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TRANSCRIPT OF PROCEEDINGS*

Agency: Nuclear Regulatory Commission

Title: Entrance Meeting between Vogtle Incident Investigation Team and Georgia Power Company

Docket No.

Location: Vogtle Plant

Date: Monday, March 26, 1990

Time: 10:00 a.m.

(*This was transcribed from an unmonitored tape recording.)

INTERVIEW OF

MR. CHAFFEE: I'm Al Chaffee, I'm from the (inaudible). I have some experience in this area. I was the AIT team leader in Atlanta (inaudible), which later developed into (inaudible). That's part of the reason why I'm here. Just so you know a little bit of my background, I was the senior resident at Santa Belfrey (inaudible) and deputy division. On my right here is Cherie Siegel, she's the admin. assistant for the team from ADOD. ADOD is the organization in the NRC that manages the AIT program, so she's our expert in how a AIT team should be run. Next to her is Bill Lazarus, he's the assistant team leader for here and Bill is from Region 1. He's a section chief in the EP area of Region 1 and Bill will be working in the area of EP looking at the EP problems that occurred during the day. You know Rick Kendal who's sitting next to him. Rick is looking in the area of the diesel problems and the electrical problems, and Rick is from NRR. I met most of these team members yesterday, so I --

MR. BOCKHOLD: You might want to let them introduce themselves.

MR. CHAFFEE: Yes, that's what I'm going to do here with Ron. Go ahead, Ron.

MR. YOUNG: Ron Young, acting (inaudible). I am from the F Region. I was in the nuclear program off and on for a goodly number of years. I know (inaudible) -- I was with

Commonwealth Edison for three years and I'm now with --

UNKNOWN: Excuse me, could everyone please speak up so that we could pick you up here.

MR. CHAFFEE: We are recording this. Harvey is going to be looking into the electrical area, also. This is also a first. This AIT team does have, obviously, industry representatives on it as well.

UNKNOWN: Okay, we'll just go around the room. George, if you please.

MR. FREDERICKS: I'm George Fredericks. I'm the supervisor of safety, (inaudible) and engineering review. 2-A department.

MR. HOPKINS: I'm John Hopkins, (inaudible) manager of technical support.

MR. HAWKINS: Ken Hawkins, the manager of planning and emergency preparedness.

MR. BOCKHOLD: Ken Hawkins, is our (inaudible) leader on the (inaudible).

MR. CHAFFEE: One of the things that we haven't got to yet but Mike Jones, over here, is going to be involved in our sequence of events, putting that together and he'll need to have a contact for making sure that the sequence that we have -- kind of run it back what the data was -- is -- I don't know, is Ken the one who (inaudible).

MR. BOCKHOLD: Right, yes. What I would

propose is that after we make the introductions, is that we go through each of the areas and we will assign a lead individual.

MR. CHAFFEE: Okay.

MR. BOCKHOLD: After that we can have back-ups to support that lead individual so at least during daylight hours we will have one point of contact.

MR. CHAFFEE: Okay, sounds fine.

MR. KITCHENS: Okay, my name is Skip Kitchens. I'm assistant general manager of the plant operations. I'm responsible for operations, maintenance, physics and chemistry (inaudible) and all of that. I was the (inaudible) manager on March the 20th.

MR. BOCKHOLD: Okay, I'm George Bockhold, the general manager here. Everybody on site reports to me. I relieved John Hopkins as the emergency director after the site area was declared.

MR. (INAUDIBLE): Charles (inaudible), maintenance superintendent.

MR. (INAUDIBLE): (Inaudible), independent safety engineer for region 55 (inaudible).

MR. MOSEBAUGH: Alan Mosebaugh, assistant general manager for plant support. That's over engineering, technical, screenings and area production (inaudible).

MR. LYON: Warren Lyon, I'm with the electrical systems and I was on the (inaudible) function for

the AIT.

MR. WEST: Garmon West, I'm with NRR and we (inaudible).

MR. JONES: Mike Jones, I'm with Carolina Power and Light and I'm their representative.

MR. DIETZ: Paul Dietz, I'm from INPO. We're (inaudible) technical support. INPO currently manages the TWR defense analysis.

MR. TRAGER: Gene Trager, I'm with the NRC's office for the analysis and evaluation of operational data. The electrical operations analysis team.

MR. JONES: I'm Bill Jones and I'm also in the NRC's office for analysis and evaluation of operational data. I'm from the same region as reactor operations and analysis.

MR. BOCKHOLD: Okay, let's maybe start with you Mike.

MR. LACKEY: I'm Mike Lackey, output manager and unit (inaudible) manager for the plant.

MR. MANSFIELD: I'm Lee Mansfield, NSSS supervisor for engineering support.

MR. HORTON: I'm Mike Horton, the manager engineering support. The engineering control interfaced with the corporate lead. The engineers (inaudible).

MR. NICHOLS: I'm Jody Nichols, valley station

supervisor and I've been assigned to the interior.

MR. (INAUDIBLE): (inaudible), acting inside supervisor.

MR. SWARTZWELDER: Ken Swartzwelder, operations manager.

MR. BEECHER: Herb Beecher, inside engineer and I will be the interface with administrative officials.

MR. (INAUDIBLE): (inaudible), I'm a inspector engineer and I'm (inaudible).

MR. TUKLEN: Ernie Tuklen, and I'm employed with Oglethorpe Power Corporation who is the co-owner of the plant and I'm the permanent on-site representative for our company.

MR. CASH: I'm Jimmy Cash. I'm operations superintendent.

MR. (INAUDIBLE): I'm Ted (inaudible). I'm the security manager.

MS. CLINE: I'm Carolyn Cline with the Nuclear (inaudible).

MR. CHAFFEE: Okay, well, why don't everybody start-off simply going away with your team. The reason why the agency has decided to form an AIT on this is because the agency is very aware that there has been a number of events that occurred over the past year as to plants that are in shutdown operation. Things like station blackout or loss of on-site

electrical power and loss of the shutdown cooling, particularly problems in mid-group operation. As a result of that, when the event occurred at Vogtle, the (inaudible) decided that this would provide a good opportunity for the commission to come in and look at this specific event and use it as a stepping off stone to evaluate where we are in this particular area of licensee operations. As a result of this we will be looking both at the event as it occurred here and we will also take from it and go out and look at some of the events that occurred previously and we will also be looking at our regulatory basis that exists in the agency and try and to determine whether or not there are some changes that need to be made in our activity of control in plants that are in shutdown. As I understand it, this is also something, I guess, that the industry is also beginning to become somewhat sensitive to also because of all the problems that occurred. So that's why we're here. So we're here to determine the facts and that's what we'll be doing while we're on site and we'll be going back. We'll be continuing our activities by talking to people, both in the agency and elsewhere after we leave the site. As a team, as I started to go into before, it's a large team. There is ten people on the team plus our administrative assistant, Sherry. Basically -- Cherie, excuse me. Our team has a couple of thrusts based on what we know at this point. We have Warren Lyon and --

MS. SIEGEL: Bill Jones.

MR. CHAFFEE: Bill Jones, yes, Bill Jones, and they're going to be working in the area of -- sort of pulling together all the different things that existed at the time that the event occurred. Along the lines of focusing on the loss of (inaudible) and looking at things like steam (inaudible) manways and things of that type. Putting into proper context of what kind of condition the plant was in at the time when this all transpired. Then we have two human factors people on the team. We have Garmon West and also Gene Trager and they will be looking into the human factors aspects of the event. Then we have Rick Kendal and Harvey Wyckoff and they will be looking into the electrical and diesel generator problems that occurred during the event. We also have Bill Lazarus from Region 1 that will be looking into the EP area and following up on the work that Eldon Fester -- is that right -- did when he was on the AIT. Then we have Paul Dietz, from INPO, and he will be looking into the area of training. The adequacy of training in terms of how it supported or didn't support the things that occurred during the event. Mike Jones, from Carolina Power and Light, and he will be ensuring that the sequence of events is based on hard evidence and documents with what people can remember. You know, where that information came from. He also has some background in the area of -- I believe, it's PRA and he may work with us somewhat in trying to

see what some of the PRA aspects of this and also both the impulse and some background in (inaudible) analysis and some sequence of events -- line drive variance that you use from the (inaudible) or (inaudible) t aining. So we may be using some of their talents depending on how the team does -- analyzes the event and also to put in context as to what these events mean in the large sense.

MR. BOCKHOLD: Al, can we go back to some of those areas and make sure that we have appropriate talent --

MR. CHAFFEE: Okay.

MR. BOCKHOLD: -- for identifying and that kind of stuff.

MR. CHAFFEE: That's a good idea.

MR. BOCKHOLD: Ask some of my staff, Skip and Alan, Ken Holmes to make sure they don't -- be able to identify new directives for my staff here.

MR. CHAFFEE: Do you want to start with Bill Lazarus? He's the EP person.

MR. BOCKHOLD: The EP person, Jim Roberts is going to do that or do you want to do that? Who do you want to do that?

MR. LAZARUS: I think that Jim had asked for either Jeff or (inaudible).

MR. BOCKHOLD: Okay, we'll say Jim Roberts will start and coordinate with (inaudible). Those people are not

here right now but if Ken will go ahead and get Jim Roberts up.

MR. HAWKINS: Jim is on his way.

MR. BOCKHOLD: Jim is on his way? Okay.

MR. CHAFFEE: Next is Rick and --

MR. WYCKOFF: Harvey.

MR. CHAFFEE: -- Harvey. Excuse me, Harvey.

MR. BOCKHOLD: Okay --

MR. CHAFFEE: Rick and Harvey have the electrical and diesel area.

MR. BOCKHOLD: Okay, what we said, I guess, on that previously, the electrical and diesel -- a combination of Paul (inaudible), Robert Moye and Craig Thompson. Now, have we sent Craig back to Birmingham or do we want to get him back here?

MR. CHAFFEE: We would like to get him back.

MR. BOCKHOLD: Okay. So, I guess, Mike, I'll let you take that. Mike and Alan take that, please. That will be the diesel/electrical area and really -- do you want to assign one of those guys as the leader or just -- are they day and night --

UNKNOWN: Paul's got the diesel. Robert's got the electrical.

MR. BOCKHOLD: Okay. Paul has -- Paul (inaudible) has the diesel and Robert Moye has electrical and I think Rick (inaudible), you were working with those folks,

correct?

UNKNOWN: (INAUDIBLE)

MR. BOCKHOLD: And we'll bring Thompson back.

MR. CHAFFEE: Then in the -- sort of the systems area, it was Warren Wyckoff and Bill Jones. I'm not sure who they --

MR. LYON: Warren Lyon.

MR. CHAFFEE: I'm sorry. Warren Lyon, excuse me.

MR. BOCKHOLD: Okay, let's see. Previously -- (inaudible) Jim Robinson, Warren Lyon. (inaudible) He was with Paul. Did you say him and Paul (inaudible).

UNKNOWN: (inaudible).

MR. BOCKHOLD: Operations --

UNKNOWN: That's Jim.

MR. BOCKHOLD: He'll be the leader. We'll assign Jim and Paul also with him.

MR. CHAFFEE: Then Gorman West and Gene Trager in the human factors area.

UNKNOWN: George, this is an area that we need some help in. An event review team is now to the point to were we need to be working heavily in analysis and retroaction and Will (inaudible) is going to take the lead on that. We were over with the event review team and he's also going to be the (inaudible). So he's got double duty to support.

UNKNOWN: (inaudible).

UNKNOWN: Probably, Paul Dietz is used to that?

UNKNOWN: Is he in the office?

UNKNOWN: He'll be here -- (inaudible).

UNKNOWN: Will (inaudible), here, will be the leader and get some support from (inaudible). (inaudible).

MR. CHAFFEE: Okay, then you have Paul Dietz and he'll be some kind of counterpart for training and -- he and Warren are also going to work together on EFPs so they'll need some sort of -- someone they can talk to and get input on training aspects of things.

UNKNOWN: (inaudible) Someone -- foreman. I think I'm EFPs. Same person (inaudible)

UNKNOWN: He's a -- he works for a mechanical -- he's a senior person that's responsible for all licensed training in the simulator (inaudible). (inaudible).

MR. CHAFFEE: Then Mike Jones who will be working with the sequence of events. I guess we've already talked about -- I forgot your name but --

MR. HOLMES: Jim Holmes.

MR. CHAFFEE: Jim Holmes.

MR. BOCKHOLD: Previously, I had under sequence of events Jim Holmes. He'll do that one.

MR. CHAFFEE: The thing that would really help

us on that one is -- what we're going to tell you is that, I know, you already have a sequence of events but what we need is for each of the line items, we need to know where the information came from. You may already have that but that's what we basically have to put together on that. So to the extent that you've already got it, that would greatly assist us.

MR. HOLMES: Okay.

MR. BOCKHOLD: I pretty much have what we've got so far and then we'll probably cluster people to give us an inaudible) of everybody. You know, obviously what areas are operating with (inaudible).

MR. CHAFFEE: Okay. Well, that sets up the counterparts then. Let me go through a couple of things about how AITs work. First off, I'll be the spokesman for the team, particularly when it comes to the press. If there are any press meetings or stuff, it's important that you and me work together to do that. We all have an interest that the word we put out is consistent with each other. Again, because there's an interest that the team, when it's all said and done, that people can go back and look at what the team's report has and can see why the team reached that -- for that reason we -- that's why we have transcripts of many of the interviews and meetings that we have. So that people after the fact can go back and see that, you know, the source information that we

made our determinations from. It's also -- we also do that -- another reason is to ease the burden of people taking notes and also it helps minimize the possibility of people misunderstanding or thinking that things -- so you can always go back and look at transcripts to see what the person actually said to make sure you didn't misinterpret it. What we will be doing -- this causes some stress for everybody involved because people aren't normally that used to working in that type of environment. We do make the transcripts available. Ideally, it's the next day after the interview. That's so that the individual interviewed can look at the transcript and decide if that's what he really meant to say or not and if it isn't or if there's an error in it he can correct it per errata sheets and then they all become part of the record. I guess my hope is that people will take this in stride but I realize that it does create some stress for everybody.

MR. BOCKHOLD: Is that going to be more extensive activity? For example, this meeting's being recorded. Does this mean it's going to be transcribed so that we all will have to review it?

MR. CHAFFEE: It will be transcribed and you can all review it.

MR. BOCKHOLD: Okay.

MR. CHAFFEE: Assuming -- I'm not sure how well this is working. When we get the stenographers here it

will be done better because they set up mikes -- if they were here, they would have had microphones all over the place so hopefully we're getting what you're saying and also what I'm saying but we'll have to wait and see. We'll do the best we can.

MR. BOCKHOLD: Well, I think my staff now realizes that with that approach that there's a big extra effort every afternoon. Perhaps, we will want to review that and support you to that extent. (inaudible).

MR. CHAFFEE: Okay. Again, the review of the transcripts -- it's -- the individuals are welcome to do it. I think from past experience we typically have but it's not a requirement. They don't have to do it. A couple of other things. The way the AIT works, we will publish a report. The report will be published forty-five days from the time the team was identified for being implemented, which is roughly May 7th. It may shift a little bit but that's currently what the projection is. The team will not -- we're not going to reanalyze the plant design. We're not doing determinations of non-compliance. That's something the region will do. Although, what is true, is that what is in the report may be used as the basis of the region to identify an issue or a general point. That's not our job. We will not do that. Any information that you have on the event that you believe would be significant or that the team would be interested in,

we'd ask you to come forward with that and provide it to us. We have -- I'll be giving you a little notice -- it's a bulletin board notice but it basically tells everybody on the site we're here. If they have any information they're welcome to come forward and provide it to us. We ask that -- it's very short. A couple of paragraphs. We ask that you put it in all the (inaudible), the entry areas in the plant and the bulletin boards. So that if people do have some information and we haven't happened to be clever enough to call them in for an interview that they at least have an invitation. They'll know that we're interested in what anybody may have to say.

MR. BOCKHOLD: Herb will (inaudible) of the posters.

MR. CHAFFEE: Okay, Herb, could you -- Cherie will -- she has the documents for you to do. We also have, and I know you already have a quarantine list which has been made up. I've looked at it and at this point it looks fine. The quarantine equipment is a part of AIT. The concept of having equipment quarantined is to provide for a controlled -- to try to prevent evidence from being lost as to what went wrong. There are some guidance on how we do that. It's intended that we minimize the equipment that's been -- that's quarantined. It controls only those pieces of equipment that are -- that are germane to -- that have significant contributions to the event. We try to minimize the impact on the licensee when we do that

but we do -- or when equipment goes on a quarantine list, try to ensure that what work that is done on it can be troubleshooting. It's done in a manner that doesn't result in the evidence being lost. The other thing that's true is that none of this activity when we're quarantining equipment and controlling how it's troubleshooted, is it to interfere with ensuring the safety of the plant. It's because of that, we -- the necessity to ensure the safety of the plant, that the diesels, at least in this event, haven't gone a more -- a slower pace, I guess, in terms of doing the troubleshooting. Past AITs where equipment is not required to be operable when the plant is shutdown will be basically stop all work activities on it until they develop extensive troubleshooting and do machinery history searches on it. In this case, because these diesels are important to the safety of the plant, we're trying to walk a fine path, we're trying to balance that we need to get them up and the need to find out what's caused it, the problem with the diesels and also prevent the loss of the ability to determine that. So I understand that -- my perception is that you guys understand that.

MR. BOCKHOLD: Yes.

MR. CHAFFEE: Now that the AIT is here, we will be pressing a little bit more, I think, from what you've been doing in terms of getting machinery history together to try to determine what there might be there that might lend

ideas as to why the diesels aren't working. But I don't know that yet because I've got to get more information. But that's my question. We may need to do a little bit more in that area.

MR. BOCKHOLD: The specific thing on this quarantine list is -- I was told this morning that we did inform you of the of the 1-B diesel (inaudible) attached.

MR. CHAFFEE: Right.

MR. BOCKHOLD: Which was on the list.

MR. CHAFFEE: Right.

MR. BOCKHOLD: And we informed you of that, I guess, yesterday and y'all said for us to continue.

MR. CHAFFEE: Right.

MR. BOCKHOLD: Okay. We tested it and found a bad circuit board in it and had it fixed.

MR. CHAFFEE: Okay.

MR. BOCKHOLD: Okay, so that's one item. I think that's 3-A on this list.

MR. CHAFFEE: Okay. Well, do you know what was wrong with the circuit board? It just didn't work?

MR. BOCKHOLD: Well, it worked this morning okay and it was just a general worry that there was something wrong with the (inaudible) circuit board and we replaced another one and there's something still wrong with that other one, the third circuit board. Okay. I'm not sure what particular component that we put in was a successful circuit

board.

MR. CHAFFEE: And the one that --

MR. BOCKHOLD: The sequences were performed correctly.

MR. CHAFFEE: The one that didn't work, That's being detained?

MR. BOCKHOLD: It's being detained, yes.

UNKNOWN: Yes.

MR. CHAFFEE: At this point, I guess, there should be -- I guess, my first reaction, once you found that it didn't work right, we probably ought to quarantine it until we -- and then we need to decide how far we're going to take the efforts of clearing up why that card didn't work. You know, maybe just the fact that the card didn't work is enough, but maybe we need to go further. I'm not sure. I need to talk to Rick and we'll need to think that through.

MR. BOCKHOLD: Just a little bit of background. B-diesel was in the process of being restored from a complete disassembly and a reassembly type to cooling out each type of conditions. The B assembly -- the B-diesel was not operable at the time of the event and we've made -- we've, you know, we were working on a combination of A & B and then in the end we figured out that it was probably as the phase went by, that it was faster to bring the B-diesel back to operable status, than it was the A-diesel. Because of, you know, -- your directive

was to have (inaudible) and the amount of troubleshooting you wanted to do on A prior to bringing it to full service. Both diesels at this time though, we believe, if needed could be started at a minimum of emergency load and we believe that the A-diesel would start in its normal sequence (inaudible) mode and would carry the (inaudible). And that's kind of a background statement. We believe both diesels are capable of supplying emergency power to the (inaudible) at this time.

MR. CHAFFEE: I'm only interested in the B-diesels -- well, not only interest but our main interest is the extent that it may shed some light on what happened to the A-diesel.

MR. BOCKHOLD: Right.

MR. CHAFFEE: But, I guess, what's also true, you know, there's a generic thing here, also. Diesel reliability enters into this whole big picture.

MR. BOCKHOLD: Yeah, and is there a potential for a common load failure, too.

MR. CHAFFEE: Right.

MR. BOCKHOLD: We're interested in that, too. You know, we want to get to the cause of that. In the event, you know, unit 2's diesel, the 2-B diesel started and ran fine and successfully in sequence (inaudible) correctly. So, you know, we have both of these engines -- we've gone through a very similar overhaul on and so we're looking for -- gee, you

know, why is something that we did in the refueling process to determine the failure. Did this cause the problem or was it something else.

MR. CHAFFEE: I understand. I guess as far as the quarantine and the troubleshooting go, the only message I'm trying to convey is where we can -- the utility and we are to try to conform to some of the rigors that's in here without having a negative impact on getting -- making sure those diesels are fully operable. So, I mean, there are -- hopefully you guys have -- I'm sure you must have this -- the new rig, the 1303 that needs lots of guidance on how to use it. What I would ask is that you look through it and pick out those things in there that you can implement on diesels recognizing the need to get on with the process of getting them fully operable and finding what problems do exist. Things like -- in here they talk about if you get to the point where you identify something (inaudible) and being able to take pictures of various stages. What I am saying is, we need your help, as well as my own people, in trying to exactly figure out and find out how to reach the middle road in this thing. Because it's a little different. The past AITs I've been involved with -- the equipment that's broke has been such that it didn't need to be operable for the mode they were in. So we were able to go the full blown effort of going through the process of doing everything that's in here. Now, in this case, we've got --

Tape 1 - Side 1

(inaudible)

I guess the thing I'm saying is if you haven't done it I would - the people that are involved in how the troubleshooting will be done, how the controls going to be done sort of hold points itself, they need to read this guidance and figure out how to apply it to different activities. To the extent they figure out on their own that will minimize the extent where they finally being second guessed by Rick and myself. (inaudible) We will need a lot of documents which will be provided the team. We'd like four copy of these documents (inaudible) and we may find that we are coming back and asking for some additional copies of some of the stuff you have already given the IIT because we because we are limited staff to reproduce it all ourselves. (inaudible) We'd like to work together--we would like to have the same information you have fully available to us also. In case there are questions later on we can go back and refer to the documents.

(inaudible) Cherie will control the stuff.

I think that's about it. Just so you are aware of it we will be periodically briefing our management while onsite and after leave the site. we probably brief the region just before we leave. We will do an exit before we leave, but the exit I have to do some investigating, I think it will be somewhat limited to the scope of what it discusses. The report and the details we determine and stuff, basically are somewhat held in confidence to the team I think until the report is published, and then once its published it all goes

out the same thing is true with the transcripts for example, the transcripts can be ultimately made available to the people that we interview but they won't be made available to the hold (inaudible) is released. at that point its all released anyone who wants to get a copy of the transcript can obtain that I'm not totally (inaudible) how they obtain it but it is available for them

What they call Cherie?

CHERIE: Headquarters

So ha - and the other thing is that the IIT report will be the only report that the agency puts out on - the will be not report from the region. I guess the other thing is we ought to try to coordinate with INPO to make sure that there is consistency between our product and their (inaudible) to resolve any conflicts In fact, in this case Paul will be involved in that (inaudible) so that should be pretty easy. I think that's all the ground rules.

I want to talk about the interview guidelines and projected schedule.
(inaudible)
next two days - (inaudible) - I'm sorry you're right!

what we are planning on doing the next couple of days is
as you know, we are going to have the entrance and we (inaudible) as we tell them what we currently know for two reasons to help up get acquantied (inaudible) and also so you can understand where you are on your own investigation, and then there will be a tour, and then there a press conference today

at noon and then a visitors center and in the afternoon we will be doing interviews team all together, again that will be to be able to see the perspective of those people with first hands on (inaudible) control and to get some of that transcribed and tomorrow we will break up in two sets of interviews in parallel and then on Wednesday we will have three - I guess my hope is that we will be done doing all the interviews sometimes in the middle of the day on Wednesday. At that point it will be a matter of making sure we have our facts straight and making sure - we are going to try to get the sequence of events on Wednesday in the form of a PN that ends up getting public distribution. If all things go well we will be done by the end of the week. Then we will have an exit sometime (inaudible)

As far as the press conference is concerned at this point we will only have our public information people at the press conference there will be nobody from the plants site nor nobody from our cooperate office, if that changes I will let you know, but at this point that's the way to handle it -- (inaudible)

Okay, that all I have for the entrance portion, shall we go ahead into ___ presentation, or do we need to reorient, should be take a five minute break for the people who (inaudible) or shall (inaudible) you can go or take a break otherwise we can go ahead and get started.

My name is Ken Holme, I am the team leader for the event investigation. Your head ___ lost of ac power unit 1 offsite and onsite basic power what I am passing around is a hard copy handout of the transparencies we will be showing -- in this initial presentation what I would like to over several topics, first of all to us -- to give a plant status of event initiation, next

to go over chronology of events, and I will be doing those first two; then we will take about the diesel generator status and plan and Paul ___ will lead that discussion; talk about the outage stets, Mike ___ the outage manager will be talking about the outage status; I will get backup and very briefly talk about the event review team (inaudible) -- I do not have the transparencies for that, but there is really just kind of a verbal summary of where we are right now. --- if there are any questions and answers that you want to entertain right now or just stop at that point and we will get on with our business.

Plant status is the event initiation -- there are really three different areas that I want to go over, ya, there is a hole lot of information I don't want to take up a lot of time, but just want to kinda give you a quick overview, talk about your reactor coolant system, the electrical line up in containment itself, the directional system is a med___ 187 feet 11 inches maintaining temperature by (inaudible) manually installed on steam generators 1 and 4 work was in progress to install ____ 2 and 3, some other mid____ work which was in progress was work on 8808B I believe that is the accumulation isolation valve --

That's correct

And ya -- also on some of the charging check valves we are going to work on those - the volation flow path from the reactor water storage tank which was about 97 percent level through 18AACP triple turbine pump which was available for operation the ultimate path was through a motor operated valve (inaudible)

The safety injection pump were available in our line up we racked out the supply breaker and are not tagged in fact those breakers are available -- are they tagged Jim? They are tagged, those breakers are available, that bus is lined up and we could use the safety injection pump. and why I have fail to put on here -- which I also believe is important as you can see from the sequence of event -- they are two (inaudible) available to monitor (inaudible) the next thing I'd like to talk about is our electrical line up and to do that I took a figure out of a training package and going to draw on that figure to try to explain our electrical line up -- this is for Unit 1 -- Unit 1 on a 230 _____ -- our ultimate load and I going to try to talk about the alignment we had at the initiation of the event. At the initiation of the event the _____ of auxiliary transform ____ -- maintenance had been completed, and we were in progress of restoring net reserve auxiliary transformer -- it was clearance on it to keep it from switching orders to keep from being with _____ power and this is reserve transformer ____ -- that was the transfer which was eventually put back in service and allowed to restore offsite power at the plant. Reserve transformer A was initially supplying power -- ____ 230 bus _____ auxiliary transformer A down to 4160 volts along this line -- you can see down here normally we have 2 _____ 4160 switchgear 1AA02 it normally comes from -- this normally closed nomenclature being it normally comes from reserve auxiliary transformer A the other class 1A4160 switchgear is normally supplied from the B reserve auxiliary transformer -- we had the capability of fully taking this breaker out of the ___ cubicle looking the breaker over and closing this breaker so that B train 1E can also be supplied from A train ___ in a shutdown mode, and that was the condition that we were aligned up in.

So the normal supply A train 1E power 4160 volt was being supplied by reserve auxiliary transformer A also by moving the supply breaker over in the B train 4160 switchgear we were able to supply B train (inaudible).

It's really not adjacent breaker that's what ------ be able to move --- supply. That was the power supply for the 1E system -- talk about the diesel generators the ___ buses will also supply by the diesel generators through a diesel generator break right on the bus --- this diesel generator is the one that was torn down and really was not available to supply power the 1A diesel was the diesel generator that was to supply power on a loss of offsite power on the start signal, its work has been completed, it has been returned to _____. (inaudible)

The general gross, there are some differences in work that was done on 1E vs. work done on 1B (inaudible)

Tape 1 Side 2

(inaudible) -- Okay so that was the 1E line up, we also have the non-1E switchgear which was being powered at the time and remained powered throughout the event. The way we do that -- is there is a special operating procedure which essentially disconnects the main generator from its normal flow path -- it only comes from the main generator to the main transformer the step up transformer up to the 230 switchgear, we can open some lengths with the main generator essentially use the main transform as a step down transformer to guide power back into the plant. That's the case we're in here -- we were taking power off the 230 lines, coming back in to both of the unit auxiliary transformers, and normally the diesel supplies in-house loads to the unit auxiliary transformer and we were supplying the non-_____ 4160 in its associated switchgear powered from the 4160 (inaudible)

In this case

Okay I'm going to use that _____ to go down some of the unit auxiliary transformers to show you the (inaudible) --

came down and energized bus 1A05; bus 1A01; to the other reserve auxiliary transformer cam down and energized the remaining 4160, non-1E buses 1A04. These are 13 8 buses, these buses were not energized.

So that was the line up of both the 1E and non-1E systems, this event had no effect on the non-1E

(inaudible)

--I am not exactly sure on just were this it would be--

--on the right side--

--right above the letter A--

-- right here--

--right in there--

-- right in there basically, we are only showing one 1 line, its a 3 page line going in -- (inaudible)

Only showing 1 line --- that was the electrical line up at the initiation of the event --

The containment equip path was open, the personnel patch interlocks the hatch, other wise opening and closing the --- able to open and close the hatch

I talked about the breech in the reticule system other wise there were really no other breeches in containment. That's an overview of the plant status when the event initiated.

There are seven pages from the sequence event -- this is a preliminary discussion of the event team report, what I would like to do is maybe go over some of them very quickly

--I believe you have a cleaner copy than I do!--

I will go over this - I will skip some things just to save time -

The fuel truck came in the protected area about 9 o'clock in the morning, right now we are still listed as EST alot of -- must of the operating logs are kept in CST, so may be a confusion factor that you need to be aware of, in transcribing time from CST to EST.

(inaudible)

The southern electric systems operates above GA, AL, MS, and FL, geographically there is more of the southern electric system in CST, all power plants therefore operate on company operating time which happens to be central time --

neither daylight or standard,

Therefore, that the events at the nuclear plants (inaudible) -- NRC and the local counties

9:20 is when the event began loss of 1A and unit 2 loss its _____ - it had a (inaudible)

9:20 when the event occurred, and the 2 systems stablized unit 1 1A started the diesel tripped about 1 min. 20 sec. after breaker closes, (inaudible) --senior reactor operator was dispatch to investigate sequence

1 min. 20 sec. is that long enough to sequence (inaudible)

If it completed loading, I believe it finishes loading somewhere about 40 seconds to 50 seconds is about as long as it takes - the sequence are loading when he loads them--so loading had completed.

So what was believe to be (inaudible)

We are still investing that, we've got a plan that really assumes no known trip we over the last several days probably the prime suspect right now is a circuit in the diesel _____ called the _____ that is the prime suspect, although we are not ready yet to call that _____

(inaudible)

Maybe the best way to ask you the question is start out with a bigger picture, if the diesel had 2 modes of operation, 1 is with normal start and the other is emergency start (inaudible) the emergency start load is only associated with safety and (inaudible) at this point (inaudible)

Okay the diesel is responding to a normal start event here, and it has lots of things that feed into its peak 3 and logic port so any one of a numerous numbers of things could potentially shut the diesel down cause it wasn't responding to an emergency event as the side line we are considering at this time going in parallel we have design reviews in process to change that such that loss of power to that bus be consider an emergency start and most of the logic is how (inaudible)

Did we answer your question or did I --

No, what you just tool me, I didn't realize you guys were thinking of changing that --- glad to know that

I would like to add -- ask the following question though, why would someone dispatch _____ sequence, you haven't sayed anything that would indicate sequences anything wrong with it.

Wait - wait - repeat the question

the sequencer has some logic thats sparks diesel _____ loads, it also has some other lockup logic gets quite involved, I don't know if you want to go into that now

Alright

Just the initial response was the diesel trip the sequencers involved diesel starts and loading and the diesel itself, so to cover the basis they sent people both places.

there is another diesel starting that's kind of important, because it supplies power to technical control center and backup in the control the security diesel (inaudible)

at 9:40 a site air emergency was declared due to loss of offsite and onsite power to class 1E buses for greater than 15 minutes

__ security diesel, I understand that thats ____

It supplies the TFC power ENN and TFC gets its power from the _____ there is no special design on that circuit the special design is taken in the control room and supplied by to _____, really everything in the TFC had power

that is the reason why _____

Yes

Oh I see, then the TFC doesn't respond _____

That's right

It probably does

The control room power is vital power

(inaudible)

At 9:41, the A train sequencer was reset and the diesel generator 1A again auto started this was the second start of the diesel in ran for a minute and 10 seconds after the breaker closed which was long enough to cycle on the loss of offsite power loads however some of the loads had been taken to _____ in the control room after the diesel tripped the first time

After the diesel tripped the first time did it start itself

No, it did not start, it only started after the senior reactor operator went to the sequencer took some action at the sequencer

But he __ reset the sequencer

right, he reset

Once he reset at the end (inaudible)

That's correct

Did he realize that he reset whatever he did to that sequencer had to be restarted

(Inaudible)

at 9:57 we started initial notification of the site at emergency meeting

---

Prior to that about 9:48, we applied the use of a primary ENN in the control room which power from 1E power which was not available and therefore we were not able to make unification. at 9:56 again the diesel trip again for a second time at 9:56 the operator went look -- we had another operator went locally to the diesel into the diesel room itself to start the diesel -- the diesel was started by unscrewing a glass cover that's called an emergency start peak circuit we talked about is bypass the diesel started we returned power to the 1E bus and then we began on manual loading the load on to the 1E bus ____ service cooling water and CCW pumps and on _____

So at this point 9:56, onsite power was restored

(inaudible)

make it suspect

9:58

the first two starts _____

that's correct

9:58 the NRC operations center was notified

10 o'clock started the A train (inaudible) in the shutdown coolant mode, this time the maximum _____ thermal couple temperature was 118°F and the other thermal couple was reading about 10 degrees lower than that. The RHR _____ was about 136 degrees and that was right off the striple _____ in the control room.

Difference in the temperature in the RHR inlet and the thermal couples do they make sense.

(inaudible) Hot water before it raises -- you get loss of basically 40 minutes or so - you know - the hot water comes off before it raises to the top - it takes the suction from the top - hot water moving down the pipes --- temperature call RHR -- okay -- and the core actually being cooler because basically the ___ circulation in that _____ itself. I don't know if the difference makes full sense or not, but the idea that yea you have hot water at the top and ____ the first thing that that proves makes some sense to me.

(inaudible) the thermal couple is setting right on top of the core itself - okay - and then you have the water above that - okay - from the top and just collecting hot water at the top and cold water circulating down and around the sides back into the core. (inaudible) plausible explanation

The first onsite analysis was made thru the plant page at 10:01 the site population was informed of the site of emergency had been proposed. Immediately thereafter 10:02 by virtue of hearing the paged announcements security begin the process for conducting accountability which our emergency saids to do and alert _____ and really the rest of the items on this page -- kinda pick of 10:13 we completed the initial notifications A___ and Allenville Barnwell, Sylvanna River site in South Carolina those agency were all contacted through the control rooms and the backup South Carolina ENN which is power to the security diesel so when the primary ENN does not work you have one phone that can reach all these people _____, the _____ county emergency management agency have to be call separately on a commercial phone

Why is the backup _____

that was the initial design of the system it hasn't been changes, that was the design that was licensed

the procedures (inaudible)

(inaudible) can explain in more detail than I can it is simply that initially we tried to have one ENN where we had two _____ South Carolina and Georgia we when with and SRP ____ with ZNN -okay- the backup ENN which covered SRP and South Carolina and your primary unit was to cover everything (inaudible) we were able to get SC and GA to agree on one point and we never changed the backup ENN

at this same time ___ at the Technical Support Center the ENN and the primary ENN which was powered by the security people the communicator conducted a roll call test of the TSC equipment and was able to get all parties on the line

At about the same time 10:15 GEMA was called on a commercial phone we didn't transmit a message at that time because GEMA said were are talking to you on our primary circuit we will get the message shortly and the communicator felt that yes you'll get the message so it was simply a communication error that the two decided to hang up on the commercial phone line because the TSC BNN was being tested out they felt that very shortly that they would get a message

10:15 George Bob Holt the general manager received John Hopkins who was the senior SRO on shift our title the shift superintendent and emergency director the second notification form was approved by the emergency director a'so at 10:15 and the site emergency was an alert the _____ was downgraded to an alert because the diesel generator was maintaining the load. The diesel started at 10:56 and started RHR at about 10:00 so now for about 15 minutes the diesel had been running RHR had been running it was felt that the plant was in stable condition and an alert -- a downgrade to an alert was warranted.

Lets see the next thing I'd like to talk about down here at 10:34 steam generator primary man waves was secured throughout this event there were people that remained inside containment under constant help physics survey to restore the integrity to the rapid pulse system and so there are reports in here of were we began restoring the water tight integrity rapid pulse system

you have a complete description

Okay, before I go on, is there another item on this list up to 10:35 anyone would like to get some more details on because that really all I intend to talk about on this page

(inaudible)

We were able to send people out to the Met Tower also we were able to call the phones works, in fact we called Bush Field and found out (inaudible) -- probably about 10-15 miles from here so really we do not believe that the failure to be able to get Met data relayed to us under the normal automatic system adversely affected our ability to conduct the offsite doses.

Then again there really is not a hold lot - on this first page the South Carolina emergency planning department heard GEMA's request for information over the ENN and South Carolina had already gotten it and taken it remember they got around - we started about 10:56 and completed about 10:13 so they faxed GEMA

When you say 10:56 you're ___ central time

Excuse me 9:56 - 9:56

from 9:56 to about 10:13 we were transmitting a message to South Carolina - GEMA - South Carolina heard GEMA over the primary ENN asking for the info the reason we didn't hear it was that the emergency director in the communicated

information was still in the control room and the ENN in the control room was not work'ng. so eventually at 10:35 GEMA got a telefax of a form again it was the same form so it was very easy to telefax that form _____ (inaudible) Columbia, South Carolina - really there is a bunch of information about equipment hatch bolted down at 10:42 another pertinent bit of information

Why was the hatch open

The hatch was open to remove equipment as a part of the refueling ____ critical path -- we were really finished most of the work and where now taking equ'pment back out of containment the hatch was open to remove equipment and I believe that in about a day or two we intended to close the _____

was the personnel hatch bolted at the same time

The personnel hatch really was never unbolted, you can open both doors of the personnel hatch by braking the interlocks and the interlocks were broken so that you did have to operate the mechanical device to open and close the doors and only have one open at one time so the interlocks were broken but the hatch itself was never disassembled

There is never any (inaudible)

They did not just happen by happenstance we knew the condition of the plant their ____ plan, the electrical lineup the working containment the status of the hatch was all planned in sequenced evolution _____

Part of the reasons for (inaudible)

(inaudible) a gene[illegible] letter (inaudible) the sequence of installation and removal of nozzle band __ ___ all those things were included in the _____

So this was --- (inaudible)

how long did it take _____

from the time the paged announcement went out I guest 42 minutes, but from the start of the event it took longer than that about an hour and 22 minutes.

At 10:55 the emergency director left the control room and went into the technical support center which is a normal _____ during an emergency he has more diverse expertise in the technical support center engineering operations support chemistry and health physics and just about as much indication through the use of the ER emergency response facility, so thats really the only aspect I want to talk about at this time -- any other questions

I guess the only _____ talk about on this slide is that really 1101 this to answer Donny's question -- we reset the interlock so both hatches cannot be open at the same time so we knew -- what -- what we had to do to get containment back into integrity conditions working on those things (inaudible)

I thing probably the best way to answer that is - the first message that (inaudible) specifically omitted a accountability and evacuation of site to do that I believe (inaudible) second message that I released allowed for normal and assembly which happen to be is building right here --
we did have some problem, cause I believe in the nick of confusion (inaudible) we are still looking at that and discussing whats the best way to _____
Ken or anybody want to add anymore details on that

I think thats pretty close -- I mean, I heard that John, the first announcement was made at 10:00 -- do you remember that back at 10:56 we restored power to the bus

9:56

Excuse me, 9:56 we began restoring loads at 10:00, just like a minute before the announcement was made the RHR train was starting loading -- and John felt that it really was not a safety significance for onsite or offsite personnel and therefore really did not feel the need to evacuate and so lined out in the statement in the preprinted form were not a single personnel --(inaudible) so from initially hearing that a lot of people said I can continue work and even the subsequent announcement directs none-essential personnel to report to the assembly area--I guest people feel if they are worthy of earning a pay check then they may be none-essential -- and they stuck around -- so there are a couple of reasons that people did leave and that lead to difficulties for accountability. The way accountability systems works is you have a computer that knows who has gone into the protected area--so if you badge into the plant

you are on the list -- Okay for accountability the normal method is the emergency response people report to their facility, the control room, the technical support facility, and the operations support facility they all have card readers, so when you card in to one of those three facilities you [illegible] off the list so if accountability is done correctly and if people either [illegible] site badge out and therefore their not here or they go into one of [illegible] facilities there should be no one on the list - in this case none of the [illegible] essential people left so when we first did countability there were quite a few people that were inside the protected area that were not in one of the three facilities and until we got those people out of the plant or visually sited the accountability was very difficult. 11:30 we worked with our Augusta division to control the switchyard out there with the 235 ___ switchyard that switching order was able to restore 1B reserve auxiliary transformer back to power and 11:40 we began powering it back up at that point 11:40 the 1E bus - B train bus was energized from ____ 1B --- there is another item on here that occurred at 11:40 pressurizer ____ was installed this installation manually was to prevent pass while we were at mid loop one of the things that the emergency director had done was initially told people leave containment then he realized that things were stable and I want them to button up -- these are the words that were used -- button up the rapid coolant system he directed the health physics manager to help him provide coverage and help him supply the people the button up the mid loop activities and the health physics director took that to believe he was to put the pressurizer manually back on, there was really no distinct discussion about the _____ between the health physics and the emergency director at that time, but the _____ was installed it was known by the emergency director that it was put back on it really was put on and not tighten down so it really could be removed and that was the thinking of

leaving it on that if it was needed _____ that that manually could be taken off we were monitoring temperatures they were stable at the point when we realized that it manually was on and therefore the decision was made not to send people back into the containment to take it off but simply leave it on and and monitor the plant conditions and take it off _____

You just reminded me of something Gene Traber (inaudible)

I am really almost finished anything else on this transparency?
At 11:43 we used the line up that I initially talked about to supply power to -- we supplied all of the subloads off the 1E bus that occurred at 11:43, you can see all of the loads that we _____ running after that -- and thats really the information I feel is pertinent covered on this page. Finally one the last page 13:10 the emergency director had a conference call with the local agencies and state governments explaining our situation to them, and really what had happened about 12:57 we had restored--pretty much restored--the electrical line up now from as I described previously except that B reserve all your transformer supply on all your 1E loads so _____ from A over to B when supplying the loads normally - line up and the diesel _____ in parallel to shutdown and go back to a normal refueling _____

How long does it take to do that activity?

(inaudible)

Is there any damagers in doing that (inaudible)

Thats an analyzed condition to supply both of the 1E buses (inaudible) transformer - you know anytime you work around electrical switches there are certain dangers but thats something that we practice and we know how to do you don't open - you know - take it in and energize the people know what to do and it doesn't take more than about 10 minutes - that right Charles - about 10 minutes to make that break

The other thing I heard people indicated that some people worry about paralleling the diesel with the _____ really thats important to us when you run a diesel in most emergency configuration diesel very lightly loaded the diesel design to handle (inaudible) if you don't have that configuration (inaudible) so after you're done running the diesel for a while you need to burn the _____ and the only way to burn the _____ is below the diesel where you load the diesel is the back feeding the system carry the system and you keep the diesel fully loaded basically about a hour or a little less, 40 minutes whatever and then you shut the diesel down and put it in standby configuration such that you don't end up with (inaudible)

(inaudible) from an alert to a termination

There is an error on this I believe the latest information at 12:36 shows that there were 47 people unaccounted - when I say unaccounted by security that means that they were inside the protected area somewhere not in one of the emergency response facilities or the people in those facilities didn't know where they were again by not leaving that made accountability really virtually impossible

(Inaudible)?

Yes

(inaudible)

Tape 2 - Side 1

Foreign Speaker

(Inaudible) We should be ready to do the emergency start and the leak test at 3:00 that is the schedule right now

The bigger picture of the purpose here is we want do some component check outs first of all - we want to do some _____, certainly we want to have a successful test here would (inaudible) some likely conditions--

(inaudible)

Oh yes we !

(Inaudible)

This diesel is a fuel belt diesel, know _____ had problems (inaudible)

We completely disassembled and did all kind of quality checks on the engine prior to putting either engine in service--we were very lucky because you know we were very late in comparison to other plants so - you know - we have had some problems but I would say it has not been a _____ machine. I think we do have one engine on unit 2 that (Inaudible) 2A--because of a couple failures to start not like other people have had we haven't had _____ problems. (inaudible)

The overall flavor of this is that B was not involved in the event B was after and so we are trying to bring B to a very reliable status before we declare it fully operative - (inaudible) and this was the troubleshooting plan that Paul has laid out (inaudible) and we are proceeding with that and I guess Paul you were saying you think we're ready to start the UD testing on the voltage testing at about 4 - 3:30 - 4 o'clock

No I said that emergency start - they are planning to do emergency start at 3:00 so we can put the (inaudible) so we can see actual conditions whats going on (inaudible) a mile leak can be detected (inaudible)

(Inaudible)

with 2 people from Sunaco, we have ex-consultant who assistant in the start up _____ maybe ex-employee of TransAmerica we also have the vendor _____ in addition to that we have about half a dozen engineers on staff (inaudible)

So that the plan for the _____ (inaudible) yesterday we started trouble-shooting the sequences and we did a sequences test (inaudible) 3-4 days ago failure to do one test (inaudible) there are a couple of more things that need to be done, we need to (inaudible)

[INAUDIBLE]

These starts were after the three failures - on the same day

Same day-same day

We had two failures - emergency (inaudible) okay that evening we had three starts

They were all started -- who were they started? Were they start with emergency start

No! they started with a manual

Manual or normal

With a normal start

Miscellaneous trips

OH, I see, its just like what originally ____

(inaudible)

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