms and the signals are working, doesn't it?

A. Yes.

Q. And I would also presume that there would be some requirement -- requirements to ensure that those alarms and sensors were working?

A. Correct.

Q. And you believe that this maintenance procedures thing that may be in your electronic data base would contain information in regard to those directives that would have been in effect in 2005 for Taum Sauk?

A. I believe so.

Q. But you don't know what they are?

A. I do not.

Q. And you have not had anyone from Ameren who you've instructed to look into it to ensure that

they're there at this point?

A. That's correct.

Q. How about with other plants? Since this incident have you -- have you made that kind of direction in regard to other plants that are operating?

A. Well, I know they're -- I haven't made any specific directions, but I know there is a database with specific maintenance activities for all the plants and it's populated for every plant.

Q. Well, and what I'm trying to understand, Mr. Voss, is because -- because we know that there were a number of breakdowns in leading to the Taum Sauk disaster, that I have -- I'm looking to see whether or not in regard to forward -- forward-looking matters, that things that might have contributed to a number of the things that didn't occur that should have are addressed with other plants as well.

A. Correct.

Q. And so it's -- it's important from my standpoint to understand whether or not those questions have been asked about plants in general so that I can see that there's -- there's some work going on that way.

And I think you've made mention to some things going on within Ameren, but what I'm looking for here are specific references to this question of whether or not a plant has a safety issue that is significant enough to warrant its immediate shutdown and whether or not there are specifically -- specific written protocols that cover things that would have -- that would have hopefully avoided what we saw happen at Taum Sauk. So to the extent that there is anything specific there, I'm interested in seeing that.

A. Well, our -- as I mentioned before, our quality management program is working on 22 -- I think it's 21 or 22 specific aspects of -- of -- of an ISO 9000 program --

Q. Okay.

A. -- and we've implemented that since the Taum Sauk incident, and that is in place at all the plants. All the plants are supplementing their written procedures, policies, processes in order to do I think what you're saying, have more specific information, and they're all embedded with safety messages and safety alerts.

Q. Is that -- is that something that, again, varies by plant or is it -- is it a general

set of directives that are -- that are for all generating units?

A. No, it's a -- it's a program, it's a style of how you operate --

Q. Okay.

A. -- but the specific ones are specific for each plant.

Q. Okay. How extensive are those -- those -- those written documents?

A. Well, they're in -- as I say, we've -- it's something that we started since the breach, so we're just getting started on them. Some of them --

Q. It's not complete today?

A. It's not complete.

Q. And who -- how many people are working on that?

A. People are working on -- at virtually all the plants --

Q. Okay.

A. -- to some extent, so, you know, some plants will be done faster than others on getting through the process. And it's not only plants, it's also related to engineering also.

Q. The engineering itself?

A. To plant engineering.

Q. Oh, okay. Thank you. Now, as we speak, you said there were -- there were 22, 23 --

A. I think it's 21 or 22.

Q. 21 or 22. And I'm trying to finish that sentence. I can't remember what you said they were.

A. Well, aspects of this quality management program.

Q. All right.

A. Things like -- like design basis training, like design change control processing --

Q. All right.

A. -- like a training in general, monitoring, auditing, things like that.

Q. Okay. Can I -- can I see that if -- if it hasn't been produced?

A. Certainly.

Q. Okay. And then -- now, within -- within -- those -- those matters, at this point are could you -- are you able to point out to some specifics that are in those 22 -- 21 or 22 aspects that would have specifically dealt with some of the things that went wrong at the Taum Sauk plant? It may be unfair to ask you to do that from memory, but I'm asking you if you could to do it from memory.

A. Well, I know as part of that effort is

embedded our dam safety program.

Q. Is that --

A. And so that's very specific, but also just offhand, I would say the design basis training --

Q. Yes.

A. -- would be important and also the change -- design change configuration process is in that -- in those procedures. Just a -- I mean, I don't remember all the rest of them, but those -- those particular ones I think would have a bearing on the Taum Sauk incentive. In fact, I think if they were in place, it wouldn't have happened.

Q. Tell me -- tell me which -- which things that would -- would have not occurred in your opinion if these -- if these 20 -- some of these 21 or 22 aspects had been in effect?

A. Well, I think there would have been more rigor around the -- initially the instrumentation design, and there would have been more rigor and review around the modification of the instrumentation and certainly more rigor around changing levels.

Q. Can you tell me how that -- specifically how you think that rigor would have changed? What would have been -- I'm not talking about just - we

would have spent more time on it. I need more -- I need more specifics than that. Is there anything --

A. I'm not exact -- I'm not real familiar -- part of it is the fact that it forces more communications --

Q. Yes.

A. -- it forces more knowledge of the facility --

Q. Yes.

A. -- and I think the engineers would have to know the elevation levels, they would have had to know the settlement process, they would have been -- it would have forced them to check with other people to ensure plant manager understood what they were doing. It forces communication which is one of the things that we thought was lacking in the present because of what happened in the Taum Sauk incident.

Q. Okay. How would -- who would -- from what you know about in reading the reports, who would have had to communicate information that did not under these protocol?

A. Well, I think the engineers, like I said, that were involved in the design of the instrumentation would have communicated differently.

Q. To whom?

A. To the plant superintendent, plant operating personnel.

Q. Do you believe that the -- that the plant personnel did not have some information when -- that they should have had?

A. No.

Q. Okay. I'm just a little confused.

A. I believe some of the engineering people didn't have some of the information the plant operating personnel had.

Q. Oh, okay. It's the other way around, is what you're saying?

A. But I think there's some of both, probably.

Q. Well, can you tell me what you -- what you're referring to when you say that?

A. Specifically, the engineering people didn't understand the elevation issue and they didn't understand the settling issue when they were designing the -- the instrumentation.

Q. Okay. Which -- which engineering people are you referring to?

A. The project engineers on the instrumentation.

Q. Okay. Would that be Mr. Pierie and

Mr. Zamberlan?

A. Mr. Zamberlan was a contractor. I wouldn't necessarily --

Q. So you're not talking about him?

A. Not talking about him. But again, I'm not -- I wasn't that specific with the information. I just -- from what I've read and from what I've seen in the -- the quality program, I think there would have been a better exchange of information to the point that the people would have been questioning more than what they were.

Q. Okay.

A. And it would have led to a better outcome.

Q. Are you aware, Mr. Voss, that -- that Mr. Bluemner told Mr. Pierie about the elevation around the wall, at least and especially in regard to the low point on the parapet wall in 2004?

A. I'm -- I'm -- I'm not aware of the specifics.

Q. You haven't read that in the reports?

A. I don't recall. I don't recall seeing that specific thing.

Q. So if that's -- if that's true, then, in regard to the information on the elevations,

Mr. Pierie himself already had that information, did he not, if that -- if that's accurate?

A. Yes. I don't know if it was or not, but I'm saying the whole -- understanding the whole system instead of understanding a specific piece of data is important, and I think this process, this multistaged process, that would require you to have an understanding of the whole system.

It wouldn't be a casual comment someone would make, maybe in an e-mail or something, that you said, oh, it's such and such. You'd have to document it, you'd have to go through with this process and develop an understanding and coordination, and then you'd have to review how -- what you did with someone else.

And again, I think that it wasn't like -- I'm not saying nobody talked to anybody, but this is more rigor in the whole process and I -- and I think it would improve communications. I think it will improve communications tremendously in the future.

Q. Okay. Do you know how -- let's -- let's step back into -- into that time frame in October of -- well, I guess it would be November and December of 2004, and Mr. Bluemner was aware of the – the

elevation on the lower -- low point on the parapet wall and told Mr. Pierie that, if we assume that to be the case, and we also -- we also knew at that point that -- that the instruments were being placed at a much higher point -- at a higher wall, parapet wall point, who should have received that information if it were done according to these protocols or according to some more proper procedure either way?

A. Well, a design change on a -- on a -- a major design basis change would --

Q. Now, right now -- right now I'm not talking about the design change. I don't --

A. Well, moving protocols would be a design change.

Q. Say what?

A. Moving those would be a design basis change.

Q. I'm not there yet. I'm not there yet, that's my fault or I'm -- I'm just before that. Right now all I'm telling you is that there was -- there was an understanding and knowledge about the low point on the parapet wall because Mr. Bluemner made a special effort -- I'm going to assume that he made a special effort to go out and measure what he saw to be a low -- what he thought was a low – low

point in the wall. What should have occurred with that information once he did that? Where should that information have flowed?

A. Well, under the new process, that would be part of this design change -- notification process.

Q. Okay. I'm confusing this because I think you're talking about the actual movement of the Warrick probes when you're talking about design change, and if I am -- if I'm mistaken about that, you correct me.

All I'm talking about right now is measurement, is special survey of a -- what he thought was a -- a lower elevation wall on the parapet wall, a panel on the -- on the wall. What should he have done with that information?

A. Well, again, I think just communications. He should have been sharing it with the other people involved in the project. But I think there was a general lack of understanding that the whole place had shoved it down a foot besides --

Q. Why -- why would that be -- there -- there were -- there were every five years measurements taken that were sent into FERC that -- that gave an account of the -- of elevation at

various points on the wall. Why would that have been something that -- that would have been an unknown?

A. I didn't say it was unknown, I said it was a misunderstanding.

Q. Between who?

A. I think almost everybody because the elevation was stenciled on the wall and the number was stenciled on the wall, and that wall moved down. And when the reservoir was filled to that level, everybody thought it was still filled to that level that was marked on the wall.

Q. Okay. Well, you -- I understand what you're saying, but that's not exactly what I'm talking about. What I'm asking you is, the surveys that were done every five years that were sent in to FERC, that was information that FERC held and Ameren held, everybody had access to that information. So why would it be a mystery or an unknown that the wall was settling?

A. I don't think it was a mystery.

Q. Okay. So there was knowledge within the Ameren -- Ameren system, within Ameren personnel about this settling?

A. Yeah. Actually, I think in one of the reports, essentially, they fully hadn't settled for

the last 15 years or so, it was in the beginning of its life. And people had general knowledge but it wasn't a -- it wasn't on anybody's -- it wasn't at the top of anybody's list.

Q. Well, the -- do you think that makes -- makes good judgment sense in light of how high the water was being run against that wall, that full pool?

A. You know, I think from the very beginning we took responsibility and we said mistakes were made.

Q. I know, but --

A. And judgmental -- judgment mistakes were made, but I don't think at any time anybody actually thought that the things -- the -- the actions they were taking were putting the facility in danger, but we said mistakes were made.

Q. I understand, and I -- but that doesn't -- that doesn't get me to the -- to the answers that I'm looking for in regard to what this thing looks like going forward, and I'm trying to understand how all of this interrelates on this communication issue and this judgment issue and in -- in regard to how people were trained to do things or respond to a certain situation.

So that's why I have to break it down. I mean, answering -- answering this thing with we take responsibility, we want to -- we know mistakes were made, doesn't -- doesn't do the trick for me if I'm trying to figure out how -- how these things are not going to be happening going forward with other matters.

So when we're dealing with this question of this -- this water going around, we know there was knowledge within Ameren about the wall settling, there was a special survey that Mr. Bluemner did in addition to the survey because he was concerned when he thought he saw a panel that looked significant -- looked lower than some of the parts of the parapet wall, and that information was given to Mr. Pierie.

Let's assume all those things are correct, they're all a matter of record. Where is it -- where should that communication then have gone? Was there somebody else that should have been told about that?

A. Well, if you -- you know, I'm trying to say that in our new process and design change, modifications, that process involves the communications protocols that are required, the sharing with the plant management in going over what

assumptions you made in your project, having peer review and, in fact, on the case of the dam safety, would also require the dam safety department review.

And for something critical like instrumentation changes, it would require a filing with FERC. So you know, the process is more rigorous going forward. It wasn't rigorous and judgment mistakes were made in communications back in 2004.

Q. But in addition to the plant management which would -- would have been the superintendent, at least the superintendent at the time, should that information then have gone up -- farther upstream as a -- as an area of concern or is that sufficient?

A. Well, we think now that that would also need to go to a dam safety group that would review it and determine whether adequate measures were taken to ensure that this thing was designed properly.

Q. Well, that's with in regard to hydro?

A. Yes.

Q. If you had something -- and I can't think of an example because I don't know all the nuances of all your other generation units, but if you had something similar that didn't relate to dam safety, should it go upstream to someone else within Ameren looking forward?

A. Part of the design change control procedures does have it go up for peer review and supervisory review, and depending on the -- the type of facility and the type of job would determine what type of review. That's what is in this new procedure.

Q. Okay.

A. But since hydro has a -- certainly an element of public safety that's greater than -- than some other plants, that that's why it was felt necessary to create a special group, particularly for that area so that we do that right in the future.

Q. Well, I appreciate the fact that this unit has been created, but I -- but it's important for me to understand how this relates to the rest of the system on other units. It is true, is it not, that the Ameren, the -- the Ameren dam safety program was ordered by FERC?

A. I think it was -- we viewed it as a -- FERC notified us that it was the best practice and we -- we welcomed it.

Q. Now, it's a part of the -- the stipulation that Ameren agreed to and that you were ordered to do; isn't that correct?

A. I think it is, yes.

Q. Now, let's talk about what you -- I think you were trying to answer several times in regard to the -- to the movement of those Warrick probes, and that -- that evidently was done, we think just once, right, after they were initially placed up there in the -- in the fall of '04? Again, what should have occurred in regard to the communication about that -- about that movement?

A. What should occur is that a process like our design change process that we now have in place should have occurred.

Q. And that is?

A. That's where it would -- there would be this multistage process where you would design a system, it would go to the dam safety engineers; if it was a hydro facility, it would go to a peer somewhere else if it wasn't, and the -- and you had to -- you'd have to consult with the plant management, you would have to explain how the modification is working. It's just a lot more rigor into the design change. And that's the ideal. I think that's why we're implementing it.

Q. Okay. So in -- in regard to that -- that question, then, who would -- who would have been involved if this -- if this were done the way it

should have been done, as you say, back in -- in '04, whenever the probes were moved?

A. Well, the operating personnel at the plant, the dam safety group which wasn't established then --

Q. Yes?

A. -- and that would probably -- probably be the -- the group.

Q. Okay. So currently with this dam safety group, the dam safety group is -- is designed to accumulate all of this important information and make -- make final approval in regard to any changes; is that -- is that accurate?

A. Could you rephrase that?

Q. Well, I can try. Currently, the dam safety group is there in order to accumulate all the information about changes that might have been made in design or proposed for design, and things -- and things that would impact making the correct decisions on those such as the fact that the wall was settling or had settled and that there was a proposal to move the Warrick probes up?

A. I think what you said and more.

Q. And more. Okay. When you get outside of hydro, then what -- what will happen moving

forward in regard to ensuring that there is one group or individual that's responsible for housing all of that information so that those kind of decisions can be made with that full knowledge?

A. Well, I'm not intimate with the procedure but I believe it would require the coordination of the design change with the plant operating personnel, the plant engineering personnel, and then an appropriate air and service design department.

Q. Okay. And --

A. For peer review.

Q. For peer review?

A. Not -- not scene review. It would be -- require a second level of review.

Q. Okay.

A. If it's a electrical design, then it would go to a higher level electrical peer.

Q. Okay. And again, I don't know whether there -- whether we can construct some scenario where some similar emergency could occur as a result of decisions that are based upon a lack of knowing all of the important facts, but with the dam safety group, that's designed to have it be the clearinghouse of all of those factors, right, so that

they --

A. And more.

Q. And more. And what I'm looking for is whether or not there is a similar group for other plants. Maybe not the same group for every plant, but is there a similar --

A. There's a similar process and I think it's the process that's important for the other plants.

Q. Okay.

A. There's a formal design change management process that we're implementing at the other plants that wasn't there before.

Q. Okay. Are you-all doing that entirely with internal resources within the Ameren system, or are you using outside consultants?

A. I -- I don't know that I can answer that. Most of it's internal, but there may be some help. I'm -- I'm just not aware.

Q. Who's in charge of that again?

A. Carl Brewer is our manager of quality management.

Q. Who was -- who was in charge of ensuring that superintendents received training in 2004 or 2005?

A. Their supervisor.

Q. Okay. And do you know were there specific training requirements that Ameren had for the superintendents during -- during that time frame?

A. I'm -- I'm not aware of what they are.

Q. Okay. Were there specific training requirements that were -- were required annually for superintendents, just generally speaking?

A. There is some, of course, that are required --

Q. Okay.

A. -- in some aspects of the corporation, but specific areas have their own specific requirements of what their particular supervisors need annually or whatever.

Q. Okay. But you're not -- you're not sure exactly what those are specifically?

A. I am not.

Q. Okay. When did you say you -- you -- you were at the facility after the breach? Did you go?

A. Yes, I didn't say. No one asked me that before.

Q. I couldn't remember. It's been -- go ahead.

A. I was there the day after.

Q. The day after. Okay. And what did you see when you were there?

A. I -- I saw the upper reservoir and I saw the Johnson's Shut-Ins and I saw the -- the engineering personnel that were relocated to that area in our -- kind of a -- a staging area that we developed.

Q. Okay. What -- what did you think about what you saw around the area just generally from the damages?

A. It was devastating.

Q. And you said you'd been down there before, right, but only like a couple of times?

A. Correct.

Q. Did you visit the upper reservoir when you were there before?

A. Correct.

Q. Okay. Was that prior to the liner being installed?

A. Correct.

Q. Okay. Do you know whether the water -- the water was in the upper reservoir at full pool when you were there or do you remember?

A. I saw water. I don't know what level it

was at.

Q. That's understandable. This -- when -- when you were there, did you have discussions with others within Ameren about what had occurred?

A. Oh, you're talking about the day after?

Q. Yes, I jumped, I'm sorry. That's what I'm talking about.

A. Yes.

Q. Can you tell me what you were told occurred?

A. The only discussions I remember having on that particular day with other Ameren people that were down there was involved in why didn't the -- the protection level probes operate, and at that point in time no one knew.

Q. Who was there in that conversation, if you remember?

A. It was a couple engineers and I don't know who they were.

Q. Do you know if Mr. Bluemner or Mr. Pierie were among them?

A. You know, I didn't know them at that time so I don't know --

Q. Okay.

A. -- if they were the ones I was talking

to or not.

Q. Okay. How about the superintendent, was he there?

A. He was there but I don't remember having a discussion with him at that time.

Q. Anyone else?

A. Well, there was a lot people there.

Q. That you remember talking about it.

A. That I think -- those were the main people, I think, that -- I mean, that's the only discussion I remember talking about what -- we were all puzzled about why the protection levels didn't work, and I think that was the first time there was some discussion about that the -- that bend in the level conduits.

Q. The conduits?

A. That they had bowed. And I believe -- I believe we saw them bowed that day.

Q. Did you? There was still --

A. I believe so.

Q. There was still bowing in the -- in the conduits even after the water was down?

A. Correct.

Q. Do you remember how many of the brackets -- or if -- could you tell the brackets were

broken off at some point, points that were supposed to hold those conduits on from where you were?

A. The viewing stand, that's where you can get access to the top, is at the other end of the facility and it was --

Q. And you couldn't see it?

A. You couldn't see anything like that.

Q. I understand. Now, what about the -- did anyone discuss with you the specifics of having looked at at that -- by that time whether or not the Warrick probes were working?

A. I seem to remember a discussion that they --

Q. Go ahead.

A. Seems like they said, if I remember right, that they felt that they weren't defective but they didn't know why they didn't operate.

Q. Okay.

A. And there was some speculation as mud in the tube or something like that that didn't really make a lot of sense but there was a discussion around that.

Q. Okay. Well, I assume there was a lot of speculation about different things regarding what had happened at the time, but that would be normal,

right?

A. You know, I really wasn't involved in speculation at that point in time. I was really there to see the -- see the damage that was done.

Q. Any discussion about the piezometers?

A. None that I --

Q. Other than what --

A. -- can recall.

Q. Other than what you described about the conduits being bent?

A. That was the only discussion that I can recall.

Q. Okay.

A. And it was more of a pointing out across the reservoir that seals are bent, we think that might have been why the -- the level wasn't correct. But no one could figure out why the protection probes didn't work.

Q. Mr. Zamberlan, you say you don't know whether he was there or not, right?

A. I have no idea.

Q. Yeah. Okay. Well, did you stay down there for how long that day?

A. Few hours.

Q. Okay. Did you go back after that?

A. I have not been -- I've been to the -- yes, yes.

Q. When?

A. I went down to see the -- I don't know the exact dates.

Q. That's all right.

A. I went to see the restoration. I think it was the spring sometime.

Q. Okay.

A. How far Johnson's Shut-Ins had come in. And at that point, went up to some of the scour. But I don't believe I went into the plant or into the -- into the upper reservoir.

Q. Okay. All right. Was Mr. Rainwater with you at any of those times?

A. Yes. I think he was with me both times.

Q. Okay.

A. Both of the last two times after the breach.

Q. That's what I thought you meant but thanks for the clarification. When did you first become aware of the fact that personnel within Ameren were aware of the bend in the transducers before the breach?

A. I was not aware of before the breach.

Q. I put the commas in the wrong place, then. When did you first become aware of the -- of the fact that knowledge about the transducers was -- was known in October of 2005?

A. You know, I -- I hate to give you -- it was days after the event. There was some discussion that particular day that the thing was bent, but I don't know that I understood the -- that that had happened before. I don't believe that that was discussed, and it was subsequent days to weeks before I had come to an understanding of what had happened. And I don't think I understood the whole thing until I read the results of the report.

Q. Uh-huh. The matter in regard to the -- to the transducers and the transducers and -- and the knowledge that some Ameren employees had in regard to those to the fact that there was a bend in the pipes and that some of the brackets had broken loose, what should have occurred with that information once it was known?

A. Are you talking from hindsight?

Q. No, I'm talking -- I'm talking about looking at those transducers in the beginning of October, and you know that -- you can see that they're not -- they're not where they're supposed to

be and you can see that it's very -- that some of the brackets evidently had come loose, what should have been the action taken with that knowledge?

A. Well, I think the action they took was -- certainly should have happened. I mean, you should have called the engineers to tell them they needed a fix for it, we needed to get the parts to fix it as soon as possible. What -- and then an adjustment was made in the thing, both in the level and in the -- in the sensing and then also the pumping levels.

So those were all directionally correct. In hindsight, gosh, should have done a lot more. Should have put -- should have lowered the level, you know, 20 feet or you should have had someone up there every time you pumped up. But I could go on and on, should have drained and fixed it the next day. There's -- there's just --

Q. Well, that third one sounds real appealing to me --

A. Yes. Yes.

Q. -- of those that you mentioned.

A. But as I said, there were errors in judgment, we've admitted that, but at no time did I think an Ameren employee knowingly ever put the

facility in jeopardy. I think the action --

Q. That's a -- that's a different standard. I understand that -- that -- that what you're saying here. I don't know whether that's accurate or not, but that's not really what I'm looking for. I'm -- I'm asking you as an engineer, albeit an electric engineer and I know that a lot of this relates to another category, but as an engineer, looking at that circumstance where you -- your -- your primary method of determining the level of that facility is broken and you're running the facility close to the top of the parapet wall as a matter of your normal operation when those -- when those sensors are working properly, not using hindsight, what should have been the reaction of -- of your engineers and your personnel in charge down there or that were down there advising?

A. Well, if you say not hindsight, then --

Q. Yes.

A. -- I think what really should have taken place was a more rigorous discussion about whether those actions that were taken were sufficient to protect the facility, and that --

Q. Okay. Now, keep going.

A. -- that conversation didn't happen.

Q. Keep talking. Well, let's -- let's -- I want to explore that a little bit because I -- what kind of things would you have done to -- to try to accumulate information that was important? What things would have been important to have -- have determined to found out once you had made that discovery?

A. In what role?

Q. I can give you -- I can rattle off a few if you want me to, but I'm talking about --

A. I mean, are you talking about me being the engineer or are you talking about me being the plant superintendent?

Q. Why don't you -- well, that's a good -- that's very good, let's go down both roads. You pick the first one. Do you want to do engineer?

A. If I was the engineer I think he did what he should have done.

Q. Which was?

A. He -- he -- he was appraised of the situation, he started to take action to fix it.

Q. Okay.

A. And he -- he -- I mean, that's his job, to try to figure out how to repair it.

Q. Okay.

A. As a plant superintendent, I think he needed to have some peer review with his -- both with his peers and also with his manager about whether actions he took were sufficient to protect the facility.

Q. Okay. Well, let's think about the things that should have been looked at, though, specifically. Now, at that point in time, there -- there was -- there's an e-mail around about in October, in the first part of October, about the fact that those Warrick probes were four and seven inches from the top of the parapet wall on the -- on that -- one of those high up -- higher panels. That information was known and available.

Now, if you would have had that information coupled with the transducers, would you need -- have needed any more information in order to say this plant needs to be put out of commission?

A. I'm not aware that Mr. Cooper knew where they were in relationship to the lowest point on the wall.

Q. Well, some of your engineers knew it. Mr. Bluemner knew it as far as --

A. I'm not aware of that.

Q. He knew what the height of the lowest

part of the wall was, let me say that, because he took the survey, right?

A. Correct. I'm not -- what I said was I'm not sure if anybody knew that those probes were higher than the lowest point on the wall. Now, you can say maybe somebody should have known, but I don't think anybody knew that.

Q. It's a matter -- it's a simple matter of subtraction, isn't it? I mean, I think -- I don't -- I think that probably third graders could do this subtraction. What is it -- what is it that you have to know? You know how high the parapet wall is where the -- where the Warrick probes are placed and you know they're four and seven inches from the top of that.

And if you know what that survey says is the low point on the wall, you can pretty much tell whether or not those sensors are going to be higher than that low point with a matter of subtraction that a third grader could do; wouldn't you agree.

A. I just stand by my statement that I don't think anybody knew that the sensors were placed below the lowest point -- above the lowest point on the wall.

Q. I understand what you're saying but it

didn't answer my question.

A. Okay. It could have been figured out. We figured it out after-the-fact, but nobody figured it out at that time.

Q. Well, when you get to the point of looking at this -- at this information, again, I understand that what you're -- what you're -- that it's -- it puts -- puts a lot of difficulty when you have this clarity, as you said, of looking back and knowing what occurred as a result.

But it also looks pretty obvious that all the information that you needed to see that those Warrick probes couldn't -- couldn't be triggered, was -- was there within the knowledge of Ameren in October of '05; wouldn't you agree?

A. I agreed that there was errors in judgment made.

Q. Well, that wasn't my question. My question --

A. I agree.

Q. Okay. Thank you. Now, that being the case, when you -- there were -- this -- there was this -- also this other problem which played into this role, particularly with regard to this -- the reprogramming of the Warricks from parallel to series

which we -- that -- that's an issue that may have been known by your Ameren personnel in October of '05, I suppose. Would you think that -- that's true or not?

A. I think that's true that they may or may not have known.

Q. If you don't --

A. I think they didn't know.

Q. You think they didn't know about that reprogramming?

A. But I don't know. You'd have to ask them.

Q. About that reprogramming?

A. Yes.

Q. Mr. Zamberlan says he told plant personnel about that, that it was clear -- I mean, that was his testimony, if I -- if I remember it correctly. And I'm not asking you to comment on that.

A. Probably may or may not was the better comment that I made first.

Q. I'm sorry?

A. When I said may or may not was probably the better comment.

Q. Okay. Well, when -- when you get -

okay. When we get into that -- that question about that piece of information, do you think that checking on the -- well, first of all, did that make any -- does that make any sense to you as an electrical engineer to have those Warrick probes reprogrammed so that you have to hit both the low -- the lowest -- let me say this: You have to hit both the Hi and the Hi-Hi Warrick probes before anything occurs? Did that make any sense to you?

A. Does not to me.

Q. Yeah. And of course, I think Mr. Pierie said it didn't make any sense to him either.

A. Glad to hear that.

Q. Well, that's my recollection. You'll have to look at that, but when you look at the -- excuse me -- if you look at this entire -- entire matter in regard to how that was done, again, that information should have been housed in some sort of a central -- central location with this other information in order to have what you needed to make -- make better decisions?

A. Correct. The design change process was -- was -- you know, that -- that would have caught that kind of issue.

COMMISSIONER GAW: Okay. Now, there

was -- why don't we break right now because the judge is telling me we should and I keep forgetting that I'm supposed to do that.

THE WITNESS: Okay.

JUDGE DALE: Let's take a break until half past. Off the record.

(A RECESS WAS TAKEN.)

JUDGE DALE: Let's go back on the record and continue with Commissioner Gaw's examination of the witness.

COMMISSIONER GAW: Is Commissioner Appling done?

COMMISSIONER APPLING: Yeah, I'm just -- I'm going to listen for a while, so go ahead, Steve.

BY COMMISSIONER GAW:

Q. Mr. Voss, in regard to the time frame in October of '05, there was testimony in regard to the possibility of getting some -- having some additional things done at the Taum Sauk plant after the -- the overtopping event that occurred, I think, at the end -- toward the end of September, and -- and the discovery of the -- of the lines.

In that -- that included some things regarding putting a manometer or something like that up there and also perhaps putting in another Warrick

probe in addition to the two that were the Hi and the Hi-Hi probes. Do you know anything about that at this point?

A. I do not.

Q. Okay. That -- that reaction or doing that also involved the -- involved, I think, Mr. Pierie and --

A. I'm not aware.

Q. Do you know in retrospect about the fact that Mr. Pierie was -- was transferred away from that project during October of -- of '05?

A. I'm not aware of his assignments at all.

Q. Okay. Even in retrospect?

A. Even in retrospect.

Q. Okay. Would there -- if -- knowing Mr. Pierie had a significant amount to do with that -- with that plant in its -- in its rehabilitation or the changes that were done in '04 and into '05, that move of him away from that plant, is that something that should have resulted at the time in some sort of debriefing with someone else within Ameren prior to his departure?

A. You know, certainly knowledge transfers should always occur.

Q. Yes.

A. And I think we said one of our problems was slack of communications. I honestly cannot tell you whether that did occur or didn't occur --

Q. No, no. I --

A. -- or he was transferred or he wasn't transferred. All I can say is I agree with you that there was a lack of communications.

Q. Right.

A. And we've accepted responsibility for that.

Q. You're back to that again. Okay. But what I'm -- what I'm looking for here is this -- this -- whether or not the new protocols that you have today or that you're developing today would specifically address that set of circumstances?

A. Yes.

Q. Can you -- do you know how at this point?

A. Well, again, you know, the design change process is very detailed and it's very specific about the information that has to be gathered, and in that process you would be forced to go to people that had -- had some knowledge of how it was done before in order to complete it.

Q. Okay. Now, in -- during that time

frame, again, in October of '05, there were signals being sent on the -- on the filling of the upper reservoir that were monitored on some -- some screens at -- or at least could monitor on some screens at Osage and in St. Louis and I think at Taum Sauk itself if someone were there to watch it.

Have you looked at any of the information in any of the FERC reports regarding the graphs that illustrate the fill rate?

A. I may have glanced at them but I didn't -- I didn't spend any time on those charts.

Q. Okay.

A. I may have looked at where they ended up.

Q. Yes. When they were -- there -- if I -- if I told you that there were some jaggedness in some of the lines as they were -- as they were showing the filling of that reservoir, is that something that -- that if -- if you were seeing that, would have caused any additional concern to you, if you were -- if you were --

A. I think the key was -- was at a normal factor. It's very likely that that always is like that. But I wouldn't know that because I never looked at them.

Q. Okay. Well, I can show you some graphs if you want me to that show how that changes over a period of months in regard to how much difference there is on fill in the jaggedness of those lines progressively, so --

A. I mean, you can show it to me. I'm not sure that I could put any significance into that.

Q. And why don't we not go down that road. I think -- that's not necessary. You recall that there was discussion of -- of that fact in the independent panel of consultants' report; do you remember that?

A. I do not recall that --

Q. Okay.

A. -- discussion.

Q. Earlier I think you -- there was some -- some question asked of you in regard to the -- running water up against the parapet wall being unprecedented, again, in the independent panel of consultants' report. Do you remember anything -- reading -- reading that in that report?

A. I do not.

Q. If it said that, would that surprise you?

A. Well, you know, if -- I seem to remember

somewhere someone saying that there wasn't -- that there wasn't a best practice to be operating upon a parapet wall, but I would have been very surprised if that is true. If it was, why wouldn't have FERC -- why did they originally approve the operation and why wouldn't they tell us that in their regular reviews including the one that was done shortly before the failure? So I would be surprised. But you know, I've been surprised with a lot of things in this investigation.

Q. Yes. Of course, the independent panel of consultants was assembled to give the report to FERC, it wasn't necessarily composed of FERC staff members, so we're dealing with different individuals; wouldn't you agree?

A. Well, they really are the experts. I would think they would know if that was an unusual -- that's why they're there is so that they can point out practices that aren't -- aren't -- aren't good practices.

Q. You're talking about the FERC staff or the independent panel, which?

A. The FERC inspectors.

Q. It's curious, isn't it, that there -- that there was -- they -- do you know whether they

were aware of where that operating level was as it relates to the parapet wall?

A. I am not, but if they're inspecting it, you know, on a regular basis, I would think they should be aware of that.

Q. But you're not -- it's not clear, is it, whether or not they were -- they were aware of where their -- where that water would be at an operating level that's designated at 1596?

A. It's inconceivable to me that they wouldn't know we were operating it on the parapet wall since they approved it.

Q. Because -- go ahead and explain that. I think it's obvious.

A. It's in our operating manual instructions, it was in the license when it was originally granted.

Q. Yes.

A. I can't believe inspectors would have been there for 40-some years and never saw water on the parapet wall.

Q. Yeah. And in addition, as you said, there were documents that you provided to FERC, right?

A. Yes.

Q. And you would expect that FERC, if they were provided documents like that, would have some knowledge of -- of -- of the fact where that operating level was in regard to the wall?

A. Yes.

Q. You would presume that if you -- if you give an entity like FERC information like that, it is something that -- that they have within their system, they are presumed to know it?

A. Correct. They -- they're the real experts, and if we were -- if we were doing a practice that they wouldn't recommend, I would think it would have been -- they would have told us.

Q. That doesn't relieve Ameren, does it, of the responsibility of ensuring that they're running a safe enterprise?

A. I didn't -- I didn't -- I never said that.

Q. I didn't -- I didn't think you were trying to say that.

A. I was not.

Q. Were you at the facility during that awards ceremony of IEEE in September of '05?

A. Yes, I was.

Q. Tell me what you remember about that

event.

A. I -- we drove down there, got to the -- where the award was given which was in a -- kind of the mid level; it wasn't at the plant lower level and it wasn't at the upper level, and the IEEE came and gave us the award, a couple people said a few things and then some people went on tours and I went back.

Q. Okay. Did you drive down there and back by yourself that day?

A. I did not.

Q. Who did you travel with?

A. I traveled with Alan Kelley and Mark Birk, I believe.

Q. Okay. Who -- do you remember who spoke that day?

A. It was the -- I believe it was the regional director of the IEEE but I don't know his name.

Q. That's okay. Anybody else?

A. I spoke a few words.

Q. Okay.

A. And thanked them for the award, and there may have been a political, someone might have also said something, one of the senators from the area or something. I -- and it was warm that day and

we were in the sun so it didn't last very long.

Q. Okay. Were you made aware while you were there about an overtopping event that had occurred just prior to the event?

A. I was not.

Q. Were you made aware of it subsequently?

A. After the -- after the breach.

Q. Okay. That's the first time you knew about it?

A. Correct.

Q. Okay. Tell me what should have occurred in regard to that event in regard to communication and action.

A. Again, you know, I think there should have been a -- more discussion, more communications about what happened and -- for them to ensure that they were making the right decisions about the facility.

Q. Right. And who should have been involved in that discussion?

A. Well, the plant superintendent should have brought the matter to the -- to his supervisor for sure --

Q. Okay.

A. -- and -- and to the other operators.

Q. Do you know whether he did that?
A. I -- it's my understanding he did not. He certainly didn't tell any of us that that particular day.
Q. Well, he didn't -- okay, you didn't -- you weren't told that day verbally, right?
A. I was with Mark Birk and Alan Kelley and we weren't told.
Q. Okay. Were you with Mr. Cooper?
A. He was there, yes, he got the award, he actually accepted the award. So yes, I saw him but didn't really talk to him much other than hello, something like that.
Q. Okay.
A. And he was getting ready to show people the upper reservoir and so we really didn't spend much time.
Q. Okay. In regard to that communication about that event, do you know whether or not Mr. Cooper sent any e-mails about it?
A. Well, subsequent I've seen some e-mails that he had sent.
Q. Yes. So -- so there was some communication from him to others about the event, correct?

A. Correct.

Q. Okay. Now, what I'm -- the reason I want to ask you about that is just generally, comparing what should have been done with that information, should he have communicated it to others would be my first question besides those who he did communicate with on it, and if you want we can dig those e-mails out because I can't remember off the top of my head who they went to.

A. Well, I -- my -- my thought would be that he should have communicated that to his supervisor.

Q. Okay. And then what -- what do you think should have been done at that point?

A. Well, you know, looking in hindsight, we would want to know how the water got as high as it did. And I think he worked his -- in his mind he worked through that process by thinking that one of the three sensors, if I remember right, was incorrect and they adjusted for that. And so I think he thought he had solved the problem.

COMMISSIONER GAW: Do we have that -- those e-mails? Someone have it easily?

MS. SYLER BRUEGGEMANN: Exhibit 20, I believe it is.

COMMISSIONER GAW: Judge, have you got something?

JUDGE DALE: Which one, Commissioner Gaw?

COMMISSIONER GAW: Exhibit 20.

MR. MILLS: Is this the September 27th to the Cooper and Pierie and Chris Hawkins?

COMMISSIONER GAW: I think so.

MS. SYLER BRUEGGEMANN: Yeah, Exhibit 20.

MR. MILLS: The one I've got is not marked.

MS. SYLER BRUEGGEMANN: Yeah.

COMMISSIONER GAW: You might want to follow along.

MR. MILLS: I've got a marked copy too. Who needs it?

COMMISSIONER GAW: I could use an extra one for a moment.

BY COMMISSIONER GAW:

Q. Mr. Voss you've read it now, right?

A. Yes.

Q. Is that the first time you've read that e-mail?

A. No, I've seen it before.

Q. Okay. Now, in regard to who -- this is from Richard Cooper, correct?

A. Correct.

Q. And you're looking at Exhibit 20 for the record. On -- on the list of people that he sent a copy to, should -- should there have been others on that list that he sent that e-mail out to?

A. Well, you know, since he thought it was just a wind event and he thought he had corrected it, you know, it may have been proper, but in retrospect, he wished he would have showed it to more people.

Q. Okay. Who -- in regard to appropriate process, first of all, as it related to the processes that were in effect then, was there any written protocol about who he should have sent this to at the time it was sent, the 27th of September?

A. I don't -- I don't believe so.

Q. Okay. Now, today, would there -- would this e-mail be sent according to written protocol to anyone else?

A. It would be -- I would think it would go to the dam safety group.

Q. Okay. Now, as you look on this, of course, the oft-quoted mention of Niagara Falls is on this e-mail, right?

A. Correct.

Q. Okay. Now, what I'm -- what I'm interested in right now is this -- as you move down farther, and I think it's, you know, highlighted probably on that copy but I don't know. I can't quite read that word. I think it's "lowering current operation level."

If somebody has the right copy from 1596 to 1595 wouldn't be popular. I'm sure that would mean in dollars of generation. I'm not sure what that would mean in dollars of generation. Can -- can -- can you offer any explanation as to why Mr. Cooper would have said that?

A. Well, my reading of that is that he's saying he's changing the conditions of the plant to operate it more safely and it doesn't matter what effect it is on dollars of generation.

Q. Well, okay. Which part of that was your reading of it and which part of it was your comment of your answer?

A. That's how I read it.

Q. Oh, I see. Okay. So your reading of what his intent was there is that he doesn't care what it -- what it costs, it needs to be done?

A. Correct.

Q. Okay. Why would he say that it wouldn't be popular?

A. Well, less generation is never popular.

Q. And with whom, first?

A. With anybody. It's probably not even popular with our customers.

Q. Okay. Do you want to explain that?

A. Well, more generation is always a better thing. It gives you better margins on safety, reliability and stability.

Q. Well, of course --

A. And also --

Q. Go ahead. Finish your answer.

A. If -- if -- if he can -- and it also helps with capacity that you don't have to buy if you need it.

Q. Well, more generation as it -- as it relates to making sure you have sufficient generation in order to make things reliable, but you don't want to have unlimited generation in comparison to load, do you, because you'd be paying for a lot more generation than would be necessary? You don't mean that?

A. I meant that we already have. If you have -- that you already have these installed

facilities, the fact that they can operate more is always better than if they can operate less.

Q. Okay. When he says it wouldn't be popular, do you think he's referring to -- first of all, who is he referring to?

A. I have no idea.

Q. Okay. So we would have to ask him, wouldn't we?

A. Yes.

Q. Okay. And the fact that he says it wouldn't be popular followed by right after that, "I'm not sure what that would mean in dollars of generation," does that not indicate to you that he's referring to loss in dollars when he is saying it wouldn't be popular?

A. He's referring to dollars instead of megawatt hours; is that what you mean?

Q. Well, that's what he's -- he mentions dollars of generation, doesn't he?

A. Yes. But I read it as the intent was that he was gonna make these operating changes irregardless of what the effects are, that he was gonna take the conservative safety approach.

Q. Okay. Well, I want to get into that.

A. And he wasn't concerned about the

dollars of generation.

Q. Well, you're willing to speculate about what you think he means in regard to that part. What I -- what I'd like to know is whether or not you think he's talking about wouldn't be popular in regard to dollars of generation, if that's what he's referring to. Are you saying you just don't know?

A. Well, I think he's saying that it's not popular -- popular to have less dollars of generation.

Q. Okay.

A. But it -- but it doesn't matter.

Q. Okay. And when you say "not popular," he's talking about within Ameren, right?

A. Correct.

Q. Okay. Now, you said the conservative approach, and I don't want to belabor this too much, but when you're talking about lowering the reservoir from 1596 to 1595, tell me why you think that's the conservative approach if that's what you were referring to?

A. I was referring to it's more conservative than not doing anything.

Q. I got it, okay. But it's not as conservative as stopping plant operation and looking

to see what the problem is, correct? I mean, that's just a comparison?

A. Yes, but he did list other things he did do. He did bring down the generation. He did put in the -- the fudge factor as he referred to it, and he said he was gonna follow up action to see if they can establish some other ways of telling when the transducer drifts off and maybe getting a wind system. So, you know, saying he did take actions besides lowering it to one foot, but --

Q. Okay. Well, he didn't actually lower it to one foot right then, did he? He built in a .4 fudge factor?

A. I read it as that he did, but -- said he lowered it to 1995 from 1990 -- 1596 to 1595, but I'm just reading this.

Q. Okay. That's what he's intending to do. Do you know whether --

A. He said, "We need to add additional monitoring and tighten up the controls if we're going to continue operating at 1596." So I think he wasn't; he was operating at 1595. That's how I read it.

Q. Okay. This is what he's saying, he's proposing to do, right? It's read in the sense

that --

A. I read it as that's what he's doing.

Q. "We need to," it says, right?

A. Yes.

Q. We need to?

A. We need to add additional monitoring and tight -- if we're gonna move it back up to 1596, is how I read it.

Q. And do you know, Mr. Voss, whether he did lower it at that point to 1595?

A. I do not know that.

Q. Okay. It is -- there is a reference there to that he has built in the .4 fudge factor, though?

A. Correct.

COMMISSIONER GAW: Okay. And then, somebody got that other e-mail in regard to the 47 inches? Pull that out for me.

MS. SYLER BRUEGGEMANN: Are you talking about this one?

MR. HAAR: 17.

MS. SYLER BRUEGGEMANN: Yeah, 17, October 10th, 2005, 10:42, Exhibit 17.

BY COMMISSIONER GAW:

Q. Before I leave this e-mail, I want to

ask you about the -- the piezometers there that he says that he switched out one piezometer which you noted it a little earlier. He makes -- he makes mention there, "We will look -- be looking into all the XMTR indications soon to see if they have all drifted off some." Do you see that?

A. Yes.

Q. Okay. Anybody have a copy of -- extra copy of 17?

MR. BYRNE: We only have one.

COMMISSIONER GAW: Well, don't give it up.

BY COMMISSIONER GAW:

Q. Okay. Now, if you look at that, that's -- this next e-mail is Exhibit 17. Have you had a chance to look at that Mr. Voss?

A. No, I haven't.

Q. Keep going. I wasn't looking at you. I apologize.

A. (Witness complied.)

Q. You see on that e-mail, the bottom one is from Tom Pierie, and it goes out to Rick -- Richard Cooper and Jeffrey Scott, cc's Robert Ferguson, Steve Bluemner, Jeffrey Scott is underneath there too, and Robert Lee. Do you see there where it

says "Hi and Hi-Hi Warrick probes are seven inches" in parentheses from the top of the wall?

A. Correct.

Q. Okay. Now, so at least at that point by October the 10th of 2005, it is known within Ameren that -- as to the location of those Warrick probes, correct?

A. The -- I think these -- you know, in this e-mail he's saying they're seven inches and four inches from the top of the wall.

Q. Yes.

A. I don't know if he's referencing the lowest point on the wall.

Q. Well, I didn't ask you that.

A. Okay.

Q. I asked you whether he said they're four -- seven inches from the top of the wall.

A. Okay.

Q. It does say that, doesn't it?

A. It says they are seven inches and four inches from the top of the wall.

Q. Yeah. And so it would have been known within Ameren that that was the case from this e-mail?

A. These people would have known it.

Q. Are they within Ameren?
A. Yes.
Q. Now, it also makes reference to the bowing in the PVC pipes housing the upper reservoir level transmitters, correct?
A. Correct.
Q. Okay. So that's also known at the time of this e-mail by people within Ameren?
A. Correct.
Q. Is there anyone else at this point who should have been notified about these -- this -- these facts?
A. If you're interested in going forward, it would have been our dam safety group--
Q. Okay. What about --
A. -- which didn't exist then and --
Q. Okay. What about at this time when the e-mail was sent out?
A. I -- you know, I'm not that familiar but it looked like he -- it was sent to the appropriate people.
Q. Okay.
A. This was from an engineer and he sent it to the plant superintendent, so that seems appropriate.

Q. Okay. Now, at this point, knowing -- knowing this information that's contained in this e-mail, coupled with the fact that there was also an unknown overtopping event or events, what should have occurred not using hindsight?

A. I don't know of any known overtopping events.

Q. You don't?

A. There was some wave action on the 25th.

Q. Okay. We better -- we better break that down, then, because I'm not sure what the distinction is. How are you drawing a distinction between those two things?

A. I was assuming that when you meant overtopping, you meant that we were pumping water over the top.

Q. Okay.

A. And my -- my recollection is that that had never occurred except on the night of the breach.

Q. Well, you don't know that one way or the other, do you?

A. I have never found any indication to show that there was, that it had ever happened before, and I think you would notice it if it happened before.

Q. Would it look like Niagara Falls?
A. No, I think there would be damage done to the -- to the roads and things around the facility.
Q. Do you know whether there was damage done to the roads around the facility in -- before the end of September of '05?
A. There was some, but it was due to the wave action, it wasn't due to the overtopping.
Q. Well, how -- how do you know that?
A. We investigated that and we best determined that at that point in time there was no pumping over the top.
Q. Now, how high do you think those waves would have to be --
A. In fact, I believe the FERC report stated that.
Q. FERC report's relying on information they got from Ameren, isn't it?
A. They got their own independent information and information from us and draw their own conclusions.
Q. Okay. Do you know whether or not the -- can you -- can you tell me whether or not the overtopping event -- that overtopping occurred

regardless of whether it was related to pumping or wave action in September of '05?

A. I have no knowledge that it occurred personally; I just read this e-mail.

Q. Well, and the same thing would be true about your knowledge of whether it was caused by wave action, correct?

A. Now, the FERC report stated that it was caused by wave action. This e-mail is just a comment from this Mr. Cooper.

Q. Okay. So -- does it matter whether it's coming from the e-mail or from the FERC report to you?

A. It did to me.

Q. Why?

A. Because I believe that there was a wave action and Mr. Cooper thought it was a wave action.

Q. Okay.

A. And I think it was a wave action. I don't think it was overtopping.

Q. Okay. Well, your definition of overtopping, as I understand it, is that if it's pumped over the top, that is overtopping. If it's so close to the top of the reservoir that wind can -- can cause water to flow over the top of the parapet

wall like Niagara Falls, that's not overtopping?

A. That was my definition.

Q. Okay. Well, I just wanted to make sure that we're on the same wavelength. Now, when you get to the point of -- of understanding that there was water coming over the wall at the end of September, do you think -- how -- how concerned would you be knowing that wind could bring water over the top of that parapet wall so that it -- according to some people it would look like Niagara Falls?

A. I would be concerned.

Q. Okay. Because the water was evidently high enough so that if you assume this was wind action that brought it over, wind -- wind -- that the water level was -- was pretty close to the top, right?

A. You know, pretty close is, you know, depending on how much the wind is, but if there's a lot of wind, it could probably be -- you know, I suspect there was some wave action even when it was two feet from the top.

Q. There could be --

A. At certain wind speeds. But yeah, I would be -- I would have thought that this should have generated some concern and I think it did,

that's why he wrote the e-mail.

Q. Now, knowing all of those things where I was a while ago, a big circle, knowing all those things, what should have occurred at this point with all of that information? What would have been the appropriate action to take?

A. I think the appropriate action would have been to report it up, I think it should have been reported to FERC.

Q. Okay.

A. And I think it should have been reported to our future dam safety group.

Q. We'll put it in one of those time capsules?

A. Correct.

Q. Right. So if you -- who up in the Ameren stream without the dam safety program that you have now, who should have received this e-mail that didn't, if anybody?

A. I don't know.

Q. Okay. Now, at some point in time in retrospect, you didn't -- I understand you didn't know it then, but at some point in time there was some adjustment in regard to the operating level of the -- of Taum Sauk to somewhere around 1594; is that

right?

A. As I recall I told you originally I have trouble with elevation numbers --

Q. Yes, I --

A. -- but I think they lowered it two feet from what they had traditionally operated it at.

Q. Yeah, and that -- that occurred sometime in October of '05, I believe; is that your recollection?

A. It seems like that sounds correct.

Q. Okay. Do you know whether or not there was -- that the change produced a mooring of the operating level as you look at the -- the wall, the parapet wall, after that adjustment, or was it an adjustment that was designed to actually lower that water -- I better start again. That's confusing. This thing has been confusing all the way through for me.

When you're -- when they made that adjustment, was that designed to allow the operating level to remain about the same as it had been previously or to actually drop the operating level at two feet, do you know?

A. All I really know is from reading the reports, but it's my understanding that it actually

dropped the level by two feet.

Q. Okay. Do you know what you base that on in the reports? Probably that would be difficult for you to tell me but if you know.

A. I just was -- in my reading of it that when he -- when you would change the level, I would assume that they changed the maximum level in the computer system that pumped the water up and down.

Q. And -- and you know --

A. But I -- I don't have firsthand knowledge of that.

Q. Okay. But you do know from the -- from the information that you have now, that the level, the operating level as was shown on the screens, all came from those piezometers, right?

A. Correct.

Q. And we know that those piezometers weren't reading accurately?

A. After he made those two adjustments, I'm not sure of that. I think they were reading accurately for the rest -- up until the day of the breach.

Q. Explain that.

A. Well, the -- as far as -- as what I had -- my recollection of it was that the technicians

checked the level once a week with the actual reading on the computer system, and they did that all the way up until the Friday before the failure and it was still reading accurately at that time.

Q. Who did that?

A. The plant technicians.

Q. How did they do it?

A. They physically --

Q. And I know you don't know this firsthand from what you've seen.

A. Well, from what I firsthand was told is, they physically see the elevation on the wall and they talked to the plant operator and compared the two results.

Q. Is that logged somewhere?

A. I have no idea.

Q. You haven't asked for that to be done, to be looked at?

A. I haven't asked for it to be logged.

Q. Okay. That's a good answer.

A. I -- I had no reason to -- it was a weekly procedure process and I assume they followed it.

Q. So there was a weekly requirement to check the reading on the piezometers against the

water level on the wall, to do an eyeball of it on the wall and compare that to what the reading was inside?

A. That was my understanding.

Q. And you think that's a -- was a written protocol?

A. I think it was part of what the -- the technicians had weekly inspections that they were required to do and I think that was part of their routine. I've never seen it -- I've never seen the routine written down but there were a number of things that they were supposed to check, I know, on a weekly basis.

Q. Do you know whether -- first of all, we may be speculating on something that -- that isn't -- isn't there, but let's assume that that's correct that they were supposed to be doing that. When is it that they would do it and were they supposed to be doing it when the reservoir was full, empty, you know, it's never really empty but full or on lower pools?

A. I'm not familiar with the protocol.

Q. Okay. And you don't know for sure that it was done?

A. I was told it was done.

Q. Who told you that?
A. I don't recall.
Q. Someone within Ameren?
A. Someone within Ameren.
Q. And do you know whether or not there were written logs of those checks?
A. I have no personal knowledge of that. There's a slight follow-up. I believe one of the reports talked about the pen stock transducer pressure readings and an after-the-fact analysis was a verification that generally the probes -- the level of probes were reading correctly until just a couple days before the failure. I seemed to have read that in one of the reports.
Q. Do you know where?
A. I could not tell you.
Q. Is it -- isn't it a fact -- now, when you say they're reading correctly, are you talking about if you -- if the piezometers were reading correctly after they were -- they were pulled out and they were --
A. No.
Q. -- they were examined to determine whether or not they were giving -- giving correct readings in an isolated situation?

A. That's not what I was referring to.
Q. Okay. You were talking about you believe that there's some -- something in the report that says the piezometers were -- were giving an accurate -- accurate feedback on the depth up until a couple of days before --
A. Correct.
Q. -- the breach?
A. Basted on the transducer that's in the lower level because it's feeling -- it's measuring pressure also and the two compared, as I remember seeing the one of those -- it was in one of the FERC reports.
Q. Do you think you could find that for me?
A. Probably a couple days of reading the reports.
MR. MILLS: I think you've got it here.
THE WITNESS: I -- I don't know where it would be. I'd have to read this entire report to find it, I think, and I'm not sure it's in this one.
BY COMMISSIONER GAW:
Q. I'm not sure that I've seen that, so it doesn't mean it's there, not but this is news to me. So first of all --
A. I don't know where it would be.

Q. -- if you look -- the fact of the matter is, the conduit's going -- from the reports that you've read, the conduits were going down into the -- into the pool and that those conduits held the -- they held the piezometers, one -- at least one of them did, right? Correct?

A. Yes.

Q. And we know that by the first part of October, it was known that brackets had broken and those -- and those conduits were loose and bending up to some degree, we know that?

A. Some degree.

Q. And we don't -- we wouldn't have known how much the piezometers were off; there was no way of determining that without doing some physical inspection at the time and -- because they -- not only would -- would they have been a bend had created by some -- some divergence from actual depth, it also could be moving around, right?

A. No. What I was referring to is that a steady state condition of the reservoir, that there is a lower pressure transducer that could be compared against those level transducers, and they were -- they were generally in agreement up until a couple of days before the failure.

Q. Where is it? Which -- do you know where that transducer is? Is it in the upper or lower reservoir, did you say?

A. It's in the lower level. I think it's at the -- where the water goes out of the lower -- out of the generating plant into the lower reservoir is my understanding of where it is. But I --

Q. You're the first one that I recall that has mentioned this. So do you have information about -- about what -- what employees were looking at that information to verify that the transducer readings were within normal ranges?

A. The -- where I recall reading it was the -- one of the reports that were written after the breach, and it was an analysis done of those readings. And I don't know who did it, but I believe it was in one of the investigative reports.

MR. HAAR: Commissioner Gaw?

COMMISSIONER GAW: Yes?

MR. HAAR: If it would be helpful, Mr. Birk, I think, can help clarify this point if it would be useful at this stage.

COMMISSIONER GAW: Just a minute. I may -- may ask that because I'm really after clarification here.

MR. HAAR: Okay.

COMMISSIONER GAW: Hold on just a second.

Mr. Birk, do you want to address this, then? I suspect the judge would tell you you're still under oath.

MR. BIRK: That's correct. Yes, basically, Commissioner, that was in the FERC staff report and they did do a comparison. It's what we call the penstock transmitter --

COMMISSIONER GAW: Yes.

MR. BIRK: -- and it's actually located on the outlet of the -- actually, the outlet of the pumps going back up to the upper reservoir. So you can't get a reading of it when you're pumping, but after you stop pumping and you wait for a period of 15 to 20 minutes till everything settles out, you can get a reading and we did log it. And what Mr. Voss says is accurate.

COMMISSIONER GAW: You did log the --

MR. BIRK: In our pie information system so we could go back. And in the course of the investigation, they looked at those readings and they compared them to the penstock rates. They actually drafted -- it's on page 69 of the FERC staff report.

COMMISSIONER GAW: Okay. So in regard to -- in regard to that -- that indicator, was someone monitoring that at the plant during '05?

MR. BIRK: I don't know that they -- I don't know that they monitored that on a daily basis.

COMMISSIONER GAW: Were they monitoring it at all?

MR. BIRK: It was -- it was information that went into their plant information system and that they had available to them. Whether -- whether somebody was looking at it on a daily basis and comparing it, I can't tell you that.

On the -- as far as the weekly checks, what that was, was a routine where the hydro technicians went up to the upper reservoir once a week. They didn't actually record water levels in the upper reservoir, but there was a requirement that they checked the water level in the upper reservoir to make sure that it matched what was on the -- in the control system, and they'd check off the box if it didn't match.

COMMISSIONER GAW: Okay. But there was -- there was -- there was -- you have no information that the information on this penstock pressure gauge transducer that you referred to, if

I'm saying that correctly, was being monitored by the -- by the people at the plant?

MR. BIRK: I don't know that they were looking at it on a daily basis, no.

COMMISSIONER GAW: Okay. Thank you.

BY COMMISSIONER GAW:

Q. So you, Mr. Voss, hearing that, then, I go back to this question about whether knowing what was known at the time in October, say, after this discovery about the things that are shown in Exhibit 17 and that had been previously found out in regard to the -- whatever it was that caused the water to go over the parapet wall in September, what -- what would have been the appropriate reaction?

A. I think I -- you asked me that question a minute ago and I said I thought it would be that you would report it to the FERC on what happened on September 25th. I think -- and I think you would report it to an organization like a dam safety organization which didn't -- wasn't there at that point in time.

Q. That didn't exist. Would you have shut the plant down?

A. I think that's purely speculative. I

think -- yeah, I'd like to think that if I thought that any of the indications were wrong and I was in charge, I would have shut it down and fixed it.

Q. Okay. Now, when that -- when you're in that -- we're looking at this -- this pressure thing, we know that the -- that those conduits were bent, how would we know unless we -- unless we know that somebody is checking those, that other -- other penstock pressure gauge, and I don't know how accurate it is, but we have no information that anybody checked that, how would we know that we -- what the appropriate adjustment would be to continue operating that unit at anywhere near pool level?

A. Well, I think you'd have to ask Mr. Cooper how he came to that conclusion, but I think he -- his conclusion got reinforced when the weekly inspection said that -- what those level recorders -- level transducers were reading matched the elevation that was on the wall.

Q. Well, do you think that was --

A. Or matched the elevation that was in the computer system.

Q. Well, do you think that -- that was a -- a safe way of measuring -- measuring or verifying the status of those transducers knowing that they were

partially freed from the brackets on the wall and knowing that you had turbulence when the water's being pumped into that reservoir that could move those things around and create even more variation in -- on those piezometers?

A. You asked me a few minutes ago, I would have shut it down and fixed them. But Mr. Cooper took a different course of action which he thought was appropriate. Of course, I have the benefit of a lot of hindsight.

Q. Don't be saying that hindsight stuff to me because all my questions right now relate to your ability to do -- what you would have done at the time knowing these facts. The fact of the matter is, I'm not sure that anything wasn't known by Ameren in regard to all of the factors that contributed to this during -- by October 10th of '05 other than the disaster hadn't occurred yet.

What else wasn't known? If you break it down and you look at what was known, what are we missing here that we -- that Ameren didn't have within its -- within its personnel that was -- that was known after the breach?

A. You know, there was a lack of communications, I think we said that. There was a

lack of rigor in the processes and there were some judgmental mistakes. We've admitted that people made some errors in judgment.

Q. Yes, I know it, and I know you keep saying that and I'm sorry you have to keep -- feel you have to keep saying that. But in answer to my question, can you think of anything that -- that wasn't known within the Ameren personnel that was found out after the breach that caused the -- caused the breach itself?

A. I think a lot of people knew a lot of stuff. It's just that they weren't communicating and putting it together coming to the right judgments and they made some errors in judgment --

Q. Okay.

A. -- that were -- that were -- that were mistakes, and I think we've admitted that and we put programs in place to correct that from happening in the future.

Q. But that doesn't answer my question. My question is whether or not there were any factors that were not known that contributed to the breach that were not known by October the 10th of '05? I'm trying to --

A. I don't know what was not known.

Q. I can't think of --

A. I don't know what was not known. I think there was not an understanding of a lot of things that came up later on after that fact. I think there wasn't an understanding of the turbulence, there wasn't a recognition of where the probes were.

I think there wasn't a recognition of the fact that the -- by Ameren people that the Hi-Hi probes were moved, and that they were put in the wrong spot and they were put in series so that they would never operate.

And I think some people may have known it, but it wasn't -- it wasn't put together, there was poor communications and we've established protocols to improve those communications. And we've talked to people about making more conservative judgments in the future.

Q. Okay. Is the answer to my question about whether there were factors that were discovered after the breach that were not known that caused the breach to occur that resulted in the breach occurring? No? They were all known?

A. You know, I think most of stuff was known, but there was information that we gathered

after-the-fact that put it all together for us.

Q. Okay. But can you name anything specifically that you're referring to?

A. Well, I think the turbulence issue wasn't well understood, that there was -- that there was probably turbulence at the point that -- and I think the fact of the -- I don't -- I'm not sure there was really an understanding by anybody at Ameren, despite what you said, that they were operating a foot higher than they had traditionally operated.

I think there was a real feeling that they were operating two feet from the top when we know they were only operating one foot, and I think that was new information that came out afterwards.

Q. Actually, I hadn't mentioned that up to this point in time, but you're right. The information that came out said, I think from what you're testifying to at this point, is that prior to the installation of the liner, the actual operating level on the wall at sea level was -- from sea level was 1595, not 1596, because the previous gauging was attached to the wall and there had been a settling of about a foot. So even though it indicated 1596, it was actually operating at 1595, correct?

A. Yes, you seem to have those numbers down better than I do.

Q. I don't know why that could be. But if -- but then, after the installation of the -- of the liner, the level of 1596 became really 1596, so there was an extra foot of water being poured into that reservoir subsequent to the installation of the liner that was -- that became the new operating level of the -- of the system, correct?

A. Correct.

COMMISSIONER GAW: It's very easy to -- well, strike that. Guys, I've got all sorts of things up here that belong to other people. If you-all want to get that back before -- I think one of them belongs to Mr. Mills too, and counsel.

BY COMMISSIONER GAW:

Q. I want to hand you, I think it's marked Staff Exhibit 19. Earlier, Mr. Voss, there was -- and I'll let you have time to read that, but earlier there was some reference by you, if I'm not mistaken, to not -- not knowing or not -- not -- or disagreeing, and I can't remember which it was, that there would have been -- that there was an operation of the Taum Sauk plant with the safety devices or Warrick probes disengaged. I just wanted you to look

at that e-mail and see if that had any impact on your testimony about that.

A. I've read it.

Q. Okay. And Mr. Voss, this is an e-mail, it appears to be from Mr. Richard Cooper to others, including Tony Zamberlan and Tom Pierie -- and I won't read the rest of the list. Right?

A. Correct.

Q. Okay. And -- and based upon reading this e-mail, would you -- would you say that assuming this e-mail is correct, that Taum Sauk was run in November of '04 without the -- I'll -- I guess it's November 30th and December the 1st, throughout that -- some period in that time frame without the Warrick probes on?

A. From my -- from reading this, this is the first time I've seen this and it looks like it -- it wasn't -- they weren't in that one night, and that would be my understanding now that I've seen it.

Q. Okay. And I won't belabor that. I just -- I just wanted to verify that because it had been in the record before.

The -- I want to ask you who made the decision, if you know, within Ameren to retain Tony Zamberlan's firm subsequent to the breach?

A. I do not know that.
Q. Were you involved in that decision?
A. I was not.
Q. Who would have been?
A. You know, I'd be guessing. I -- it could be the plant people, it could be -- they got a -- could have been the engineering people that knew him and made a recommendation. I'm not -- I don't know when he was hired or what he did. I'm not familiar with his operation. It certainly wouldn't have been me that would have hired anybody.
Q. Okay. Well, now I want to make sure you heard my question because I'm not talking about prior to the breach right now. I'm talking about a decision to hire that firm that he works with as -- in consultation and investigating the cause of the breach. Who made that decision, if you know?
A. I do not know.
Q. And -- and you're telling me that that kind of a decision in regard to the investigation of the breach, which was a very, very major event in Ameren's life, would not have reached your level?
A. I do not know who hired Zamberlan's firm.
Q. But you weren't involved in it?

A. I had no knowledge that he -- I knew nothing of him.

Q. Okay. You mentioned earlier in your testimony something about plant safety professionals. I wondered if you would define what you mean by that. And I may have written this down some -- somewhat incorrectly, so ...

A. What I meant by that was supervisory personnel at the plants who are -- who their sole job is to -- is safety.

Q. Okay. When you say -- the term safety gets thrown around a lot in these hearings. When you're talking about safety here, are you talking about worker safety or something different than that?

A. I was -- I was thinking of worker safety.

Q. That's -- that's what I figured but I wanted to clarify. Again, I'm paraphrasing here. Please use your own words if I'm using this inaccurately with my question. I believe you said earlier something to the effect that you wouldn't characterize off-system sales as significant, and I think you said during peak in answer to some question that was posed to you. Do you remember making some statement like that?

A. I don't know the context for that.
Q. I'm not sure either. I mean, I just ask you, do you consider off-system sales to be significant to AmerenUE?
A. Oh, if -- yes, but not necessarily to profits. I think it was in reference to profits.
Q. Could have been.
A. I think off-system sales tended lower rates more than they increased -- I think I was stating that Ameren really makes -- as all regulated utilities make money in earning a return on their investment, and I think it was in reference that a loss of investment is a bad thing.
COMMISSIONER GAW: Okay. That could have been, but I think that you -- go ahead, Mr. Chairman. I can see that you would like to get in here, so go right ahead.
QUESTIONS BY CHAIRMAN DAVIS:
Q. Good afternoon, Mr. Voss.
A. Good afternoon.
Q. It's good to see you again. Now, you're president of AmerenUE, right?
A. That is correct.
Q. Now, you weren't president at the time that Taum Sauk collapsed, were you?

A. I was not.
Q. What was your position then?
A. In AmerenUE?
Q. Yes, in AmerenUE.
A. I was executive vice president.
Q. And what -- did you hold any other titles and positions in Ameren?
A. I was chief operating officer, executive vice president for Ameren.
Q. Okay. All right. You're also an engineer, correct?
A. That is correct.
Q. Okay. Are you at all familiar with the settlement of the 2002 earnings complaint that Staff filed against AmerenUE that ultimately settled? Any familiarity whatsoever?
A. Very, very little. I've been in operations most of my time.
Q. I -- I -- I understand. Well, I'm just gonna throw one number out there at you and let me see if this rings any bells for you. Is it fair to say that as part of that 2002 settlement, Ameren got to keep all of its net off systems -- AmerenUE or Ameren got to keep all of its net off-system sales margins above $95 million a year?

A. I am not familiar with that.
Q. You're not. So do you -- you have no idea at all how the off-system sales revenues were divided up?
A. I think -- I don't know. You know, off-system sales revenues come back into Ameren --
Q. Right.
A. -- as earnings.
Q. Right.
A. But usually in rate cases as the one we just had, earnings are offset against expenses.
Q. Right.
A. And -- and you know, it generally tends to lower rates. I think that was the statement I had made.
Q. Right. It generally -- it generally tends to lower rates. Do you have any idea how much it lowered rates?
A. Well, I know over the four years we -- that during the settlement we'd lowered rates four times. But then this -- this latest case -- well, I don't know.
Q. All right.
A. I'm just saying we're 40 percent below the national average -

Q. Okay. All right. All right. We got the talking points here. So you have no reason to dispute the fact that AmerenUE might have had $95 million built into base rates every year and everything else -- anything above that amount flowed ultimately to the bottom line? You have no reason to dispute that?

A. I'm not aware of that.

Q. Okay. Now, was 2005 the year that Callaway was down for the refueling?

A. I believe that's correct.

Q. Okay. Is it -- is it fair to say, based on your knowledge, that Taum Sauk ran more in 2005 than it had in any other preceding year?

A. I have no knowledge of that factor.

Q. You have no knowledge of that factor one way or the other?

A. Correct.

Q. Okay. All right. Do you ever feel pressure to generate earnings for your shareholders?

A. It's my job to generate earnings for my shareholders.

Q. Are you ever concerned -- do you know what a PE ratio is?

A. Yes, I know what a PE ratio is.

Q. Okay. Do you ever get concerned that if your PE ratio falls below a certain level, that that would make the company a more attractive takeover target?

A. I'm generally not involved in the financial things, but I'd say a higher PE ratio is better than a lower one.

Q. Okay. In March of this year, did you get a bonus?

A. I would not characterize it as a bonus.

Q. Okay. Well, what would you characterize it as?

A. Well, we have a variable pay system where certain amounts of our pay is at risk, and if we meet our target, earnings target, then we get market pay, and we did not meet our earnings target, so I got less than market pay. If I had -- if we had done better than target, then I would have got a bonus.

Q. Okay.

A. I got a lump sum settlement that put me considerably less than market pay for my job.

Q. Now, did the company have to weather normalize earnings to get to the point where you received any -- any portion of -- I'm not sure -- I'm

not exactly sure how you characterize that incentive compensation, but did the company weather normalize earnings to get to that point where you were one of those -- one of those management employees to receive some of that compensation?

A. You know, your term weather normalized is kind of -- I wouldn't use that term. I think there was an adjustment made to account for the storms that occurred, and not to penalize the management employees for doing the right thing in the storms, and that was spending as much as they could to get people back as quickly as possible. And there was an upward adjustment made and all management employees benefited from that adjustment.

Q. None of the rank-and-file employees benefited from that adjustment, did they?

A. Well, nobody got a --

Q. That's a yes or no question, Mr. Voss.

A. No.

Q. Did any of the rank-and-file employees, and the answer is no?

A. No.

Q. Okay.

A. I think it's kind of an improper characterization of it, though.

Q. So did the -- in their March -- Saturday, March 17th, 2007 when the Post-Dispatch reported it, did they just get it all wrong?

A. That would be my opinion.

Q. That would be your opinion. Okay. But getting back to the issue of compensation, so there were adjustments made so that management employees at AmerenUE could get a portion of their compensation that they would have otherwise not been entitled to based on profit goals; is that fair?

A. That's correct.

Q. Okay. Now, if AmerenUE has a really good weather year, are they going to compensate for the effect of the -- the good weather that goes into whether or not you make your profit goals?

A. That is already -- that is already in our budgeting.

Q. Okay. So -- I'm just trying to make sure here. On a going-forward basis, you know, the board is gonna take a look at this and they're gonna say from now on, ever -- ever since 2006, that, you know, we're going to look at the weather as a factor every year, and if, you know, we have really good weather, we're going to account for that and maybe make the number higher for Tom Voss and other

management people as opposed to lowering it whenever there's some major calamity that happens?

A. As I said before, they don't weather normalize the earnings goals at all.

Q. Okay.

A. They adjust it for storm expenses --

Q. Okay. So --

A. -- and for unforeseen.

Q. So but you don't -- you don't adjust it for any unforeseen positive occurrences?

A. I'm confused, but when the -- the negative effects of the -- of the Taum Sauk situation did definitely had a negative effect on earnings which had a negative effect on the variable pay, and there was no offsetting compensation made for that.

Q. Well --

A. The only thing that was compensated for was unforeseen storm events, and the rationale from our board of directors was that they didn't want to -- they wanted to compensate people for doing the right thing and that was to spend the money, and they didn't want to have any reference that we would have held back on storm response in order to meet a bonus situation. And there's been other similar adjustments made in the past for like unforeseen

expenses that would come in that were beyond the control.

Q. Okay. Now --

A. You know, like a FERC MISO redistribution or something like that.

Q. Okay. Has the board ever raised the bar at a time when -- you know, are you aware of the board ever raising the bar to -- retroactively?

A. No. That would be a violation of the contract with the employees.

Q. Okay. So it only -- so it only works one way?

A. That they raise the bar every year when they set the level of it and they put in the plants that are in it, they change those every year.

Q. Right. Right.

A. But they retroactively --

Q. So they -- they reserve the right to retroactively lower the bar but they can't retroactively raise the bar?

A. Well, they could --

Q. They could.

A. -- but I think they feel they'd be violating a contract with the employees.

Q. Okay.

A. A compact with the employees.
Q. And now, this is only for management employees, correct?
A. That is incorrect.
Q. Okay. Did anybody besides management employees get their profit mark last year? As I understand it, there were only, what, maybe five executive employees at AmerenUE that got -- we'll call it -- we'll call it a performance bonus, but it's not a performance bonus according to you, is it?
A. It is not and that is not correct.
Q. Okay. So how many employees got it?
A. All management employees got an adjustment on their -- a lump sum adjustment which did not put any of the management employees at market rates. All the union employees are at market rates; they get a bonus if we actually -- if management gets a bonus. But since no one got a bonus, management actually got paid less than the market. All of our union people got paid at market rates.
Q. Okay. But they only get a bonus if you hit your earnings targets?
A. That's for all employees.
Q. That's -- that's for all employees?
A. Correct.

Q. Okay. And how much -- how much of that bonus -- well, I guess it's all tied to earnings because if you don't -- if you don't get your earnings target, you don't get your bonus, correct?

A. Correct. It's a -- it's a funding mechanism, it's not a guaranteed output, though. Then there's the factors of did you meet certain performance and is your -- is your supervisor happy with your performance and things like that that go into it.

Q. Okay. Okay. Now, --

A. It's kind of a maximum possible kind of thing.

Q. Right. Do you recall what AmerenUE's net off-system sales revenues were the year preceding the Callaway outage and the collapse of Taum Sauk versus what they were the year that those two --

A. I do not know that.

Q. You don't -- you don't know that. If those -- would it surprise you that year over year that those numbers might have been closely the same despite those two factors?

A. Well, there were complications in 2005 with the hurricanes and --

Q. Right.

A. And I -- I -- I -- you asked me would it surprise me. It wouldn't surprise me if it is, it wouldn't surprise me if it isn't.

Q. Okay. All right. Now, getting back to Taum Sauk, how often the plant was actually running, that really didn't have -- it was a -- that was a less of a factor than a lot of other things, you know, in the -- in the actual collapse of the facility, correct?

A. I don't think it was a factor at all.

Q. You don't think -- okay. So the frequency of the running of the facility had nothing to do with it?

A. That would be my opinion.

Q. Okay. So is it fair to say that an extra 18 inches or two feet of water backed up over 50 acres had a lot more to do with the collapse of the dam?

A. You know, I think there was several factors that were involved in the collapse, one that it was built improperly when it was originally built.

Q. Okay. Right.

A. And the second, that we overtopped it. And I think those two factors were the primary cause of it.

Q. Right. And how long had Taum Sauk operated?

A. I think it was some 40 -- 40 years or something. 40-some years.

Q. 40-plus years. And there was some earlier testimony that -- that AmerenUE had actually increased the water level there at Taum Sauk by a foot or two; is that correct?

A. I think we were -- we were -- just had that discussion that we were inadvertently operating it at a foot higher than --

Q. Right.

A. But I don't think anybody at AmerenUE had realized that.

Q. Right. But as an engineer, you would agree that a foot of water, especially if it was spread out over approximately 50 acres, would have a lot more force and put a lot more pressure on the dam, wouldn't it?

A. As an engineer, I cannot tell you how -- pressure is a tricky thing, and I can't -- I'm not a hydrologist or a civil engineer --

Q. Okay.

A. -- but it's not necessarily that it will put more pressure. I don't know that, that I can say

that.

Q. Okay. Now, the capacity of Taum Sauk was approximately 440 megawatts; is that correct?

A. Sounds about right.

Q. Okay. And how quickly could you run that electricity out? Could you do that all in an hour?

A. No. It would take several hours.

Q. Okay. It would take?

A. Seven -- seven, eight hours.

Q. It would -- it would take seven hours. So you could run out 440 megawatts, say, once a day and you could net $100 per megawatt that'd generate roughly $44,000 a day; is that correct?

A. I -- I -- and -- you actually sell megawatt hours.

Q. Right.

A. And so you have to multiply the output of the plant times the number of hours that it's run.

Q. Uh-huh.

A. And that gives you the -- and then that gives you the amount of megawatt hours that you've -- you've put into the system.

Q. Right.

A. And then you -- then it's empty and you

have to pump it back up again. I don't -- I don't have the $100 figure right. I'm not -- I'm not --

Q. Right. Let me ask you this: Would a dam operator like Mr. Cooper, would he be classified as a -- as a management employee for terms of getting a bonus there like, say, at the beginning of this year like the other management employees got, or is he in a different category? Is he more the --

A. He's -- he's -- all management employees participate in the variable pay system but I wouldn't classify it as a bonus.

Q. Okay. So did he get a bonus earlier this year or did he get -- did he get some extra compensation earlier this year?

A. I think we've -- that was done -- you know, I think at the individual compensation, we haven't disclosed those things publicly.

Q. Okay. You haven't -- you haven't disclosed those things publicly?

MR. BYRNE: Could we go in-camera, Mr. Chairman? I mean, that's -- that's the issue.

CHAIRMAN DAVIS: Sure. Let's go in-camera, Mr. Byrne.

THE WITNESS: If -- wait one second. It may be a waste of time because I'm not -- I don't

have firsthand knowledge of what his variable pay situation is. So if you --

BY CHAIRMAN DAVIS:

Q. Okay. So you don't know one -- you don't know one way or the other?

A. I do not.

Q. But for the rank -- you know, for your rank-and-file union employees to get their bonus, AmerenUE had to hit their earnings target, correct?

A. You know, my characterization, that for anybody to get a bonus we'd have to get our earnings target.

Q. For anybody to get their bonus, they'd have get an earnings target. And then would a portion -- if you were a worker at Taum Sauk, would a portion of your bonus be tied to the economic performance of that facility?

A. I'm not sure at the -- at that point in time. I think --

Q. Or would it just be tied to the output of the facility?

A. It was not tied to the output of the facility.

Q. Okay. Not tied --

A. For sure. We tried to simplify it. I

think it was tied to personal safety and the equivalent availability and emissions, I believe. But I'm not -- there were somewhat -- different plants had different systems that I'm not exactly sure.

Q. All right. Now, how are the energy marketers compensated?

A. I'm not sure. They have a --

Q. You're not -- you're not sure?

A. I think they -- if I -- I think one of their -- they have a series of compensation things too. I think one of them is based on their -- on their total level per year.

Q. Their total -- I'm sorry?

A. Total level of off-system sales.

Q. Total level of off-system sales. And is that in terms of -- so their -- total sales, is that in terms of megawatt hours or dollars or both?

A. I believe -- I believe it's in dollars, but I believe it's at a level, and then after that, it's -- they've met it or not met it, it's not a variable.

Q. Okay. Do you feel at the time that the energy marketers and the plant operators were -- were on equal footing in terms of making decisions about

whether or not to perform plant maintenance?

A. No. The energy marketers have no input into that decision.

Q. So they had no -- they had no -- they had no input into that decision, they'd just call every day?

A. The plant -- the -- I assume --

Q. I guess I'm a little confused --

A. The plant --

Q. -- because why would -- why would these -- I can understand why the plant operators would be calling power dispatch to see if they could -- could shut -- shut down to do maintenance that may not have been viewed as potentially, you know, life-threatening, but I'm a little confused because it seems like the energy marketers were involved in that equation too.

A. Well, they're involved because they have to report to MISO every day, the plants that are available are not available, and it's a market manipulation to not make a plant available that is capable of being run. So they're in contact with the plant people to make sure the plant can or can't run, and if it can't run, that they can properly document it.

Q. Okay. But when the -- when the plant operator calls and says, hey, I'd like to do some maintenance here, it sounds like in some cases they were being told no.

A. I don't think that was the case. I think they were -- if it was routine maintenance, they were trying to coordinate it with other plant outages to make sure that all the plants weren't going out at the same time.

Q. Okay.

A. And so you need one central coordinator because each plant doesn't don't know what the other plant is doing.

Q. Now, you just used the phrase "I think." Do you think or do you know?

A. I know.

Q. You know?

A. That the -- there's one central coordinator to ensure that we don't take off more plants than we can without jeopardizing the reliability and the stability of the system.

Q. Okay. Do you know --

A. So we funnel those routine requests.

Q. So do you think -- do you think if we go we go back and look at some of the communications

that we've already talked about here in these hearings, that we're gonna find that there was another plant that was off-line the day, you know, that -- that Taum Sauk was told that they had to run? Is there another plant in the AmerenUE system that was off-line that day?

A. You know, generally Callaway was off until November the --

Q. Okay.

A. -- 19th, since -- it was the longest outage of the history. And then from that point on, a number -- a number of the fossil plants were being taken off for routine leak repairs over a series of the next couple weeks.

So I assume that that might have some bearing into how many plants were taken off at one point in time. But I think you would find there were a lot of plants taken out of service -- that were out of service between that time. Certainly Callaway was.

CHAIRMAN DAVIS: Right. All right. Thank you, Mr. Voss. Commissioner?

QUESTIONS BY COMMISSIONER GAW:

Q. Just to follow up on that before I go back to where I was, are you -- is your testimony

that -- that it was not possible to take Taum Sauk off-line in the fall of 2005 because of other outages of plants?

A. It's always possible to take any plant off-line usually if you can buy the replacement power, so certainly you could have taken Taum Sauk off during that period of time.

Q. Okay.

A. You would have -- you would have had -- the system would have been less reliable and less stable but it certainly could have been taken off-line.

Q. Well, if it's -- if it's -- you -- I understand that any time you have -- you take generation off, you have to replace it with something if you're matching load to generation. So my -- my question relates to, and I think you've answered it sort of, that it would have been possible, and indeed it would have been very doable to have taken Taum Sauk off during the fall of 2005?

A. Correct.

Q. And it would have also been something that -- that when the discussions were being held, that the only real consideration in those months in that -- in that arena is whether or not it is the

price of power to replace it; isn't that true?

A. I don't think that was true.

Q. What other question is there?

A. It was the question of trying to make the system more reliable.

Q. Whose system?

A. AmerenUE's system.

Q. And the AmerenUE system at that time was being coordinated through the dispatch at MISO, correct?

A. Well, you know, we have a -- we have a -- we have our own balancing authority --

Q. Yes.

A. -- and our power dispatchers feel that if we serve enough load -- we have enough generation to cover our own load whether we're selling or buying, that puts our system in a more stable environment. So that is a consideration of how much extra load there is available, plus they have to account for reserve capacity also.

Q. That's fair. Can you -- can you give me the documents? I don't mean right now. Can you provide me with the documents that indicate that that clearly was the reason that Taum Sauk was not taken off for repairs in the fall of 2005?

A. I cannot provide you with that document.
Q. Okay. And indeed, would that document -- would those documents exist indicating what the -- what difficulties there would have been in utilizing other generation to take the place or substitute the Taum Sauk generation during any of those time periods in the fall of '05?
A. It's my belief that you could have taken the plant down if you needed to do emergency repairs.
Q. And really, the consideration would have been the cost in -- in -- in substituting other generation, right?
A. That is not my opinion.
Q. I can tell that, but I don't understand why you have that opinion at this point. When you get to the point of looking at what -- what the considerations and the factors might have been when -- when the discussions were being held between Mr. Schoolcraft and the -- and Mr. Pierie, would there be documentation that would indicate to us today what Mr. Schoolcraft would have been looking at as a problem in taking the plant down?
A. There is documentation as to what he was looking at.
Q. There is?

A. I mean, he knows the loads every day --
Q. Okay.
A. -- and he knows the plants every day.
Q. Okay.
A. But I'm not sure how he drew his conclusions. He was here. I would have thought that would have been something to ask him.
Q. Well, maybe we should bring him back since you raised that because we left him subject to recall. Now, when you get to that -- to that question in regard to those issues, the fact of this system's stability would normally have taken into account whether or not other generation would be available to Ameren that would adequately allow reliability to continue, correct?
A. Correct. A power dispatcher will always want all available generation he can get in order to make sure that the system is more reliable and more stable even if it's got it, you know, available just to turn it on in case he loses another unit.
Q. Well, he has to have a certain reserve amount, doesn't he, in operating reserves?
A. That's correct, but, you know, in a big unit like Callaway down, he would want to have another unit that could come on quickly to help fill

until if another major coal unit would go down during that period of time. So I don't think it was based solely on economics. I think it was also based on the reliability in the system. And that's strictly my opinion.

Q. I got it, but I think you just said that economics is a factor; would you agree with that?

A. Yes, I would.

Q. Okay. All right. Well, at least we've got that part out of the way. Now, when you look at the reliability issue, then the --

COMMISSIONER GAW: Why are you looking at me like that?

JUDGE DALE: Nothing.

COMMISSIONER GAW: Pardon me, Mr. Voss.

JUDGE DALE: I was just gonna hand you a note, but since you interrupted your own train of thought by my just looking at you --

COMMISSIONER GAW: I got it. Okay. Thank you. Sorry, Mr. Voss. Take that drink while you've got the chance.

BY COMMISSIONER GAW:

Q. When we look at that reliability issues and balancing authorities and those kind of things, the question of whether or not there are sufficient

reserves and sufficient generation to run also gets satisfied by various agreements that Ameren might have with others along the footprint on sharing reserves, correct?

A. Correct.

Q. So Ameren doesn't have to look just within its system in order to supply the necessary reliability; it could be a factor at some points in time if that -- if there was stress on the entire system, correct?

A. It's always a factor. The electricity system is more stable the closer the generation is to the load.

Q. Yes.

A. And our people are trained in that, and that's important to them to make sure they get their -- that our load is served by the closest generation that's possible.

Q. Yes.

A. Sometimes you have to go outside the system to get it or sometimes you want to go outside the system to get it.

Q. In essence, though, when you're looking at this issue of Callaway being down, Callaway was -- was and is a base load facility that basically -

unless it's on an outage runs all of the time, correct?

A. Correct.

Q. So in replacing that power, you're really talking about mostly other base load units that you -- that you try to attract, but it also moves the level of need up in the systems to probably requiring additional run time for units that might traditionally be more peaking units?

A. That sounds correct.

Q. And I'm just speaking generally, so -- but the fact of the matter is, with Taum Sauk, Taum Sauk had limited capability on -- on running just because of its physical limitations of having to have fuel pumped up and then the generating down based on that limited quantity of fuel, if I use that term "fuel" loosely, correct?

A. Correct.

Q. Okay. So really, what we were seeing out at Taum Sauk at that time was, at least in part, the ability to use the Taum Sauk might have -- might have been more attractive because of the fact that if you assume Callaway was out, the price of replacing generation if you needed to, might have been more expensive on the footprint, correct?

A. I don't want to speculate on the prices because I don't know what the prices were. Taum Sauk was a difficult thing to price because you had to bid it in a day ahead and you didn't know what prices you were gonna get for either selling it or for pumping it back up again. So --

Q. Yeah, I know. We -- go ahead.

A. So it becomes difficult, so we self-scheduled, as you know, which made us pretty much a price-taker.

Q. Actually, I don't understand that yet but I'm gonna wait and hopefully get that figured out tomorrow with Mr. Schukar. But I understand what you -- that you said that there was self-scheduling going on with Taum Sauk.

When you get to the point, then, back -- let me back -- back up on the off-system sales question. During the rate case with AmerenUE, AmerenUE had not, at least in recent memory, including the rate settlement that was done in 2002 or whenever that was, and also the latest rate case, AmerenUE does not have a fuel adjustment clause; is that correct?

A. That is correct.

Q. And that means that there is in base

rates a certain amount that's attributable to off-system sales that nets against the other expenses of Ameren including fuel costs and off-system purchases, correct?

A. That's correct.

Q. And that also means that to the extent that Ameren after a rate case can beat the price -- or excuse me, beat the amount that's attributable to off-system sales by making more off-system sales than what is built into base rates, Ameren can profit by that margin; isn't that correct?

A. That's correct.

Q. Okay. So there is a very strong incentive under that construct for Ameren to maximize off-system sales; isn't that true?

A. It also helps lower rates. Actually, Taum Sauk was --

Q. First -- first, did you agree with me before you added your answer -- added to your answer?

A. Yes, yes. And I said yes, and it also helps lower rates.

Q. I missed the yes part.

A. Oh, I'm sorry.

Q. That -- it might have been my hearing. So you said it helps to lower rates but it doesn't

lower any rates, does it, until the next rate case under the current construct that Ameren operates under without of a fuel adjustment clause; isn't that true?

A. That's correct.

Q. Okay. All of that money until the next rate case when there's a recalculation goes to the profit margin of AmerenUE?

A. Actually, I think in the spring of -- in the fall of '05 was the test case, it was part of our test case year. So it would have been in part of the -- if you were trying to -- you know, it would have been very short-term gains. But it would have been gains.

Q. Okay. Well, I think I understand what you're trying to say. But in between rate cases, those profit margins in realtime are dollars of profit that go to AmerenUE?

A. Correct.

Q. And we could go down the line of talking about how those monies could have been shifted over to Ameren affiliates because of the JDA, but I won't ask you that right now.

A. I appreciate that.

Q. Okay. Now, is it accurate to say that

when you have -- that you have off-system sales opportunities that increase particularly for AmerenUE and not just if you have excess capacity during peak, although that -- that would be -- that would be very good.

For instance, let me ask the question this way: If you are -- if AmerenUE is in a situation of being in a -- in a nonpeak period and has extra capacity but others are in -- close to their peak and the price for energy, for instance, on the MISO market is fairly high, does that create good opportunity for Ameren to maximize on off-system sales in that kind of a scenario?

A. You know, the Day-Two Market, that's way over simplifying it, you bid in your generation --

Q. Yes.

A. -- by hour of what it cost you to run it, and then you bid in your loads, and then you have a Day-Ahead financial settlement.

Q. Yes.

A. And then you move into a realtime market.

Q. Yes.

A. So it's a kind of -- you can get penalized if you've sold more than what you bid in on

the Day-Ahead because then you get RSG charges and things like that. So it becomes a very complicated process.

Q. Oh, we can make it really complicated and I realize that.

A. So I think --

Q. But the fact of the matter is, that if you can sell -- you can sell -- your opportunity to sell is -- extra amounts of energy is very positive for AmerenUE generally when you have extra capacity and the prices are pretty high out in the marketplace because of the fact that other -- other places, they're in peak periods if you have that extra capacity to sell?

A. Was that a -- I'm not sure of the question.

Q. Is that true?

A. Oh, yes, yes.

Q. Okay.

A. In fact, we should always maximize our -- our sales if we -- if we have the opportunity to.

Q. Sure.

MR. HAAR: Judge, would it be possible to take just a five-minute break if we're gonna be -

COMMISSIONER GAW: I think she was trying to get me to 4:30 and I'm -- yeah, that's fine.

MR. HAAR: Okay. That's -- whatever.

COMMISSIONER GAW: Actually, I don't -- I don't care. That's fine. It's okay with me.

JUDGE DALE: Okay. Let's go ahead and take a little bit longer break until about --

COMMISSIONER GAW: Don't take too long.

JUDGE DALE: -- 20 till. How much more do you have? Off the record, thank you.

(A RECESS WAS TAKEN.)

JUDGE DALE: Okay. We're back on the record.

BY COMMISSIONER GAW:

Q. Okay. Mr. Voss, I think I've just got a couple other things. You made some comment about that the -- if the -- if Taum Sauk had been built the way we thought it should have been built, the incident wouldn't have occurred, and I may not have gotten that down right. Do you recall making a statement similar to that?

A. Correct. In the -- in the operating -- I'm not sure of the proper document, but the emergency operation plan for -- for Taum Sauk, it

states that if you have an overtopping event, and you would -- and it states what would happen and how it would happen, and it would take -- it should have taken like, I don't know, and I'm trying to pull this off -- something like eight to ten hours before you would drain your reservoir. And of course, a reservoir would drain in 20 minutes.

So the reason for that was because the -- the facility wasn't built like it was supposed to be and it wouldn't have been as -- now, I'm talking about to the Toops family and to the Johnson's Shut-Ins and to the scour. It certainly would have still -- you know, the reservoir would have still failed.

But the scenario was that it would just -- the parapet walls would come down and basically that was it. And some erosion of the rock fill, but not blowing the whole thing out. That was not a scenario that was supposed to happen.

Q. Really. You think that -- you think that was included in the -- as an assumption in the EAP?

A. Yes.

Q. On the upper reservoir, now, not the lower one?

A. Yes, yes.
Q. Okay.
A. In fact, you know, I think there was, you know, I think Mr. Tubes fully expected to be notified if the upper reservoir breached where it did and that he would have time to move out. That was part of the -- of the plan. But obviously, the facility wasn't -- wasn't built as thought.
Q. When you say "it wasn't built as thought," what -- what is it that you think was -- was different than what was thought?
A. Well, it was my understanding it wasn't put down on solid bedrock, that there were fines in the -- in the construction and also that there was a layer of -- of -- of dirt or mud or whatever you would call it instead of being clean.
Q. And it was --
A. But that's -- I just read that in the FERC report.
Q. Okay. Just now?
A. No.
Q. Oh, earlier than today?
A. Yes. I mean, my knowledge of that is contained in the FERC reports --
Q. Okay.

A. -- and the Rizzo reports. It's not like I was out there and measured that and examined that myself.

Q. Okay. Were you aware of the fact that when the reservoir was initially dug or -- and -- and built, that there was a discovery of an area that was not thought of as being appropriate under the original design and so the design was changed?

A. I am not aware of that.

Q. Okay. I believe there may be something in the operating manual referring to that, but I'm not sure about that. And do you know how much -- how much was done in between when the reservoir was originally built and the time of the breach to investigate the impact of leakage that had been occurring on the support structure and the structure itself at Taum Sauk?

A. I'm not familiar with those studies.

Q. Do you know -- did you -- do you know of anything that was done?

A. Well, I was reading one of the FERC reports and they were keeping track of the leakage rate.

Q. Yes.

A. And then I noticed that in the – and

the 2004 liner project was -- was initiated in order to prevent -- or to reduce the leakage rate.

Q. Yes. But do you know whether anyone investigated during that time frame between the reservoir being built and the liners being put in, the effect on the structure and the -- the ground upon which the concrete was poured of that leakage?

A. No. It was my understanding that as long as the leakage was within certain values, that it was considered acceptable, that then there was no further action required as part of the -- of the licensing of the -- of the facility.

Q. Okay. So there wasn't -- to your knowledge there was no investigation done?

A. To my knowledge, but I only was involved in the generation since 2003.

Q. Okay. Do you know why cameras were never installed on the top of the -- of the reservoir?

A. I -- I do not know -- I do not know.

Q. Okay. Do you know whether cameras will be installed on the -- the proposed reservoir if it's -- if it's built?

A. I don't know for sure.

Q. Okay. Would that be something that

would -- would go into work that is yet to be done on the design?

A. It's probably already designed. I'm just not aware of it.

Q. Okay. Do you know what additionally has to be done to gain approval to construct a new plant as far as approvals are concerned?

A. I saw the letter yesterday but I didn't digest it entirely. The FERC had some issues they would like -- wanted final copies of the final -- the final design and a few other things that we have to satisfy, and there's some adjustments that have to be made in the environmental area. But I think -- then of course, we still need some permitting from the DNR.

Q. Okay.

A. But we've gotten great cooperation from them.

COMMISSIONER GAW: Thank you.

THE WITNESS: Thank you.

QUESTIONS BY COMMISSIONER APPLING:

Q. Mr. Voss, how you doing?

A. Good.

Q. Good. Hopefully we can -- I can ask you a final question here, then you can get on back to

St. Louis and start doing your job, okay? I want to see you in my rear-view mirror. Don't think I'm preaching to you. You and I have talked over this situation on several different occasions, but there's two words: Accountability and responsibility.

Ameren has taken responsibility. But what I'm interested is looking forward and what do you have in chain of command and the things that you need to ensure this 5.5 million people in the State of Missouri that we don't have a recurrence of this kind of incident in the future here?

So would you share with us this afternoon your vision, if you've thought about it? And if you haven't, that's okay too. What are your plans here to make sure that this doesn't happen again?

A. Yeah, it's --

Q. Because I feel that you are here totally responsible for what Ameren done and what it's failed to do. So talk to me about that a little bit if you don't mind, okay?

A. Sure. And you know, we established the quality management process in order to -- an ISO 9000 process which look like -- it looks at, I think it's 21 or 22 different elements of quality assurance.

And these are things like do you have the right management philosophy in place, do the people know it? Do you have policies and procedures and processes written down and are people trained on them, and is there audits of that process and is there performance monitoring of that process?

And we are -- we are in the beginnings of that. We've been working on it for about the last, a little over a year, and we've probably got a couple more years to go. But we've come a long way. It involves some aspects like understanding the design basis of the facility so that the people that are there have a true knowledge of what was the intent of the design when it was originally constructed, a very formalized process on design basis changes and things that would affect the facility in the future, and a -- and a very detailed step-by-step process that they have to go through to ensure that there's more rigor and changes that are being made that -- that we didn't see in this Taum Sauk incident.

And that involves a lot of improved communications between people and to get -- because we think that was one of the critical factors in there. So I would like to think that this quality

management process is taking us from a utility that was probably -- had operating practices similar to most other utilities to one of the best operating practices that will be in the country.

And -- and our dam safety program was highlighted in that quality management program because we felt like hydro facilities have to even be more careful, special -- take special efforts because of the increased public issues that could be involved in those facilities.

So -- but it's just that it involves training, it involves awareness of our responsibilities, a reaffirmation of the principles that -- you know, that every operating person takes now, pledges that it's the public safety, the plant personnel safety, the environmental compliance, and then the preservation of the asset are prime considerations before anything else. Everything else is secondary.

We've been driving that message home, especially over the last 18 months or a year, I should say, to ensure that we get the right safety mindset in our group, a questioning attitude, that's what we're trying to develop so that people will come forth and start sharing information and start

questioning decisions that would be made by other people that could affect safety and welfare of our facilities. So it's kind of a comprehensive program.

We've made changes in personnel and we'll -- and made reassignments of personnel, particularly at Taum Sauk. We've now put a manager who's very aware of that facility of what it does and what its limitations and pluses are and the importance of it to the community. He's lived in that community. And he also has a nuclear background which, again, creates this safety mindset that's just embedded in that kind of an organization. We're hoping to bring that into our organization.

And actually, the position that Warren Wood has now, he also came from the -- from the nuclear area. And he is -- and he's in charge of all hydro operations now, and he has that nuclear safety mindset for public safety above anything else. And so we think we're gonna build a culture of -- a questioning culture and a safety-minded culture in the organization.

And -- now, we certainly, as you said, know that we've taken responsibility and we are being held accountable. We've -- we've settled the Toops family, we've already put 40 million or so in the

Johnson's Shut-Ins. And we're going to continue to work -- no one's ordered us to do that. We stepped up the day after the failure and started working on restoring the facility.

And we even -- we've pushed for more extraordinary measures of clean-ups up so that people could get into that park and swim this summer by using helicopters and things like that that were fairly nonconventional.

So we -- we also paid a FERC fine. We've been supporting the school districts during this period of time because we felt we -- it was the right thing to do to them -- for them. And supporting the businesses that we thought may have suffered because of the incident and helped them recover some of their -- some of their loss of revenues. And also been active in promoting tourism for the area.

So I think -- and we're certainly involved in negotiations with the state agencies for -- for -- to -- we know we -- we are responsible for some of the damage that occurred to the -- to the state facilities. So we're not hiding from -- from anything. I think it's kind of two front: We want to make sure that we correct the things that we – we

messed up, and then that we don't mess up in the future.

Q. This is not an apology -- this is not an apology from the Public Service Commission. In the long run, I have a lot of respect for Steve Gaw in drilling down as deep as he have with you and the rest of the staff at Ameren, because that needed to be done, because history's gonna record this PSC as well as it's gonna record Ameren and what did we do or what we failed to do here.

Our main interest is to make sure that this kind of stuff doesn't happen again in the state of Missouri and that we be fair to you. So I have a lot of respect for Steve Gaw for what he's done here over the last week and drilling down as deep as he has drilled down here. So I hope you-all don't go away feeling that he has been -- been just doing this because he be practicing questioning people.

But anyway, I appreciate it. I've got a tremendous amount of respect. And I have a tremendous amount of respect for you and your staff in keeping at work for Ameren because you-all been put under the fire here in the last couple of years.

But the point is going forward. Do you have the staff in place and do you have the

confidence of the people out there like Cooper and the rest of the people when they see something safety, that they can reach somebody by telephone, either you or someone else, and say we have a problem here at Taum Sauk, we have a problem here at the nuclear plant, and somebody need to listen to us?

Because some of the things I've picked up here is this whole incident could have been prevented if somebody had have been out there listening.

A. I think we fully recognize we had a breakdown in communications and we had a breakdown in a questioning attitude and we had a breakdown in -- in judgment of conservative decision-making. And the actions we're taking with our quality management program we feel are going to bridge those gaps, all three of those gaps that I just mentioned.

Q. Okay. Don't be afraid --

A. I'm confident of that.

Q. Don't be afraid to hand out yourself on them, okay?

A. Yes, sir.

COMMISSIONER APPLING: Thank you very much. I appreciate it. Thank you for the time that you've been up here all day. I know you could have

been doing other things, but this was necessary. Thank you.

THE WITNESS: Thank you.

JUDGE DALE: Ameren, do you have any questions of the witness?

MR. HAAR: No questions, Judge.

JUDGE DALE: Thank you. Is there any matter I should address before we go off the record for this evening?

(NO RESPONSE.)

JUDGE DALE: Then we will reconvene tomorrow morning at nine o'clock and go off the record. Thank you.

(WHEREUPON, the hearing of this case was recessed until August 17, 2007, at 9:00 a.m.)

I N D E X

CERTIFICATE OF REPORTER

STATE OF MISSOURI)
)ss.
COUNTY OF COLE)

I, PAMELA FICK, RMR, RPR, CSR, CCR #447, within and for the State of Missouri, do hereby certify that the foregoing proceedings were taken by me to the best of my ability and thereafter reduced to typewriting under my direction; that I am neither counsel for, related to, nor employed by any of the parties to the action to which this hearing was conducted, and further that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.

_____

PAMELA FICK, RMR, RPR, CSR, CCR #447