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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

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Before Administrative Judges:  
Peter B. Bloch, Chair  
Dr. James H. Carpenter  
Thomas D. Murphy

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In the Matter of )

GEORGIA POWER COMPANY )  
et al., )

(Vogtle Electric Generating )  
Plant, Unit 1 and Unit 2) )

Docket Nos. 50-424-OLA-3  
50-425-OLA-3

Re: License Amendment  
(transfer to Southern Nuclear)

ASLBP No. 93-671-01-OLA-3

INTERVENOR'S FINAL STATEMENT OF FACT AND CONCLUSIONS OF LAW

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November 30, 1995

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:  
Peter B. Bloch, Chair  
Dr. James H. Carpenter  
Thomas D. Murphy

In the Matter of	)	
GEORGIA POWER COMPANY	)	Docket Nos. 50-424-OLA-3
<u>et al.</u> ,	)	50-425-OLA-3
(Vogtle Electric Generating	)	Re: License Amendment
Plant, Unit 1 and Unit 2)	)	(transfer to Southern Nuclear)
	)	ASLBP No. 93-671-01-OLA-3

INTERVENOR'S FINAL STATEMENT OF FACT AND CONCLUSIONS OF LAW

I. STATEMENT OF THE CASE

Georgia Power Company submitted an application on September 18, 1992 to amend its license to allow Souther Nuclear to become the operator of Plant Vogtle. Pursuant to section 184 of the Atomic Energy Act, before Southern Nuclear may exercise control over Georgia Power's nuclear facilities, the Commission must grant the application in writing. To date, Georgia Power has not obtained written consent to transfer control of its nuclear operations to any other entity.

On October 22, 1992, Allen L. Mosbaugh and Marvin B. Hobby filed a petition to intervene in this licensing proceeding in order to oppose Georgia Power Company's application. We dismissed Mr. Hobby's petition for lack of standing on November

17, 1992. On February 18, 1993, we admitted Mr. Mosbaugh as a party to this case and admitted the following contention:

The license to operate the Vogtle Electric Generating Plant, Units 1 and 2, should not be transferred to Southern Nuclear Operating Company, Inc., because it lacks the requisite character, competence and integrity, as well as the necessary candor, truthfulness and willingness to abide by regulatory requirements.

See, Georgia Power Company, et al. (Vogtle Electric Generating Plant, Units 1 and 2), LBP-93-5, 37 NRC 96, 111 (1993).

Early on in this proceeding we determined that proving the admitted contention should focus on two areas. We subsequently divided the proceeding into two phases. Phase I focused on facts pertaining to the formation of the SONOPCO project and the operation of Southern Nuclear and whether, in the process, Georgia Power illegally transferred control of its licenses to SONOPCO project and/or Southern Nuclear and whether NRC was misled with respect to facts pertaining to the transfer of control. Phase II focused on a number of allegations related to whether Georgia Power and/or SONOPCO project management misled NRC about the reliability of the Plant Vogtle diesel generator following a March 20, 1990 Site Area Emergency and the adequacy of Georgia Power's communications to NRC concerning diesel generators.

A. Phase I Procedural History

The Phase I portion of the proceeding was the subject of a motion for summary disposition filed by Georgia Power. In response to the motion we issued Georgia Power Company, et al.



(Vogtle Electric Generating Plant, Units 1 and 2), LBP-94-37, \_\_\_ NRC \_\_\_ (November 8, 1994). We stated that we would hold a hearing to determine whether or not omissions or misstatements related to the transfer of control did occur. To this end, we advised the parties that we would admit evidence:

(1) showing what statements or omissions were made by Georgia Power officials to the NRC concerning the control of Vogtle, (2) providing the context to reach a conclusion concerning the falseness and the materiality of the statements or omissions, and (3) permitting us to assess the degree of culpability involved in the statements or omissions.

Id. at 5. Moreover, we observed that because key SONOPCO employees were serving more than one master it would be "difficult to determine how power actually was exercised," and for the purpose of deciding the motion for summary disposition, that looking at the overall pattern with a favorable interpretation from Intervenor's perspective, we were able "to assume that the practical ability to make major decisions about Vogtle had shifted from Georgia Power to SONOPCO." Id. at 16. We concluded that "it is permissible to assume that SONOPCO was a powerful entity within Southern Company", based on Intervenor's evidence [submitted in response to summary disposition]. Id. at 17. We put Georgia Power on notice that it had the burden of proving that control of Vogtle had not shifted to SONOPCO. Id. at 16-17.

An evidentiary hearing commenced on January 4, 1995 and concluded on January 13, 1995, during which time Georgia Power submitted that control had not shifted to SONOPCO, and that

material false statements were not made. Intervenor submitted evidence to the contrary. In the course of this hearing nine witnesses testified live, one by telephone; and, in lieu of calling additional witnesses to testify live at the hearing, the Board accepted into the record designated portions of deposition testimony from numerous witnesses.

B. Phase II Procedural History

The Phase II portion of this proceeding involved whether licensee knowingly and willfully provided material false statements to the NRC on five separate occasions. An evidentiary hearing commenced on April 17, 1995 and concluded on September 28, 1995. Forty-three witnesses provided testimony.

The precise scope of the diesel generator reporting issue has been a contentious issue in this proceeding, resulting in a number of motions and rulings. To provide understanding of the scope of the issues we are deciding today, the pertinent pleadings and rulings are summarized below.

In his December 9, 1992 Amendments to Petition to Intervene and Request for Hearing, Intervenor pleaded four contentions. In our February 18, 1993 Memorandum and Order (Admitting a Party), LBP-93-5, 37 N.R.C. 96 (1993), we consolidated the contentions into a single contention. The admitted contention in this proceeding is:

The license to operate the Vogtle Electric Generating Plant, Units 1 and 2, should not be transferred to Southern Nuclear Operating Company, Inc., because it lacks the requisite character, competence and integrity, as well as the necessary candor,

truthfulness and willingness to abide by regulatory requirements.

Id. at \_\_\_, M&O p. 25.

After the admission of the consolidated contention, we held a conference to discuss the scheduling of the case. At the outset of the conference, Georgia Power stated its understanding that the scope of the admitted contention related to two matters: (1) the LER and subsequent statements about the LER made by certain company officials, and (2) the alleged illegal transfer of the license. Tr. 121. The Board referred the parties to a decision related to Diablo Canyon, LBP-93-01, which had concluded that the scope of a contention is not necessarily limited to its bases. Id. We cautioned, however, that we would not allow a pure fishing expedition, and consequently, there would be limits on discovery. Id. at 121-22.

On July 21, 1993, the Licensing Board, on its own motion, issued a Memorandum and Order (Case Management) deciding that at least during an initial phase of this proceeding, discovery would be restricted to matters related to the bases of the admitted contention. LBP-93-15, 38 N.R.C. 20, 22 (1993).

Intervenor subsequently took the position that the bases for its admitted contention included all facts set forth in his prior 2.206 petition, including numerous allegations that Georgia Power had violated Technical Specifications. In a Memorandum and Order (Georgia Power Motion to Reconsider Scope of Proceeding), dated September 24, 1993, we held that Intervenor's Amended Petition had not incorporated the entire 2.206 petition by reference, and

specifically had not incorporated those portions alleging violations of Technical Specifications. LBP-93-21, 38 N.R.C. 143, 148 (1993). Rather, we concluded that Intervenor had voluntarily excluded allegations that were not specifically discussed in his Amended Petition in this proceeding. Id. at 148. We ruled that Intervenor would not be precluded from moving to add additional matters as bases for its contentions, but would be required to demonstrate that the additional matters are relevant and newly discovered. Id. Otherwise, our Memorandum and Order stated:

Matters that were not discussed in the Amended Petition, except by reference to Intervenor's prior section 2.206 petitions, shall not be considered to have been raised in the Amended Petition and shall not be included in Phase I of this proceeding.

Id. at 150.

On May 9, 1994, the NRC Staff issued a Notice of Violation ("NOV") against Georgia Power. The NOV asserted five violations: (1) that Georgia Power's April 9, 1990 presentation and April 9, 1990 letter to the NRC were inaccurate concerning the number of successful diesel generator starts; (2) that the April 9, 1990 letter was incomplete in stating that it had concluded that the diesel air system, including dew point control, was satisfactory, and in stating that initial reports of higher than expected dew points had been attributed to faulty instrumentation; (3) that LER 90-006 was inaccurate concerning the number of successful diesel generator starts; (4) that Georgia Power's June 29, 1990 letter was inaccurate and incomplete in failing to clarify the

April 9 letter and in explaining the causes of the prior errors; (5) that Georgia Power's August 30, 1990 letter was inaccurate and incomplete in explaining the causes of the prior errors. This NOV prompted the Licensing Board to modify its prior ruling on the scope of the proceeding. In a Memorandum and Order (Scope of Proceeding) dated May 23, 1994, we held that all the allegations in the NOV are important to the admitted contention and should be included within the scope of the proceeding. LBP-94-15, 39 N.R.C. 254, 255-56 (1994).

On April 27, 1995, we ruled on Georgia Power's motion for summary disposition of issues related to diesel air quality. Memorandum and Order (Summary Disposition: Air Quality) (April 27, 1995). After considering the motion and responses, we ruled that the following issues were in dispute:

1. Georgia Power's April 9, 1990 Confirmation of Action response letter (COA Letter) incorrectly states that air quality was satisfactory when it was not.

2. The COA Letter states that recently obtained high dew point readings were the result of faulty instrumentation.

3. Georgia Power's communications with NRC concerning high dew points were incomplete.

We note, however, that in each instance, Intervenor must demonstrate that:

4. In making representations 1-3 to the NRC, the officials of Georgia Power were willful or were recklessly careless of the facts.

Id. at 6.

In ruling on a subsequent Georgia Power Motion to Strike Partially Intervenor's Prefiled Testimony (April 25, 1995), we

ruled that it was necessary for us to have an adequate record on which to determine Intervenor's contention on the merits. We agreed with Intervenor that he is entitled to broad latitude to present "pattern" evidence to prove, circumstantially, whether or not misstatements were made willfully since it is difficult to demonstrate whether or not misstatements made in those documents were willful or recklessly careless of the facts. Memorandum and Order (Motion to Strike Mosbaugh Testimony) (May 11, 1995) at 4-5. Thus, we allowed testimony that is relevant to the motives or extent of responsibility of Georgia Power officials with respect to the alleged misstatements, but denied testimony relating to technical issues that are not part of the proceeding. Id. at 7. However, we did not allow Intervenor to introduce evidence as to the root cause of the diesel generator failures during the site area emergency. Id. at 21-22.

As stated earlier, we deem it necessary for an accurate record to allow Intervenor to introduce "pattern" evidence in order to show motive or intent with respect to the specific statements at issue in this proceeding.

We have strived for an accurate record. Thus, for example, we allowed an inquiry into the handling of Mr. Mosbaugh's Quality Concern over the FAVA system to determine whether there was a real review of his concerns and whether PRB members were intimidated. Tr. 14121. We allowed this testimony because this limited inquiry was necessary to show Mr. Mosbaugh's frame of mind in April 1990 when the issue of the diesel start count was



going forward. Tr. 14102. We have maintained that root cause is not an issue in this proceeding except to the extent it relates to whether Georgia Power was misrepresenting things to the NRC. Tr. 14309 (J. Bloch).

## II. BURDEN OF PROOF AND SUFFICIENCY OF EVIDENCE

### A. Burden of Proof

1. It should be noted that Georgia Power is the Applicant and, as such, bears the ultimate burden of proof on every issue relevant to this proceeding. 10 C.F.R. §2.732. Intervenor, on the other hand, bears the burden of presenting a prima facie case regarding the admitted contention. Id.; See Also Curators of the University of Missouri, LBP-90-45, 32 NRC 449, 454-455 (1990). We conclude that, Intervenor demonstrated that Georgia Power illegally transferred control and made material misrepresentations on matters pertaining to control, and therefore Intervenor has met his burden. Additionally, Intervenor demonstrated that Georgia Power materially misrepresented facts to NRC concerning diesel generator issues, and that therefore Intervenor has also met his burden on this issue.

2. Once Intervenor submits sufficient evidence to establish a prima facie case on either issue, the burden shifts to the applicant, Georgia Power. Consumers Power Company at 345. Georgia Power must show that its position on each of the factual issues in dispute is supported by a preponderance of the

evidence. Florida Power & Light Company (St. Lucie Nuclear Power Plant, Unit 1), LBP-89-12, 29 NRC 441, 443 (1989). In this proceeding, Georgia Power bears the ultimate burden of proof.

B. Circumstantial Evidence

3. In general, circumstantial evidence is usually the only means by which willfulness may be proven. Relevant case law states that circumstantial evidence is intrinsically as probative as direct evidence and that circumstantial facts may be convincing enough to overcome direct testimony to the contrary. 29 Am. Jur. 2d Evidence §313 (1994). Furthermore, certain crimes in which intent is an element of the offense may be proven purely by circumstantial evidence. 37 Am. Jur. 2d Fraud and Deceit §472 (1994). In fact, crimes such as fraud and deceit are "not readily susceptible of direct proof and it is seldom that they can be so proved." Id.

4. Nuclear Regulatory Commission case law refers to the enforcement policy and examines the attitude of a licensee as one of the indications of whether a violation is willful. Reich Geo-Physical Inc. (1019 Arlington Drive, Billings, Montana), ALJ-85-1, 22 NRC 941, 962-963 (1985); See also 10 C.F.R. Part 2, App. C, III C. In Reich Geo-Physical, circumstantial evidence was used to demonstrate willfulness. Specifically, the combined circumstances of repetitive violations were determined to meet

the enforcement policy criteria for willful and careless disregard of the regulations. Id. at 963.<sup>1/</sup>

5. Circumstantial evidence may be as probative as direct evidence, and is often relied upon to prove intent.<sup>2/</sup> Intentional wrongdoing is often proven by such circumstantial evidence as: 1) maintaining inadequate records; 2) understating income; 3) failure to file tax returns; and 4) implausible or inconsistent explanations of behavior. Bradford 796 F.2d at 307. <sup>2/</sup>

### C. Materiality

6. During an April 7, 1995 conference, we indicated to the parties that one focus during the Phase II hearing would concern the issue of willfulness. The NRC Enforcement Manual defines willfulness as:

An attitude toward compliance with requirements that ranges from the careless disregard for requirements to a deliberate intent to violate or to falsify.

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<sup>1/</sup> In U.S. v. Aggarwal, 17 F.3d 737, 740-41 (5th Cir. 1994), the Court addressed a criminal defendant's challenge of the sufficiency of circumstantial evidence, standing alone, to prove specific intent to commit fraud. The Court specifically held that circumstantial evidence, standing alone, was "sufficient" evidence of specific intent (fraud). Id. at 740.

<sup>2/</sup> See Bradford v. Commissioner of Internal Revenue, 796 F.2d 303, 307 (9th Cir. 1986) ("[b]ecause fraudulent intent is rarely established by direct evidence, this court has inferred intent from various kinds of circumstantial evidence").

<sup>2/</sup> In the case at hand, willfulness has been shown not only by direct evidence but also by circumstantial evidence such as 1) the failure to follow established procedures; 2) maintaining inadequate records; 3) implausible or inconsistent explanations of behavior; and 4) a pattern of providing the NRC with incomplete and inaccurate information.

Willfulness does not include acts that do not rise to the level of careless disregard.

NUREG/BR-0195 at section 1.6, p. 6.

7. The Manual applies this definition of willfulness in stating that violations may increase in severity level "if the circumstances surrounding the matter involve careless disregard for requirements, deception, or other indications of willfulness." NUREG/BR-0195 at section 5.4, p. 10.<sup>4/</sup>

A willful violation or an act of wrongdoing is one in which an NRC requirement has been breached with some intent or purpose to commit the breach, rather than through mistake or error. Wrongdoing consists of both deliberate violations of NRC requirements and violations resulting from careless disregard of or reckless indifference to regulatory requirements amount to intent.

NUREG/BR-0195 at section 7.2, p. 1 (emphasis added).

8. The Commission has stated that "the concept of 'careless disregard' goes beyond simple negligence... 'careless disregard' connotes a reckless regard or callous indifference toward one's responsibilities or the consequences of one's actions." NUREG/BR-0195 at Appendix H-8, citing Trans World Airlines, Inc. v. Thurston, 469 U.S. 111, 105 S.Ct. 613, 83 L.Ed. 2d 523, 537 (1985) and Reich Geo-Physical, Inc., ALJ-85-1, 22 NRC 941, 962-963 (1985) (emphasis added). See also 10 C.F.R. Part 2, App. C IV. C. The Commission expounds on its view of willful violations by stating in its Enforcement Policy Statement that

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<sup>4/</sup> The Manual also states that "Willful violations are by definition of particular concern to the Commission because its regulatory program is based on licensees...**acting with integrity and communicating with candor**. Id., emphasis added.

these type of violations "cannot be tolerated by either the Commission or a licensee." NUREG/BR-0195 at EP-9, EP-10, Rev. 12/30/94.

9. The term "willfulness" as used in the Enforcement Policy embraces a spectrum of violations ranging from deliberate intent to violate or falsify as well as evidencing a careless disregard for requirements. Id.

10. In NUREG/BR-0195, Appendix H-8, the NRC explicitly cites to and adopts the leading U.S. Supreme Court case defining the meaning of "willful," Trans World Airlines, Inc. v. Thurston, 105 S.Ct. 613 (1985). In Thurston, the Court determined that a violation is willful if the individual either knew or showed reckless disregard for the matter of whether the individual's conduct was prohibited by a statute. Id. at 625. In reaching this decision, the Court relied in part on Nabob Oil Co. v. United States, 190 F.2d 478 (CA 10), cert. denied, 72 S.Ct. 167 (1951).

11. The Nabob Court determined that an employer is subject to criminal penalties under the FLSA when he "wholly disregards the law...without making any reasonable effort to determine whether the plan he is following would constitute a violation of the law." Id. This standard is "substantially in accord with the interpretation of 'willful' adopted by the Court of Appeals." Thurston, 105 S.Ct. at 624.

12. Furthermore, there is a general principle that "in criminal statutes willfulness generally requires bad purpose or

the absence of any justifiable excuse ... In civil actions, however, these elements need not be present. Rather, willful conduct denotes intentional, knowing and voluntary acts." In re Griffith, 161 B.R. 727 (Bkrtcy. S.D. Fla. 1993).<sup>5/</sup>

13. Thus, if Intervenor demonstrates that managers currently employed, or who will be employed as a result of the transfer to Southern Nuclear, exhibited a careless disregard for NRC regulations, then Intervenor has set forth a *prima facie* case of willfulness and it is up to Georgia Power to establish by a preponderance of the evidence that its employees and employees of Southern Nuclear did not act with careless disregard of NRC regulations. See, Florida Power & Light Company (St. Lucie Nuclear Power Plant, Unit 1), LBP-89-12, 29 NRC 441, 443 (1989).

#### D. Character and Competence

We now consider the relevance and applicability of the omissions and misrepresentations Intervenor alleges were made by Georgia Power regarding the control issue.

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<sup>5/</sup> Other courts have expressed the same view of willfulness. See, e.g., Monday v. United States, 421 F.2d 1210 (7th Cir.) cert. denied, 91 S.Ct. 38 (1970); Domanus v. United States, 961 F.2d 1323, 1326 (7th Cir. 1992). In re Gilder, 122 B.R. 593, 595 (Bankr.M.D.Fla. 1990). In re Kirk, 98 B.R. 51, 55 (Bankr.M.D. Fla. 1989); U.S. v. Toti, 149 B.R. 829 (E.D.Mich. 1993). In re Fernandez, 112 B.R. 888 (Bankr.N.D. Ohio 1990); Langlois v. U.S., 155 B.R. 818, 821 (N.D.N.Y. 1993) ("[T]he individual's bad purpose or evil motive in failing to collect and pay taxes properly play no part in the civil definition of willfulness...If the intended result of a taxpayer's action was that the U.S. would not receive the income taxes, then he has acted willfully..."). In re Jones, 116 B.R. 810, 815 (Bankr.Kan. 1990).



1. Is the Character and Competence of the Proposed Licensee, Southern Nuclear, Relevant to this Proceeding?

14. On February 5, 1993, the NRC Staff answered the following question for the Licensing Board:

To what extent, if any, is the character or competence of individuals already jointly employed by Georgia Power and Southern Nuclear in the management of Vogtle relevant to the approval of the requested license amendment?

NRC Staff Response to Licensing Board Questions ("Staff Response") at p. 4 (emphasis supplied). The Staff's response to the Board's question is well reasoned and we adopt it. Staff's Response indicates that it is appropriate for this Board to consider the character of an applicant in a license transfer proceeding. Staff's Response at 5. The first case upon which Staff relies is Metropolitan Edison Company (Three Mile Island Nuclear Station, Unit No. 1), CLI-85-9, 21 NRC 1118, 1136-37 (1985), from which the Staff quoted the following passage:

A generally applicable standard for integrity is whether there is reasonable assurance that the Licensee has sufficient character to operate the plant in a manner consistent with public health and safety and applicable NRC requirements. The commission in making this determination may consider evidence regarding licensee behavior having a rational connection to the safe operation of a nuclear power plant. This does not mean, however, that every act of licensee is relevant. Actions must have some reasonable relationship to licensee's character, i.e., its candor, truthfulness, willingness to abide by regulatory requirements, and acceptance of responsibility to protect public health and safety. In addition, acts bearing on character generally should not be considered in isolation. The pattern of licensee's relevant behavior, including corrective actions, should be considered. [Footnote omitted].

15. Relying on Houston Lighting & Power Co. (South Texas Project, Units 1 & 2), CLI-80-32, 12 NRC 281, 291 (1980), Staff further states:

In large part, decisions about licenses are predictive in nature, and the Commission cannot ignore abdication of knowledge by a license applicant when it is called upon to decide if a license for a nuclear facility should be granted.<sup>6/</sup>

We believe that the above issues relating to technical competence and to character permeate the pleadings filed by Citizens. They do deserve a full adjudicatory hearing, as they will no doubt get in the operating license proceeding, and they do deserve expeditious treatment because they could prove disqualifying.<sup>7/</sup>

Id., (emphasis added).

16. Finally, Staff concludes with the following:

The issuance of an operating license or amendment requires an affirmative finding of compliance with the Atomic Energy Act, the Commission's regulations and reasonable assurance of health and safety of the public. 10 C.F.R. §50.57. If personnel who will be involved in the operation of the facility lack character to operate the facility, then the requested operating license or amendment may not be issued. [citations omitted]. Here, a few individuals who are currently employed by the licensee, Georgia Power, are also employed by the prospective licensee, Southern Nuclear. The character of these individuals is thus relevant to approval of the requested amendment.

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<sup>6/</sup> Equally, and perhaps of more concern, the Commission cannot ignore false statement in documents submitted to it. Congress has specifically provided that licenses may be revoked for "material false statements, see section 186a of the Atomic Energy Act, and we have no doubt that initial license applications or renewal applications may also be denied on this ground, certainly if the falsehoods were intentional, FCC v. WOKO, 329 U.S. 223 (1946), and perhaps even if they were made only with disregard for the truth. Leflore Broadcasting Company v. FCC, F.2d (D.C.Cir. No. 78-1677, June 5, 1980); Virginia Electric and Power Company v. NRC, 571 F. 2d 1289(4th Cir. 1978). [Footnote from Staff's brief].

<sup>7/</sup> We include, of course, the false statements charge in this category. [Footnote from Staff's brief].

Staff Response at 6.

17. Additionally, the Board finds that, pursuant to 10 C.F.R. §50.9, communications from an applicant or a licensee to NRC must be "complete and accurate in all material respects."<sup>2/</sup> The Commission cannot ignore false statements made by a license applicant, Houston Lighting & Power Co. (South Texas Project, Units 1 & 2), LBP-84-13, 19 NRC 659, 673-679 (1984); even if they were made only with disregard for the truth. Leflore Broadcasting Company v. FCC, \_\_\_ F.2d \_\_\_ (D.C. Cir. No. 78-1677, June 5, 1980); Virginia Electric and Power Company v. NRC, 571 F. 2d 1289 (4th Cir. 1978).

18. In South Texas, 19 NRC at 674, the Commission stated the general standard for integrity, and in Three Mile Island, 21 NRC at 1136-37, explained that the licensee's actions:

must have some reasonable relationship to licensee's character, i.e., its candor, truthfulness, willingness to abide by regulatory requirements, and acceptance of responsibility to protect public health and safety.

Metropolitan Edison Company, et al. (Three Mile Island Nuclear Station, Unit No. 1), 21 NRC 1118, 1136-37.

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<sup>2/</sup> The NRC is an agency within the scope of 18 USCS §1001 which provides for criminal penalties for the making of a knowing or wilful false statement as follows:

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and wilfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

## ii. Materiality

19. Materiality of a false statement is not dependent on whether a government agency relied on the statement. The Eleventh Circuit explains the test for materiality as follows:

materiality is satisfied even if the federal government was not actually influenced by the false statements.

U.S. v. Herring, 916 F.2d 1543, 1547 (11th Cir. 1990); United States v. Fern, 696 F.2d 1269, 1273 (1983).<sup>2/</sup> In this respect it is:

the intrinsic capabilities of the false statement itself, rather than the possibility of the actual attainment of its end as measured by collateral circumstances.

Pereira, 463 F.Supp. at 486, citing United States v. Goldfine, 538 F.2d at 820-21.<sup>10/</sup>

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<sup>2/</sup> The Commission has determined that planning to make a deliberate false statement "on the part of applicants or licensees would be evidence of bad character that could warrant adverse licensing action even where those plans are not carried to fruition." Id. at 675, citing Consumers Power Co. (Midland Plant, Units 1 and 2), CLI-83-2, 17 NRC 69, 70 (1983).

<sup>10/</sup> In Goldfine, the allegedly immaterial statement was made by a registered pharmacist during "the course of an inspection conducted by the regulatory agency charged with the duty of investigating the manner in which he was complying with the requirements imposed upon him by law." Goldfine, supra., 538 F.2d at 821. In Pereira, the alleged statement was made by Pereira to custom agents as he was about to board a plane for Peru. Pereira, supra., 463 F. Supp. at 484. In both cases the agents or investigators already knew the correct answers to the questions asked and were not misled by the false responses. Id., 463 F. Supp. at 486. However, "emphasizing the potential and not the actual impact of the statement on agency action", the Court of Appeals for the Ninth Circuit found materiality within the scope of §1001. Id. When a statement carries the "potential" of inducing agency reliance and of perverting a legitimate function of the agency it is material. Id. (emphasis supplied).

20. In sum, materiality turns on whether the false statement had the capability of misleading NRC and not whether NRC was in any way actually misled.

E. Office Of Investigation Findings and Staff's Modified Notice of Violation

21. Unlike this proceeding, where the licensee has the ultimate burden,<sup>11/</sup> NRC Staff, as the proponent of an Order Imposing Civil Penalties, has the burden of proof. 10 C.F.R. § 2.732. The Staff must support its burden by a preponderance of the reliable, probative, and substantial evidence. Jurley Medical Center (One Hurley Plaza, Flint, Michigan), ALJ-87-2, 25 NRC 219, 224 (1987) (citing the Administrative Procedure Act, 5 U.S.C. §556(d)). In reaching its finding and issuing the modified NOV the Staff had the burden to produce evidence to prove the violations by a preponderance of the evidence.

22. Staff has the burden of proof in sustaining an enforcement action. Tr. 11649 (Hayes), Tr. 15368 (Zimmerman). Since the burden of proof was on NRC Staff to show that there had been a violation, Staff had to meet a higher standard than merely showing that a violation may have occurred when issuing the modified NOV.

F. Effect of the OI Findings

23. NRC's OI investigated Mr. Mosbaugh's diesel generator allegations over the period from 1990 through December 20, 1993 when the OI Report (Case No. 2-90-020R) was issued. Int. II-39.

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<sup>11/</sup> See Consumers Power Company (Midland Plant, Units 1 and 2), ALAB-123, 6 AEC 331, 345 (1976); 10 C.F.R. § 2.732.



There was unanimous agreement within the OI structure as to the appropriate conclusions based on the evidence. Tr. 11645 (Hayes). It is not unusual for the Staff not to agree with OI's conclusions. Mr. Hayes informed us that he is not familiar with any major investigation where OI's conclusions were entirely agreed to by the staff. He stated that this case is the closest that Staff has come, in a major investigation, to agreeing with OI's conclusions. Tr. 11649 (Hayes).

24. The OI Report is a reliable and trustworthy report.<sup>12/</sup> Intervenor, during the course of discovery, requested admissions from Georgia Power for each paragraph of the OI report. Mr. Ajluni was responsible for putting together a response for the company. In an effort to shorten his cross-examination we allowed the Intervenor to rely on these responses and their corresponding OI Report paragraph. We believe the OI Report is reliable and give great weight to the professionalism with which the investigation was performed. Therefore, we incorporate by reference the conclusory paragraphs listed in Intervenor's Motion to Admit Certain Responses to Intervenor's First Request for Admissions to Georgia Power Company, dated August 11, 1995, into our proposed findings of fact regarding all issues therein contained.

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<sup>12/</sup> See Memorandum and Order (Motion to exclude OI conclusions), September 1, 1995.



G. Collateral Estoppel Based on the Secretary of Labor's Decisions in Hobby and Mosbaugh

25. We have determined that the Secretary of Labor's decisions in the Hobby and Mosbaugh Department of Labor proceedings constitute collateral estoppel on issues pertaining to Phase I. See, Marvin B. Hobby v. Georgia Power Company, DOL Case No. 90-ERA-30, slip op. of SOL (Aug. 4, 1995); Allen Mosbaugh v. Georgia Power Company, DOL Case Nos. 91-ERA-1/11, slip op. of SOL (Nov. 20, 1995). The only matters not decided by the Secretary of Labor in Hobby and Mosbaugh concern the issue of damages and other appropriate relief. This fact does not affect the imposition of collateral estoppel. "The mere fact that the damages award to the plaintiff have not been yet calculated...does not prevent use of a final ruling on liability as collateral estoppel." Metromedia Co. v. Fugazy, 983 F.2d 350, 366 (2nd Cir. 1992) (emphasis added).

26. Collateral estoppel, unlike appealability under 28 U.S.C. § 1291, does not require a judgment which ends the litigation and leaves nothing for the court to do but execute the judgment. Id.; See, Catlin v. United States, 324 U.S. 229, 233, 65 S.Ct. 631, 89 L.Ed. 911 (1945). "Finality...may mean little more than that the litigation of a particular issue has reached such a stage that a court sees no really good reason for permitting it to be litigated again." Zdanok v. Glidden Company, Durkee Famous Food Division, 327 F.2d 944, 955 (1964).

27. Both the Hobby and Mosbaugh decisions issued by the Secretary of Labor represent the final pronouncement of the

Department of Labor in those respective proceedings against Georgia Power Company on the issue of whether the employment decisions concerning Mr. Hobby and Mr. Mosbaugh, respectively, constituted separate violations of Section 210 of the Energy Reorganization Act ("ERA"), 42 U.S.C. § 5851. Collateral estoppel effect shall be given here to the Hobby and Mosbaugh decisions by the Secretary of Labor.

### III. SUMMARY OF PHASE I ISSUES AND FINDINGS

#### A. Did an Illegal Transfer Occur?

28. Intervenor asserts that Georgia Power violated Section 184 of the Atomic Energy Act by virtue of the fact that control of its two nuclear plants, plant Vogtle and plant Hatch, occurred before written consent for the transfer of such control was received from the Nuclear regulatory Commission.<sup>13/</sup> We therefore must determine whether Georgia Power illegally transferred control of its nuclear operations to Southern Nuclear and/or SONOPCO project.

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<sup>13/</sup> Section 184 of the Atomic Energy Act provides:

No license granted hereunder...shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission shall, after securing full information, find that transfer is in accordance with the provisions of this Act, and shall give its consent in writing.

42 U.S.C. § 2234 (1982).

29. A panel of the ASLB decided the meaning of Section 184 in Safety Light Corporation, et al. (Bloomsburg Site Decommissioning and License renewal Denials), 41 N.R.C. 412 (1995) ("Safety Light").<sup>14/</sup>

[T]he starting point for determining whether...corporate restructuring...violated section 184 is the statute itself. That provision provides that no NRC license shall be transferred, assigned or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person, unless the Commission shall, after securing full information, find that the transfer is in accordance with the provisions of this [Act], and shall give its consent in writing.

The plain language of this section is exceptionally broad and the reach of the provision is all encompassing. The title of section 184, "Inalienability of Licenses," only reinforces its breadth inasmuch as "inalienable" means "incapable of being alienated, surrendered, or transferred." The reach of the statute is manifest from its comprehensive language, and section 184 contains absolutely no limiting provisions. The terms "voluntarily or involuntarily, directly or indirectly" and the phrase "through transfer of control of any license to any person" are words and phrases of inclusion indicating a congressional intent to expand the scope of the section to the maximum extent. Indeed, it would be difficult to write a broader or more encompassing provision. Nor is the broad reach of section 184 surprising as a component of an overall regulatory scheme that has been described as "virtually unique in the degree to which broad responsibility is reposed in the administering agency." Thus, on its face, section 184 not only broadly prohibits all manner of transfers, assignments, and disposals of NRC licenses, but also all manner of actions that have the effect of, in any way, directly or indirectly, transferring actual or potential control over a license without the agency's knowledge and express written permission.

41 N.R.C. at 451 (footnote citations omitted).

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<sup>14/</sup> The interpretation of Section 184 was initially discussed by an earlier panel of the ASLB in Safety Light Corp. (Bloomsburg Site), LBP-90-7, 31 N.R.C. 116, 129 (1990). The holding of this case was adopted by the panel issuing the subsequent Safety Light decision.

Moreover, the language of the Atomic Energy Act itself demonstrates that Congress placed no importance on the corporate form in enacting section 184. That provision prohibits, inter alia, the direct or indirect transfer of control of any license "to any person" without the Commission's express written consent. Section 11s of the Act then defines "person" in the broadest possible manner to mean (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission, any State or any political subdivision of, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing.

Thus, contrary to USR Industries' assertion, the inclusion of a "corporation" in the definition of a "person" and the use of the latter term in the inalienability of licenses provision indicates that Congress intended a corporation to be treated in the same manner as all other entities.

41 N.R.C. at 456-457 (footnote citation omitted).

30. The Safety Light Board specifically announced that section 184 prohibited the expediency of corporate restructuring as a justification for avoiding the requirements set forth in section 184. Before corporate restructuring resulting in transfer of control can occur, express written consent from the Commission must be obtained. In the words of the Safety Light Board: "If the statutory proscription against the transfer of control on NRC licenses could be avoided by the expedient of a corporate restructuring, complex or otherwise, then section 184 would be a toothless tiger." Id. at 454. We see no reason to stray from these holdings announced in Safety Light and we adopt them here.

B. Basis for Determining Whether an Illegal Transfer Occurred

31. During Phase I of this proceeding we learned much about how the transfer of control occurred. During Phase II we were able to observe specifics about the dynamics of how particular issues of great significance were handled. Based on the record as a whole in Phase I and Phase II of this proceeding, we conclude that, commencing in 1988, Georgia Power improperly transferred control of its nuclear licenses first to the unincorporated "SONOPCO project" and thereafter to its incorporated counterpart, Southern Nuclear Operating Company. As such, we find that the licensee has violated section 184 of the Act and that the Intervenor has sustained his burden of proof that an illegal transfer of control has occurred.

IV. SUMMARY OF PHASE II ISSUES AND FINDINGS

A. EVIDENCE OF WILLFULNESS (INCLUDING CARELESS DISREGARD) AMONG THE KEY PERSONS INVOLVED IN PHASE II

32. The issues pertaining to the diesel generator are multi-faceted. They focus on whether Georgia Power and Southern Nuclear repeatedly made false statements to NRC; repeatedly failed to correct the statements, performed an inadequate root cause investigation into the failure of the diesel generators during the Site Area Emergency; failed to follow policies and procedures and, ultimately, whether Georgia Power and Southern Nuclear engaged in an extensive cover-up of the truth. Based on the record as a whole, we conclude that Georgia Power willfully



made false statements to NRC, omitted material information from NRC; failed to adequately investigate the root cause of the site area emergency; and did not follow procedures. Moreover, the record as a whole indicates that Georgia Power engaged in a course of conduct indicative of a cover-up. These conclusions are based on the findings set forth in detail below. The principle reasons for reaching this conclusion are as follows.

**i. Jimmy Paul Cash**

33. According to Georgia Power, the problems with the counts originally started with Jimmy Paul Cash. In fact, after four years of investigation (and after the OI report was issued), Mr. Cash was officially reprimanded by Georgia Power. Tr. 4478 (Cash) The basis of the reprimand was that he "did not do an adequate job in ensuring that the information -- that [he] understood what was being requested from [him] and that the information that [he] supplied clearly presented itself as what it was. Tr. 4479 (Cash).

34. However, the evidence demonstrates that Mr. Cash's count was not the cause of the false statements in either the COAR or the LER, and Mr. Cash was not consulted on the further investigations into the causes of these count problems which resulted in false statements being made in the June 29th letter, the August 30th letter, the White Paper statements and other false statements generated by Georgia Power. Nonetheless, he was not only disciplined but Georgia Power continues to use the misconception (that the Cash list was the basis for the numbers



in the diesel testing slide) as a cause for the false statement in the April 9th presentation and COAR in its 1994 response to the NOV. Int. II-105, p. 3 (Executive Summary).

35. The willingness of Georgia Power to so readily blame Mr. Cash for the problems with the list does indicate the general failure of Georgia Power to conduct any proper root cause analysis in the matter of the COAR/LER false statements. This failure to conduct such a root cause analysis demonstrates both a lack of competence in this area, and demonstrates significant circumstantial evidence of willfulness.

36. Although Mr. Cash did not cause the false information to be placed in the COAR/LER, he did fail to take adequate steps to insure that correct information was given to the NRC. Georgia Power overlooked these performance failures because these failures assisted Georgia Power in covering up the real root cause of the false statements for a period of over five years.

37. The fact that Mr. Cash's count was not the cause of the false information orally communicated in the April 9th presentation (and later incorporated into the COAR and LER) is evidenced by the list Mr. Cash contemporaneously prepared on April 8, 1990. This list, if shown to the NRC on April 9th, contained the detailed information needed for the NRC to properly assist in its determination of the reliability of the DGs. The list contained the date of each "start," a description of potential "problems and failures," the length of each start and the nature of each test or start. On the basis of the list, a

reader could determine when the UV test occurred, the types of starts which occurred after that test, and thus could determine the number of valid starts.

38. The problem in this case does not concern the Cash count, it concerns the far more important question of who decided not to present the Cash count slide to the NRC on April 9th, who subsequently failed to disclose the existence of the Cash list when needed and who failed to make inquiries into either that list or the basis of the Cash count.

39. Even without the Cash list having been created, the extensive knowledge of Messrs. Bockhold, McCoy and Hairston into the nature of the DG testing demonstrates that they either did know, or should have known, that the information contained in the April 9th presentation was misleading, at best.

40. Unquestionably, Mr. Cash created a handwritten list of start counts prior to the April 9th oral presentation. Even though the NRC found, that extensive problems existed in the nature of the oral instructions given to Mr. Cash by Mr. Bockhold at the time Mr. Cash was assigned this task, the information on the list was detailed enough to allow a knowledgeable reader to form an independent judgment on the starts.

41. We also find that Mr. Cash give a copy of this list to no less than three persons. He gave a copy of the list to George Bockhold (Int. II-131, pp. 5-6); Ester Dixon (Tr. 8114, 8130 (Dixon)); and Mr. Burr (Int. II-131, p. 6. All three of these persons were directly or indirectly in communication with the

corporate office, and all three would have provided a copy of this list to Corporate during the normal course of business. However, of the three, only Ester Dixon (George Bockhold's secretary) admitted that she actually obtained a copy of the list. Thus, prior to the oral presentation, Mr. Cash did not keep the existence of his list (or copies of the list) secret.

42. After the oral presentation, and Mr. Cash's observation that a confusion may have been created as a result of the slide used by the Georgia Power presenters (Bockhold/McCoy/Hairston), Mr. Cash's actions become very problematic. After being questioned about his "count" on April 19th by Allen Mosbaugh, he failed to disclose the fact that Burr and Bockhold had actual lists which could be reviewed, and failed to tell Mr. Mosbaugh that Ester Dixon had typed a version of a list. Significantly, neither Mr. Bockhold, Mr. Burr nor anyone in Corporate who had seen the Ms. Dixon typed list disclosed the existence of the list during this time frame. Rather absurdly, Mr. Webb was tasked, at the last minute with recreating a list which already existed in more detail and specificity than any list he would thereafter create. The fact that both John Aufdenkampe and Allen Mosbaugh were kept completely ignorant about the circumstances surrounding the start count is indicated by their having tasked Webb to even conduct a list of starts, when the Cash list was already in existence.

43. The problem Georgia Power (and any person who knew of the Cash list) had was the fact that by April 19th the Cash list

would have demonstrated that both the oral presentation and the COAR were materially false.

44. However, the existence of the Cash list does seem to answer one very troubling question. On April 19, 1990, after being made aware of the concerns about a false statement in the COAR and a potential false statement in the LER, Mr. McCoy discussed this matter with Mr. Bockhold (and others) on the afternoon conference call identified as "call A." During this call, it is evident that McCoy and Bockhold are attempting to word engineer the LER to gloss over these material false statements. But the critical fact which surfaces through the tape, concerns John Aufdenkampe's statement that he has someone out in the field attempting to verify the count numbers. Mr. Aufdenkampe had the solution to both the question of whether there already were material false statements submitted to the NRC and whether the LER would create a new material false statement - obtain a new verification. But Mr. McCoy and Mr. Bockhold ignored this offer and instead relied upon their hearsay verifications. Why did they reject Aufdenkampe's very reasonable suggestion? Simply stated, they both knew of the actual Cash list and knew that what had been presented to the NRC was, at best, grossly misleading. Even more problematic is that on April 19th they were informed by their appropriate management (Aufdenkampe and Mosbaugh), that they had filed material false statements with the NRC. Yet, no investigation or review of these allegations were commissioned.

45. After April 9th, all copies of the Cash list disappeared from site and from corporate. In fact, Mr. Burr asked Mr. Cash for a copy of his list after the oral presentation. That list was never seen again.

46. The fact that Georgia Power employees who were provided a copy of the list (or reasonably would have obtained a copy of the list) all denied having seen the list is not surprising. Given the content of the list, any person who had seen it would have known of the material false statements being committed by Georgia Power.

47. The failure of Mr. Cash to properly identify that his list was not only given to Mr. Burr after the presentation, but had been formally typed as part of the preparation for the oral presentation, was a extremely important performance problem, and indicated that he did not want to properly provide evidence which may provide embarrassing to Georgia Power.

48. Once the Cash list was uncovered, the story previously used to explain the origination of the oral presentation slide and COAR start count numbers begin to unravel. Upon review of his slide, Mr. Cash recalled the actual number of starts he would have orally provided to Bockhold prior to the April 9th presentation. The problem for Georgia Power is that these numbers do not match the numbers Bockhold provided to the NRC. Thus, Mr. Cash could not have been the source for the original start count numbers.

49. Likewise, the Cash list provided further evidence that the type of start count requested by Mr. Bockhold was misleading by its very nature. Mr. Cash testified that, according to the definition of successful start he was using, failures - including the failure of the DGs to operate during the SAE - were considered successful starts. The reason why the NRC issued the original COA letter, and ordered the plant to be shut down until the COA items were properly addressed, was because of the failure of the DG during the SAE. To then create a definition of "successful start" to incorporate the failure of the DGs to start during the SAE, was the apogee of arrogance. Any individual holding the position that Mr. Cash held, and was still willing to count that failure as a "successful start," committed a performance failure. But Mr. Cash's definition was clearly based on a working definition communicated by Mr. Bockhold. This definition was clearly misleading.

**ii. Allen Mosbaugh**

50. Georgia Power has attempted to shift much of the blame for its serious misconduct onto Allen Mosbaugh. This attempt to shift the blame is gravely misplaced and is indicative of Georgia Power's general inability to conduct appropriate root cause determinations. It also constitutes circumstantial evidence of willfulness.

51. Allen Mosbaugh's actions during this time period were exemplary. He properly and correctly raised concerns about the dilution valve incident and appropriately brought those concerns



to the attention of the NRC. He also appropriately raised other potential safety concerns, such a FAVA. On April 10th, when he first saw the COAR letter, he appropriately and correctly questioned the contents of that letter and initiated a review of the dew point material. And on April 19th he properly and correctly identified that materially false information may exist in the COAR letter and warned that the LER may contain false statements.

52. After April 19th, he followed up on his concerns that the COAR and LER may contain material false statements. He worked at home on his own time to put together a list of DG starts which provided a basis for determining the accuracy of the LER statements (and the COAR statements). Upon completion of this list, he promptly informed the Plant Manager of his findings and took appropriate action through the PRB to address these concerns.

53. After being removed from the PRB and all supervisory authority, he continued to press for a resolution of the COAR/LER issues. He powerfully and correctly attempted to insure that Georgia Power did not submit additional false statements to the NRC on June 29th. After determining that his management was hostile to his raising concerns and that they would not properly address his concerns, Mr. Mosbaugh fully cooperated with the NRC in documenting Georgia Power's misconduct. Mr. Mosbaugh fulfilled his duties as a nuclear engineer by bringing his concerns forward to the NRC, working extensively with the NRC

during the OI and OSI reviews and volunteering thousands of hours (while he was an employee of Georgia Power and thereafter) of time in order to assist in the NRC's review of these matters.

54. The branch of the NRC with the primary responsibility for reviewing his concerns (which also extensively interviewed him and informally worked with him for hundreds of hours) found Mr. Mosbaugh to be fully credible. Tr. 11653 (Hayes). Based on our observation of this witnesses demeanor during his 14 days of extensive cross examination, our reading of his prefiled testimony and our review of the statements he made that are documented on various tapes, we find Mr. Mosbaugh to be a very credible witness. On this basis, and on the basis of the other evidence which tended to corroborate Mr. Mosbaugh's testimony, we incorporate by reference the prefiled testimony of Mr. Mosbaugh into this decision.

55. Mr. Mosbaugh's tapes were also critical evidence in this proceeding. We questioned most of the witnesses as to whether, based on Mr. Mosbaugh's actions, they suspected they were being taped. None of the witnesses were aware or suspected taping activities were occurring. None of them observed anything unusual in Mr. Mosbaugh's behavior or the content of his statements that would have led them to believe that he may be setting them up through taping their statements. This indicates that both the statements made by Mr. Mosbaugh and the other witnesses, which were recorded, are reliable. This finding is completely supported by the decision of the Secretary of Labor,

which noted that Mr. Mosbaugh's taping was not disruptive and was kept strictly confidential. Mosbaugh v. Georgia Power, 91-ERA-1 and 91-ERA-11, SOL Decision and Remand Order, at 13-14 (November 20, 1995). The Board notes the following finding of the Secretary of Labor: "No one discovered that Mosbaugh made the tapes until he revealed their existence, and therefore I question whether his behavior can be called disruptive."

56. Given the type of documentation necessary to prove the potential misconduct he was observing, taping was a reasonable method to document the concerns. All of the parties extensively relied upon the tapes as the most accurate record of many of the most important exchanges relevant to this proceeding.

57. The record demonstrates that Mr. Mosbaugh was not part of the decision making structure and did not otherwise participate in the preparations for the April 9th oral presentation, the creation of the slide or the drafting or confirmation of the COAR letter. Thus, Mr. Mosbaugh alleged performance problems did not impact this series of misconduct.

58. Additionally, the record demonstrates that Mr. Mosbaugh was not in any manner responsible for the misconduct which occurred on June 29th, August 30th, or which occurred in other post-April 1990 filings of Georgia Power (such as the "White Paper"). Likewise, Mr. Mosbaugh was not in any manner responsible for the numerous false statements submitted regarding the "dew point."

59. Despite his complete non-involvement almost all of the incidents which gave rise to this proceeding, both Mr. McCoy and Mr. Hairston, during their testimony, attempted to place blame on Mr. Mosbaugh for the misconduct. Tr. 11571, 11598 (Hairston), Tr. 3006-07, 3012, 3030-31 (McCoy) As previously noted in this summary, this testimony of Mr. Hairston and Mr. McCoy demonstrates the complete failure of Georgia Power to conduct an adequate root cause, to properly hold its management accountable for their actions, to properly investigate significant and material false statements files with the NRC and also demonstrates circumstantial evidence of willfulness. Additionally, it is direct evidence of the failure of the applicant and the licensee to demonstrate the appropriate character and competence to have an operating license for Plant Vogtle. Furthermore, in the one matter for which Mr. Mosbaugh had direct involvement - the wording of the April 19th LER - the record demonstrates Mr. Mosbaugh's proper performance.

### **iii. Ester Dixon**

60. Ester Dixon was the secretary at plant Vogtle who was specifically tasked with the assignment of typing proposed slides for the April 9th oral presentation. She commenced working on this assignment on Friday, April 6, 1990 at approximately 4:00 until 6:30. She worked about four hours on Saturday, April 7th and about four hours on Sunday, April 8th. Tr. 8102 (Dixon).

61. When first questioned at a deposition regarding the date on which she typed the Cash list, Ms. Dixon testified (more

then once) that it was typed on either Friday, Saturday or Sunday. Tr. 8115 (Dixon), Int. II-160. Approximately a month prior to testifying at the hearing, Ms. Dixon read the transcript of her deposition and made a number of corrections. Tr. 8118 (Dixon). She did not make any changes to her testimony regarding this issue. However, at the hearing, she testified that she typed the list on the Friday. The Board finds this testimony not credible for a number of reasons.

62. First, there is no reason to disbelieve her earlier deposition testimony, which she did not change although she had the opportunity to read and correct the document. Nothing was placed on the record which would explain why her initial testimony, that she could not remember the day she typed the list, should not be fully credited.

63. Second, Ms. Dixon testified as to the order in which she typed documents into her memory writer system. The Cash lists were the last items typed into system. This supports Mr. Cash's testimony before the OSI that the list was compiled on Sunday.

64. Third, the Georgia Power admissions to Intervenor's First Request for Admission to Georgia Power Company, conclusively demonstrates that the Cash list was not typed on Friday. Georgia Power admitted that Mr. Aufdenkampe was asked to perform this task on Friday evening. If Mr. Bockhold was still attempting to track down someone to put together what is now the

Cash list, it is implausible that he would be engaging in that conduct after he had Mr. Cash's list typed by Ms. Dixon.

65. Moreover, Georgia Power admitted that Mr. Burr, the "expert" on DGs, was not tasked with the assignment later given to Cash because he had to go out of town Saturday afternoon:

Bockhold stated that the reason he did not have Burr, the diesel expert, gather all the diesel test data to include the successful starts, was that Burr was going back to Birmingham, and that Cash would have better access to the logs on the weekend.

OI Report p. 28, para. No. 79 and the corresponding admission by Georgia Power. This OI finding and Georgia Power admission is also fully supported by Burr's testimony and Burr's calendar. See, OI Report p. 22, pars. Nos. 27-28; 31-32 and p. 28, para. No. 80, along with the corresponding Georgia Power admission statements.

66. If the count was done on Friday, why would Bockhold have been concerned about Burr's access to the DG logs over the weekend? If the count was done on Friday, Burr, the DG expert could have performed that task (as it is uncontested Burr did not leave the Vogtle site until Saturday morning at 10:00 a. m.). These admissions, which are fully supported on the basis of the record in this case, and which constitute binding admissions on Georgia Power, impeach Ester Dixon's testimony on this matter. They also indicate how important the factual investigation of the



OI was in properly understanding what happened in this matter.<sup>15/</sup>

67. Finally, Ms. Dixon identified the documents she typed into the system prior to the Cash lists. She also testified as to the length of time it took her to type one of the Cash lists. On the basis of this testimony, Ms. Dixon did not have the time to complete all of her typing during the two and a half hours she worked on the presentation Friday afternoon.

68. In any event, Ms. Dixon testified that the DG Testing slide was already typed into the system prior to her obtaining the Cash list to type. That document already had the 18 and 19 start numbers typed into the slide. These numbers had been placed onto the slide before she even started her assignment and before the Cash list was given to her to type. This again demonstrates that Mr. Cash was not responsible for developing the 18 and 19 numbers. Thus, even if Ms. Dixon's hearing testimony regarding the date in which she typed the Cash lists is credited (which it is not), her testimony still supports the finding that Mr. Cash did not develop the 18 and 19 numbers.

#### **iv. Timing Of The Cash List**

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<sup>15/</sup> The Board has carefully considered the testimony of Mr. Hayes regarding compilation of the OI Report. The Board finds that the conclusions of the OI Report, along with those factual findings used during this proceeding, are fully supported by the record. In fact, the record in this case indicates that some of the OI findings were too lenient, vis a vis, the identification of misconduct. This holding is further supported by the testimony of Mr. Ajluni concerning Georgia Power's issuance of Georgia Power Company's Response to Intervenor's First Request for Admissions.

69. One of the issues the Board must decide is the date in which the Cash list was prepared. Georgia Power premised their responses to various NRC inquiries on assertion that the 18 and 19 numbers which appeared on the DG testing slide and which were used for the COAR letter were developed by Mr. Cash. If these numbers were not developed by Mr. Cash, Georgia Power would have failed to provide any explanation whatsoever as to how the 18 and 19 numbers were incorporated into the DG testing slide and the COAR letter. Georgia Power's failure to meet their burden of proof and production on this matter would raise an inference that Intervenor is correct in his theory that the 18 and 19 numbers were developed in Birmingham with the knowledge and consent of Georgia Power upper management, including Messrs. Bockhold, McCoy and Hairston.

70. The date Mr. Cash performed his count is very significant, because Georgia Power's corporate office in Birmingham faxed a draft copy of the COAR letter to the Vogtle site at 8:47 on the morning of April 7, 1990. If Mr. Cash did not begin his count until after that time, it is indisputable that, contrary to the numerous assertions of Georgia Power, Mr. Cash did not provide the 18 and 19 numbers used in the various false statements submitted by Georgia Power.

71. The Board finds that Mr. Cash prepared his list on the morning of April 8, 1990 and that his list's and his count were not the basis for the information that Georgia Power inserted into the DG testing slide, that it orally communicated to the NRC

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during the April 9th meeting and that it communicated in writing to the NRC in the COAR letter.

72. On August 14, 1990, during his OSI interview, Mr. Cash was questioned as to the date he performed his count. Mr. Cash testified as follows: "I don't remember the date, but it was the day before, I believe, the confirmation meeting in Atlanta".

Int. II-131, p.4. This testimony was given prior to the development of any controversy surrounding the date Mr. Cash made his count. Given the mental mechanism used to remember the date he performed the count, combined with the fact that this testimony occurred only four months after he performed the count and other evidence introduced into the record of this case, this testimony of Mr. Cash is fully credited.

73. Consequently, Mr. Cash could not have been the source of the 18 and 19 numbers inserted into the COAR letter (inserted into the COAR no later than the morning of April 7, 1990) or the DG Slide (inserted into the Diesel Testing slide no later than the afternoon of April 6th).

**v. George Bockhold**

74. George Bockhold was the plant manager for plant Vogtle at all times relevant to this proceeding. His first line supervisor was Ken McCoy and his second line supervisor was George Hairston. Mr. Bockhold was in daily communication with Mr. McCoy, who was in regular contact with Mr. Hairston. He discussed with these individuals important matters related to plant Vogtle. Tr. 2843-44 (McCoy).

75. Given the nature of the SAE, Mr. Bockhold oversaw the testing related to the DGs and kept his supervision informed of these test and informed of problems with the tests. Mr. Bockhold was fully familiar with the testing results for the DGs.

76. Mr. Bockhold asked Mr. Cash to conduct a count of the DG testing starts. As explained in the section on Ester Dixon and Mr. Cash, this task was completed on Sunday, April 8, 1990.

77. Prior to requesting that Mr. Cash conduct this review, Mr. Bockhold had been faxed a draft copy of a COAR letter which had been written in the Birmingham office. Int. II-40. This draft letter contained the 18 and 19 numbers that were included in the diesel testing slide and the final version of the COAR. These numbers were developed in Birmingham and sent to the site. No witness has been able to identify who in Birmingham derived this information, how this information was collected or how this information was verified. Given the fact that Mr. Cash did not complete his count until Sunday, it also appears that Mr. Bockhold was not the source of this start information. Instead, in the absence of any explanation from Georgia Power, the Board finds that Birmingham developed those numbers.

78. In any event, the statement in the Saturday morning draft document could not have been a credible statement to any person familiar with the DG start program - such as Messrs. Bockhold, McCoy or Hairston. However, by manipulating the definition of "successful" start to include failures, such as the start that resulted in the DGs not operating during the SAE, such



numbers could be rationalized. Thus, when Mr. Cash was tasked with his assignment, he was given a very broad definition of "successful" starts - a definition that had no regulatory basis. However, the definition he utilized did enable Georgia Power to justify a start count greater than the 18 and 19 numbers contained in the draft COAR letter.

79. Mr. Cash provided Mr. Bockhold not only with a start count greater than the 18 and 19 numbers provided by Birmingham, he also provided Mr. Bockhold with a copy of a list he drafted documenting each start. This list, although consistent with Mr. Cash's working definition of "successful" starts, could not be utilized by Georgia Power. In fact, any person who reviewed this list would realize, almost immediately, that the statement in the draft COAR letter and the DG testing slide were not correct.

80. Despite the problems with the Cash list, Mr. Bockhold had his secretary type the list as a potential slide for the presentation. This document was presumably faxed to Birmingham with the other proposed slides.

81. The April 9th presentation to the NRC was one of the most significant presentations Georgia Power would make to the NRC. The restart of plant Vogtle depended, in part, on this presentation.

82. The contents of the presentation were fully discussed between Birmingham and the site prior to the actual presentation.

As part of these discussions there was a meeting in Birmingham



on Sunday, in which Mr. Bockhold, McCoy, Ward, Shipman and Rushton participated.

83. Given the record as a whole, the only reasonable assumption is that the slides made from the Cash list were fully discussed in Birmingham and a decision was made not to utilize these slides. The slides contained information which could be interpreted as directly contradicting the DG testing slide and the proposed COAR letter. The Board finds that Georgia Power upper management made the decision not to use the slides made from the Cash list.

84. Because Mr. Mosbaugh was not involved in this decision making process, no tapes exist which document the actual participants of this decision. Unquestionably, Mr. Bockhold was involved, as he had direct access to the Cash list, even before Ester Dixon typed the draft slides. Beyond Mr. Cash, the Board finds that Mr. McCoy and Mr. Hairston would have been involved in this decision. Mr. McCoy attended the Sunday meeting on the oral presentation and was Mr. Bockhold's direct supervisor. Mr. Hairston was Mr. McCoy's supervisor. Given the importance of the oral presentation, it is inconceivable that Mr. Bockhold would make a decision to drop the use of a slide he tasked his secretary to specially type-up without first discussing this matter with his supervision.

85. In any event, the record demonstrates that Messrs. Bockhold, McCoy and Hairston knew, or should have known, that

both the DG testing slide and the statements in the COAR letter were incomplete, inaccurate and misleading.

86. Despite the fact that a detailed list prepared by Mr. Cash existed prior to the NRC presentation, which was provided to management responsible for the presentation, Georgia Power presented information to the NRC which was in direct conflict with the information on the Cash list. This information was both orally presented to the NRC and was presented through a slide documenting DG starts.

87. Furthermore, as fully set forth in this decision, Mr. Bockhold's conduct as plant manager was unacceptable, his testimony in this proceeding was not credible and Georgia Power's handling of Mr. Bockhold's performance problems was "shockingly deficient."

#### **vi. Burr\McCoy\Hairston**

88. Both Mr. Hairston and Mr. McCoy conceded that Ken Burr was an expert of DGs which they relied upon for information on that safety system. Mr. Burr attended the April 9th oral presentation and was in a position to fully understand the false nature of the DG start slide and the oral information transmitted on the DGs.

89. Mr. Cash, who attended the presentation as a spectator only, was approached by Mr. Burr at the close of the meeting. Mr. Burr asked Mr. Cash if he had a copy of his list. Mr. Cash did and provided the list to Mr. Burr. Although Mr. Burr denied this interaction, Mr. Cash's testimony on this matter is

completely credible. Mr. Cash had no reason whatsoever to lie or mislead this Board as to Mr. Burr's request. It is unclear on the record how Mr. Burr learned of the Cash list, but given the fact that the draft slides had been faxed to Birmingham, it is quite likely that Mr. Burr learned of the list from Messrs. Bockhold, McCoy and/or Hairston.

90. Mr. Cash gave Mr. Burr his copy of the list. Mr. Burr left the meeting and travelled back to Birmingham on the company plane with McCoy, Bailey and Hairston. Georgia Power, in the "White Paper," admitted that the COAR was prepared by those three individuals. Int. II-95. The Board finds that Mr. Burr had a copy of the list on his person during the flight back to Birmingham. On this basis it is reasonable to infer that Mr. Burr, the expert on DGs, discussed this list with Mr. McCoy and Mr. Hairston while they finalized the COAR language.

91. On the basis of Mr. Bockhold and Mr. Burr's possession of the Cash list, and the circumstances of Ester Dixon's typing of the Cash list, the Board finds that corporate officials in Birmingham, including Mr. McCoy and Mr. Hairston, knew of the information contained in that list. Despite this knowledge, Messrs. Hairston, McCoy and Bockhold orally and in writing presented information to the NRC which was inconsistent with the material contained in the Cash list. Consequently, Messrs. Hairston's, McCoy's and Bockhold's participation in the transmittal of materially false information to the NRC, both orally and in writing, on April 9, 1990 was willful and

deliberate. This finding is not only supported by the circumstances surrounding the oral presentation and the drafting of the COAR response, it is further supported by the actions taken by Georgia Power after April 9, 1990.

**vii. The April 19 LER**

92. On April 9, 1990 Mr. Hairston personally signed a COAR letter to the NRC requesting the restart of plant Vogtle in the aftermath of a very serious event and a declared SAE. This letter contained material false statements. After issuing that letter, Georgia Power engaged in a number of deliberate and willful actions which resulted in a the submittal of additional false statements to the NRC and in delaying the correction of the April 9th false statements until August 30, 1990. The Board finds that the actions of Georgia Power after April 9, 1990 demonstrate willful misconduct on the part of senior members of Southern Nuclear and Georgia Power management, including but not limited to Messrs. Bockhold, McCoy and Hairston.

93. Directly after the April 9th presentation and the submittal of the COAR letter, questions began to be asked regarding the veracity of those documents. The NRC requested documentation related to the 18 and 19 numbers. Georgia Power never provided the NRC with the documentation. Mr. Mosbaugh, on April 10th, started questioning the "dew point" information provided to the NRC and the start count information. As is fully set forth in this decision, Georgia Power did not take

appropriate steps to review the dew point data and did not conduct an appropriate root cause analysis into this matter.

94. Georgia Power was scheduled to submit an LER related to the SAE on April 19, 1990. During the preparation of this LER Mr. Aufdenkampe and his organization developed questions regarding the 18 and 19 numbers contained in the COAR letter. An early draft of a proposed LER related to the SAE deleted any reference to the 18 and 19 numbers. However, those numbers were reinserted into the LER on the understanding that they had been confirmed by Mr. Bockhold. Tr. 4764 (Aufdenkampe).

95. By the afternoon of April 19th, both Mr. Aufdenkampe and Mr. Mosbaugh had developed enough information to document that the COAR letter contained a material false statement related to the DG operability issue. Likewise, based on their finds related to the COAR, they believed that the proposed LER also contained false information.

96. Mr. Mosbaugh and Mr. Aufdenkampe communicated their concerns regarding the COAR and the LER to the corporate office (which had the final responsibility for the wording of the LER). Specifically, they communicated their concerns directly to Mr. Stringfellow, who had responsibility for coordinating information coming into the LER. In addition, they communicated their concerns to Mr. Shipman. Based on these contacts, and subsequent communications between Mr. Aufdenkampe and the corporate office, Mr. Mosbaugh understood that Mr. Hairston and Mr. McCoy had been

briefed on their concerns and recognized that the COAR and the proposed LER may contain material false statements.

97. After fully communicating their concerns to the corporate office, Georgia Power executives arranged a conference call to finalize the language on the LER and to resolve the DG start issue raised by Mr. Mosbaugh and Mr. Aufdenkampe. Mr. Aufdenkampe, who was the primary contact person for the plant Vogtle PRB, was asked to participate in this call. Mr. Mosbaugh was not informed of this call, and was given a ministerial assignment (arranging a different conference call) at the time the call was scheduled.

98. By accident, Mr. Mosbaugh entered Mr. Aufdenkampe's office during the middle of the conference call. Although he missed the portion of the call in which the parties started their discussion of the false statements which appeared in the draft LER, Mr. Mosbaugh was fortuitously able to record the later part of this conference call. All of the parties heavily relied upon the tape transcript of this call in their findings, and the Board finds that Mr. Mosbaugh's taping of this conversation (and other conversations related to the drafting of the LER) provided essential evidence for properly adjudicating this case.

99. During this conversation, Mr. McCoy and Mr. Bockhold agreed upon inserting the phrase "after the comprehensive test program" into the LER in order avoid having to disclose that there were problems and failures in some of the DG starts. Specifically, Mr. Aufdenkampe and Mr. Mosbaugh had disclosed to



the Georgia Power corporate offices that the phrase in the COAR and draft LER, that the DGs had been tested 18 and 19 consecutive times without problems or failures, was a false statement because there had been problems and failures with some of the starts. By inserting the phrase "after the comprehensive test program" into the LER, Georgia Power wanted to modify the start for which they commenced counting the 18 starts. In this manner, Georgia Power intended to make the LER technically correct.

100. One of the problems with this approach was that neither Mr. McCoy or Mr. Bockhold knew what the "comprehensive test program" was or when it began. In fact the phrase was completely made-up and no one at Georgia Power knew what it meant. When Mr. Mosbaugh would later question Mr. Shipman on the meaning of that term, Mr. Mosbaugh was assured that Mr. McCoy knew what the term meant and had communicated the meaning of the term to the NRC. The Board finds that the "comprehensive test program" was an undefined term, made-up intentionally to insert into the LER in order to avoid having to correct a previously filed materially false statement.

101. The creation of this term on April 19th, and its insertion into the LER, constituted misconduct on behalf of numerous corporate and site personnel, including Messrs. Bockhold, Shipman, McCoy and Hairston. Each of these individuals were fully familiar with the DG testing and knew that there was no such thing as a "comprehensive test program." They also knew that the phrase was inserted into the LER in order to cover-up a

material false statement and to confuse any reader as to the actual meaning of that portion of the LER. The insertion of the term "comprehensive test program" into the LER constitutes direct and circumstantial evidence of willful misconduct. The use of the term constituted a material false statement, inasmuch as there was no such program at plant Vogtle.

102. At the time Mr. McCoy and Mr. Bockhold agreed upon the use of this phrase as a means of papering over Mr. Aufdenkampe and Mr. Mosbaugh's concerns, Mr. Hairston did not appear to be on the conference call. However, shortly after this discussion between Mr. McCoy and Mr. Bockhold, the Board finds that Mr. Hairston did in fact actively participate in this conference call.

103. According to the testimony of Mr. Mosbaugh, Mr. McCoy, and the NRC Staff, Mr. Hairston joined the conference call and immediately asked a question regarding the concerns previously raised by Mr. Mosbaugh and Mr. Aufdenkampe. We credit the testimony of these individuals and find that Mr. Hairston in fact asked the following question: "We got the starts -- So we didn't have no, didn't have no trips?" GPC II-2, p. 11.

104. This question is extremely significant, as it demonstrates that Mr. Hairston had been briefed on Mr. Mosbaugh's and Aufdenkampe's concerns and knew there was an issue regarding potential "trips" of the DG which would have rendered the COAR statement (and the proposed LER statement) incorrect.

105. This finding is supported not only by the above referenced testimony and Tape 58, but also on inferences drawn from the testimony of Mr. Mosbaugh, Mr. Aufdenkampe, Mr. Shipman, Mr. McCoy and Mr. Stringfellow. For example, on the basis of the undisputed sections of Tape 57, it is clear that members of the Birmingham corporate office who were working directly with Mr. Hairston (Stringfellow and Shipman) on the LER were fully informed of the false statements. Additionally, on Tape 57 Mr. Shipman directly states that he will be discussing this matter with his supervisors (Mr. McCoy and Mr. Hairston). Given the respect for the chain-of-command within the Georgia Power system, and given Mr. Hairston's "hands-on" involvement in the LER, it would be inconceivable that Mr. Hairston was not fully briefed on this matter. Furthermore, in his testimony Mr. McCoy admitted to being aware of the Mosbaugh/Aufdenkampe concerns. It is also inconceivable, given the nature of the reporting structure at Georgia Power and the importance of the LER, that this matter was not fully discussed between Mr. McCoy and Mr. Hairston.

106. The Board finds that Messrs. Bockhold, McCoy and Hairston were fully aware of the Mosbaugh/Aufdenkampe concerns about the COAR and draft LER prior to the execution of the LER by Mr. Hairston on the late afternoon of April 19th. Despite this actual knowledge, none of these individuals took any reasonable steps to verify the Mosbaugh/Aufdenkampe concerns, to investigate or correct the potential false statement in the COAR or to even

question Mr. Mosbaugh on the basis of his allegations. These actions amount to willful misconduct.

107. Furthermore, the Board finds that Mr. Bockhold and Mr. McCoy engineered the language of the draft LER in an attempt to paper-away the Mosbaugh/Aufdenkampe concerns. Likewise, Mr. Hairston agreed to this change (i.e. the insertion of the phrase "comprehensive test program") despite the fact that neither he nor Mr. McCoy nor Mr. Bockhold knew what that phrase meant. The insertion of this phrase into the LER and the execution of the revised LER, constituted willful misconduct by Mr. Bockhold, Mr. McCoy and Mr. Hairston. The insertion of that phrase as a result of learning of the Mosbaugh/Aufdenkampe concerns constitutes deliberate wrongdoing and extremely troubling willful misconduct.

108. Tape 58 contains a disputed portion. After hearing the testimony of all of the parties regarding the meaning of this portion (and, to the best of the Board's collective ability, listening to this section of the tape), the Board credit's the intervenor's testimony on this matter. Although the tape is extremely hard to decipher, Mr. Mosbaugh was a participant in that call, knew the voices of the participants, had listened to these voices on numerous tapes, had carefully reviewed this segment of the tape and had some independent recollection of this conversation. On the other hand, Mr. Hairston completely failed to offer any probative testimony on this tape and could not deny intervenor's interpretation. Tr. 3620 (Hairston). Likewise, although Georgia Power refused to agree that Mr. Hairston stated

"So we...didn't have no trips", Georgia Power's own witnesses (including Mr. McCoy) admitted that the intervenor's interpretation of this section of the tape was accurate.

109. Finally, the Board found Mr. Mosbaugh's testimony on the meaning of this segment of the tape extremely credible.

110. For the reasons set forth above, the Board finds that after Mr. Hairston asked the question "So we...didn't have no trips", the following sequence of statements occurred:

Shipman: No, not, not . . .

McCoy: Let me explain. I'll testify to that.

Shipman: Disavow. What else do we have, Jack?

GPC II-2, p. 14.

111. In addition, the Board finds that these statements were made directly to the individual participants of that conversation (who were sitting in the room together) and were not necessary intended to be communicated as part of the conference call. However, because the speaker phones were connected to the conference call, these statements were picked up on other telephones, including the phone used by Mosbaugh.

112. These statements made by Mr. Shipman and Mr. McCoy are extremely troubling to the Board. They indicate that Messrs. Hairston, McCoy and Shipman fully understood the implications of the Mosbaugh/Aufdenkampe allegations (a finding fully supportable on the record even without reliance upon the disputed portion of the tape) and were formulating a response to questions which may arise in the future about their decision to engineer the LER.

The "just disavow" statement made by Mr. Shipman accurately summarizes much of Georgia Power's subsequent responses to questions related to these material false statements.

113. The contents of tapes 57 and 58, together with the record as a whole, support a finding of deliberate wrongdoing and willful misconduct. Georgia Power's attempt to pass the blame for the material false statements onto Mr. Mosbaugh are not supported by the evidence. These attempts indicate the continuing failure of Georgia Power to conduct a proper root cause analysis of these matters and the continuing failure of Georgia Power to take appropriate responsibility for their actions.

114. Mr. Mosbaugh (and to a lesser degree Mr. Aufdenkampe) were the only managers attempting to document and to correct the false statements in the COAR and the draft LER. When Mr. Aufdenkampe informed Mr. McCoy (his third line supervisor) that there was an ongoing verification effort concerning the actual start count for the LER, Mr. McCoy and Mr. Bockhold decided to resolve the LER language without waiting for the verification process to be complete. Once Mr. McCoy and Mr. Bockhold inserted the "comprehensive test plan" phrase into the LER, neither Mr. Mosbaugh nor Aufdenkampe were in a position to effectively challenge the veracity of the LER. This fact was made perfectly clear after Mr. Mosbaugh questioned Mr. Shipman as to the meaning of the phrase, and Mr. Shipman informed Mr. Mosbaugh that Mr.



McCoy had discussed the phrase with the NRC and the matter was resolved.

115. In the face of this conduct, Mr. Mosbaugh acted appropriately. Immediately after April 19th, instead of letting his concerns drop (as all the other persons had apparently done), Mr. Mosbaugh conducted an independent verification effort into some of the problems with the COAR and the LER. Once he properly documented those concerns (a process which took almost ten days), he memorialized them in a memorandum to Mr. Bockhold and initiated the actions which would eventually result in the correction of the COAR and the LER.

#### viii. The Correction Of The LER

116. On April 30, 1990 Mr. Mosbaugh informed Mr. Bockhold, in writing, of the problems with the LER. By May 10th, Mr. Bockhold had been informed not only of the material false statements within the LER, but also the false statements within the COAR. He also was informed, by Mr. Mosbaugh, that the problems with the LER were not the same as the problems with the COAR.

117. Given the chain of command structure, the close reporting relationship between Bockhold-McCoy-Hairston and the formal actions taken by the PRB between April 30, 1990 and May 10, 1990, the Board finds that the supervisory chain of command above the level of Mr. Bockhold (which would include McCoy and Mr. Hairston), knew that false statements existed within the COAR and the LER and knew that corrections to these statements had

been either approved or formulated at the plant site level. The failure of the management of Georgia Power at the plant manager level and above to take prompt action as a result of Mr. Mosbaugh's April 30th memorandum and the subsequent actions of the PRB constitute reckless disregard to the reporting requirements imposed by the NRC and constituted direct and circumstantial evidence of willfulness concerning Georgia Power's knowing involvement in the original false statements.

118. Also, at this time, Georgia Power's poor management practices at plant Vogtle and Birmingham were the subject of an unprecedented meeting between representatives of the highest levels of the NRC staff and upper Georgia Power/SNOPCO management (including McCoy and Mr. Hairston but excluding Mr. Dahlberg). At this meeting Georgia Power's management was brutally criticized as sporting a "cowboy cavalier".

119. Despite being advised, point blank, by the NRC of its serious communications problems, Georgia Power continued its insupportable management practices. At a meeting of Mr. Bockhold and Mr. McCoy with plant employees, Mr. McCoy admitted to some management problems but still failed to properly address the issues. "We've heard you, but it hurts and we don't really agree." Mr. Bockhold, the highest management representative on-site and the first or second line supervisor of almost every important manager on-site frankly told his employees how he viewed the NRC criticism:

I believe that fundamentally we are not cavalier. We don't have a cowboy attitude.

We are concerned about nuclear safety. We do not cut corners. I believe we make good decisions.

GPC II-183A.

120. Nothing changed at plant Vogtle as a result of the NRC-Georgia Power "cowboy cavalier" meeting. The Board notes that although there was testimony from the NRC staff about improvements at plant Vogtle as a result of Mr. Bockhold leaving the plant manager position, this change in position was completely unrelated to the NRC's criticisms, any suspected misconduct or any desire of Georgia Power to remove the plant manager for any performance related reason. In fact, Georgia Power aggressively defended the actions of Mr. Bockhold throughout the NRC OI investigation and the enforcement proceedings of the NRC Staff. Even at this hearing, when Mr. Hairston first testified he had strong praise of Mr. Bockhold's performance as plant manager:

I believe in my mind that he was trying to do a good job, and trying to get the factual information there.

GPC II-183A.

121. The failure of Georgia Power Company, through its management counsel and through its chief executive officer, Mr. Dalhberg, to take any action whatsoever to investigate the root cause of the material false statements and the "cowboy" attitudes identified by the NRC reflects the complete abdication and loss of control over plant Vogtle by the legal licensee. Moreover,

the failure of Dalhberg to take any action whatsoever on these matters - after material false statements were identified in two extremely critical licensing documents and after the highest levels of NRC management brutally criticized SNOPCO and plant Vogtle upper management - demonstrates that the identification of Mr. Dahlberg as a "hand on" manager to the NRC Commissioners was a material false statement. Furthermore, this lack of action demonstrates conclusively that the statements in Georgia Power's response to the 2.206 petition regarding the loss of control issues were neither candid, accurate or complete.

122. On May 10, 1990 Mr. Mosbaugh, through the PRB, issued an action item to George Bockhold to correct the false statements in the COAR. By this time, Mr. Bockhold fully understood that the false statements in the COAR would also indicate that he personally committed misconduct at the oral presentation and that any correction of the COAR would be highly embarrassing to him and his chain of command, Mr. McCoy and Mr. Hairston. That day, Mr. Bockhold removed Mr. Mosbaugh as a member of the PRB. Mr. Mosbaugh was informed of this decision through a memorandum distributed on May 11, 1990.

123. The Board finds that the removal of Mr. Mosbaugh as a member of the PRB was a direct retaliatory action and constitutes additional circumstantial evidence that the written material false statements submitted to the NRC by Mr. Hairston (along with the material false statements which were communicated at the oral presentation) were willful. In this regard, the Board takes

official notice that the NRC is bound by the determination of the Secretary of Labor that Georgia Power illegally discharged two high level managers (Mr. Hobby and Mr. Mosbaugh) in violation of Section 210 of the Energy Reorganization Act. However, the Board arrives at its conclusion that Mr. Mosbaugh's removal from the PRB was improper and constitutes additional circumstantial evidence of willfulness on the basis of the record presented in this case.

124. Although some members of the PRB were mandated by regulatory or plant commitments, the plant manager had broad discretion to appoint members to the PRB, including non-voting or alternative members. In some capacity, every major manager [and their close subordinate(s)] at the plant site were members of the PRB. Mr. Mosbaugh had been a member of the PRB since its inception, and had been a member of the organization which predated the PRB. Although Mr. Greene was returning to work at Vogtle, there was no requirement whatsoever that Mr. Mosbaugh be removed or replaced as a member of the PRB. Moreover, Mr. Bockhold "considered Mr. Mosbaugh to be very technically competent in engineering." Tr. 3811 (Mosbaugh).

125. It is incomprehensible that absent some ulterior motive, Mr. Bockhold would remove his most knowledgeable manager and an experienced and senior member of his management team from the PRB.

126. The Board recognizes that, as a matter of law, the timing of a personnel action gives rise to an inference of

discriminatory or improper motive. For example, in numerous cases arising under the Energy Reorganization Act the Secretary of Labor and the U.S. Courts of Appeal have held that, as a matter of law, "temporal proximity" alone between protected conduct and a adverse action gives rise to a legal inference of discrimination. See, e.g. County v. Dole, 886 F.2d 147, 148 (8th Cir. 1989); Bechtel Construction Company v. Secretary of Labor, 50 F.3d 926, 934 (11th Cir. 1995) ("proximity in time is sufficient to raise an inference of causation" of discrimination under the ERA).

127. Additionally, the Board, on the basis of its own review of the evidence, and as a matter of law, finds that Mr. Bockhold had, prior to removing Mr. Mosbaugh as a member of the PRB, warned Mr. Mosbaugh that whistleblowing activities could result in his removal from positions of authority or employment at plant Vogtle. Significantly, in this regard the Board agrees with the finding of the Secretary of Labor in Mr. Mosbaugh's Section 210 claim:

Mosbaugh observed that senior manager' attitudes toward him changed after the company learned of the NRC-OI investigation. The plant's General Manager, George Bockhold, told Mosbaugh that "if you can't conform" to company standards, "you need to get out." Mosbaugh observed that plant employees were afraid to disagree with management's opinions.

Mosbaugh v. Georgia Power Company, 91-ERA-1 and 91-ERA-11, Decision of the Secretary of Labor, pp. 2-3 (November 20, 1995).

128. The Board finds that given the timing of Mr. Mosbaugh's removal, Mr. Bockhold's direct culpability in the concerns Mr.



Mosbaugh had raised, the unprecedented nature of assigning the plant manager with an "action item," and the prior conduct of Mr. Bockhold support a finding that Georgia Power's removal of Mr. Mosbaugh from the PRB was retaliatory. This finding constitutes additional direct and circumstantial evidence of willfulness.

129. After being removed from the PRB, Mr. Mosbaugh initiated personal contacts with the NRC and an investigator from the NRC's OI. Also, on June 6, 1990 he filed a formal complaint with the U.S. Department of Labor alleging discrimination as a whistleblower. Prior to Mr. Mosbaugh's filing his DOL complaint, no action was taken at the corporate level regarding correcting the LER or COAR. Other members of site management also noted that corporate's inaction on these matters was unusual:

It was unusual for any NRC-related report to go up to corporate and not be looked at for several weeks.

Webb Rebuttal at 11. We find it significant that it was not until after Mr. Mosbaugh filed his DOL, corporate management took immediate action to correct the LER.

130. On June 8, Mr. Aufdenkampe and Mr. Mosbaugh were questioned by corporate representatives conducting a review of the LER for Mr. Hairston. The comments made during this discussion indicate that corporate understood the nature of the false statements and were informed that the false statements were caused by problems which were unrelated to the June 29th explanation of the LER/COAR false statements, i.e. it was a rushed job, there was too much confusion and there were no

adequate checks. The Board believes that the subject matter of this conversation would have been communicated to Mr. Hairston and Mr. McCoy in the normal course of business.

131. Additionally, around June 8th, Mr. Hairston requested that the QA Department conduct an audit to determine the correct numbers. Mr. Ajluni was the overall QA manager responsible for the audit. The on-site QA manager responsible for the audit was Mr. Frederick.

132. According to taped statements made by Mr. Frederick on June 12th, the Mr. Frederick was under the impression that the original scope of the audit was very broad. "Everything" was being reviewed for the audit.

133. However, for unexplained reasons, the final scope of the audit extremely narrow. In fact, the final audit was, by its own admission "narrow scooped." The auditors did not interview any of the person responsible for the material false statements and did not purport to find the root cause of the problem. Instead, the audit speculated about a plausible but unverified potential explanation of root cause, i.e. "record keeping." It is incredible that, although the audit indicated that "record keeping" may have been the cause of the problem, the auditors did not review the primary records used by Mr. Cash to create his list.

134. The Board finds that the fact that the audit ordered by Mr. Hairston was latter narrowed constitutes direct evidence of willfulness on behalf of Mr. McCoy and Mr. Hairston. Both of

these individuals were fully aware of most (if not all) of the true circumstances which led to the insertion of material false statements in important documents submitted to the NRC. Even if they did not directly know the actual cause, they knew that only through interviewing Mr. Bockhold, Mr. Cash and others, could the actual cause of the problem be identified. Additionally, there was no legitimate reason to confine the scope of the auditors and commission a "narrow scooped" audit on this matter. Why would Mr. McCoy and Mr. Hairston want only a "narrow scooped" audit? If Messrs. McCoy, Hairston, McDonald, Dalhberg, SNOPCO and Georgia Power had the character and competence to operate a nuclear facility, they would have attempted to determine who was responsible for the false statements and why they committed those actions. Given the nature of the false statements, prompt and aggressive corrective actions were necessary to insure that such episodes never occurred again. Instead of correcting these problems, Georgia Power and SNOPCO, through its managers Mr. Hairston and Mr. McCoy, continued to sign-out documents which contained additional material false statements.

135. Mr. Hairston and Mr. McCoy's handling of the audit - from its initial inception, to the narrowing of its scope, to its inconclusive and insupportable finds and to its use in creating the June 29th document, all evidence a lack of character and competence. Additionally, these actions strongly support the contention raised by the intervenor and strongly support a finding of willfulness in this matter.

#### ix. The June 29th Letter

136. The Board finds that the June 29th letter, executed by Mr. Hairston is direct evidence of willful misconduct. Additionally, it is circumstantial evidence that Mr. Hairston and Mr. McCoy engaged in willful misconduct during the original NRC oral presentation, the COAR letter and the LER filing.

137. Unlike other documents at issue in this case, in which the author of a particular number or phrase is ambiguous, in regard to the June 29th letter, there is an individual with direct-first hand knowledge of contemporaneous statements of Mr. Hairston and Mr. McCoy's involvement in the letter. The Board found Mr. Mosbaugh's tape of the June 29th conversations, admitted as GPC II-44, to be instructive.

138. That tape not only documents the direct involvement of Mr. Hairston and Mr. McCoy, it also documents the fact that the audi results were being misused to rationalize an untruthful explanation of the COAR and LER events. Prior to June 29th, numerous individuals in direct communication with Mr. McCoy and Mr. Hairston were informed of the reasons for the misstatements within the COAR and LER. However, none of those explanations were investigated and none of the individuals with direct knowledge of the events were interviewed. On June 29th the site was informed that the letter the PRB was asked to approve had significant input by Mr. Hairston and Mr. McCoy, the senior level management. The total breakdown in appropriate management responses was such that, upon being informed that Mr. Hairston

had written a sentence which was not true, a responsible manager backed down from his original objections to certain untruthful sentences within the letter. As stated by Mr. Horton: "I think it's wrong, but I certainly think Mr. Hairston knows more than I do." GPC II-44, p. 2:3-4.

139. The June 29th tape speaks for itself. It demonstrates a complete breakdown in the PRB decision making process and the power that Mr. Hairston and Mr. McCoy had over the responsible managers on-site. The tape demonstrates that, similar to the actions which occurred on April 19th, Mr. Mosbaugh again informs responsible management that Georgia Power is about to file a new material false statement. Once again, Georgia Power, willfully and with careless disregard submitted a new false statement. This false statement is extremely significant as it tended to cover-up and hide the real reasons for the original misconduct.

140. By June 29th, the pattern of misconduct exhibited by Messrs. Bockhold, McCoy, Hairston and responsible Georgia Power management demonstrates direct and circumstantial evidence of willfulness. On June 29th, not only did Mr. Hairston and Mr. McCoy fail to properly identify the causes of the prior false statements, they compounded the problem by submitting additional false statements. This conduct was not acceptable.

**x. August 30th Letter And The Pattern Of Conduct**

141. As stated by Mr. Mosbaugh on June 29, 1990, the June 29th letter failed to identify the causes of the material false



statements in the COAR letter. By August, 1990 the NRC had realized this deficiency and asked that Georgia Power address the COAR letter issues. Once again, corporate officials, led by Mr. McCoy, took direct charge of this issue and drafted the letter for the NRC. This letter again demonstrated a complete failure of Georgia Power to conduct an adequate root cause review and again demonstrated the extreme reluctance of Georgia Power to properly identify and correct the wrongdoers. Once again, managers within the PRB were pressured by Mr. Bockhold to accept the "directed resolution" of this matter from Corporate. Once again, material false statements were submitted to the NRC.

142. In addition to the August 30th letter, Georgia Power filed other material false statements to the NRC related to the DG issues. The White Paper contained a number of false statements. Additionally, as set forth in this decision, Georgia Power continued to submit false statements in response to the 2.206 petitions and during this proceeding.

#### **x. Dew Points**

143. The dew point issues are addressed in parts VII through X of this order.

#### **V. FINDINGS OF FACT**

##### **A. Site Area Emergency**

1. On March 20, 1990 Vogtle Unit 1 experienced a loss of vital AC power and residual heat removal at mid-loop with the reactor coolant system and the containment boundaries breached and a Site Area Emergency ("SAE") was declared. Mosbaugh at 8.



2. On Tuesday, March 20, 1990, the day of the SAE, the weather was cold for that time of year. Mosbaugh at 12, Int. II-6. See also Demonstrative Aid 1.

3. Unit 1 was shut down for refueling and the reactor coolant system was drained to midloop with the water level just 5 feet above the top of the core. Unit 2 was in operation at full power. A loss of off-site power ("LOSP") occurred when a fuel truck on site knocked down the power line that supplied off-site power. Mosbaugh at 12.

4. At the time of the LOSP the transformer supplying the other off-site source had its oil drained for maintenance. The only remaining source of power was to be the two diesel generators. Diesel 1B was also out of service for maintenance. Diesel 1A started but tripped after about a minute; operators attempted to start the diesel again but again it tripped after about a minute. A Site Area Emergency was declared 15 minutes after the loss of all safety grade AC power. Mosbaugh prefiled pp. 12-13.

5. The diesel finally started and continued to run thirty-six minutes after the initial loss of power and thereby ended the reactor heatup. Mosbaugh at 13.

6. Immediately after the site area emergency, the NRC assembled an Augmented Inspection Team ("AIT"), which included Messrs. Ken Brockman from NRC Region II and Richard Kendall from NRC headquarters. The AIT arrived at Plant Vogtle on March 22, 1990. McCoy at 2.

7. On March 23, 1990, the NRC issued a Confirmation of Action ("COA") letter. GPC II-4. The letter provided, among other things, that Georgia Power was not to restart Unit 1 without NRC approval. It further quarantined equipment involved in the incident. A quarantine order was subsequently issued by the NRC concerning diesel generator equipment. GPC II-4; GPC II-65.

8. On March 25-26, 1990, the NRC replaced the AIT with an Incident Inspection Team ("IIT"), headed by Mr. Al Chaffee. Mr. Kendall carried over from the AIT to work on the IIT. Mr. Brockman was not an IIT member, but became the NRC Region II point of contact for the IIT. McCoy at 2.

B. Motive

i. **Hairston Philosophy**

9. Mr. Hairston stated that he has two goals in operating a nuclear plant: "staying on the line and short re-fueling outages". He also states that safety is not a goal but a foundation. Tr. 9387-88 (Hairston).

10. The nuclear operating philosophy espoused by Mr. Hairston is that which was introduced by Mr. Farley.

11. On August 6, 1990, Mr. McCoy made the following statement regarding scheduling refueling outages:

Let me make a comment again and be sure that everybody understands this because -- there's been some discussions in some of the other plants of SONOPCO that were not adhering to this and so we had some discussion at the highest levels including Mr. Farley, McDonald, Hairston and the three VP's about our scheduling

philosophy for outages...The conclusion of that discussion was that optimum means the basically shortest schedule that you are able to do something in -- everything goes right. That you do not put any contingency or extra time in there and after lots of discussion everybody agreed that that was the right way to do the scheduling.

Int. ex. 5 (Phase 1).

12. Mr. Farley specifically remembered discussing nuclear operating outage philosophy for the SONOPCO project, in a management type of meeting, he could not remember if it was at a SONOPCO project "retreat" headed by Farley that was attended by all SONOPCO project executives, and which did not involve Mr. Dahlberg. Tr. 1840-41 (Farley).

13. He also stated that there was agreement that there shouldn't be a lot of contingency time in outage planning. Tr. 1841 (Farley).

14. Mr. Farley's involvement in establishing the Plant Vogtle and Plant Hatch outage philosophy evidences his control over GPC's nuclear operations.

**ii. Cost of Generation**

15. Mr. Bockhold stated to Mr. Mosbaugh it was sometimes better, given the value of generation of these plants, "just to take the violations." Tr. 8907 (Mosbaugh).

16. Mr. Bockhold told the managers that he wanted the IIT team off-site as soon as possible and that the longer they stayed the more they would find. Mr. Bockhold wanted to get the plant up and running quickly. Mosbaugh at 26, Int. II-19.

17. The NRC IIT began its investigation at Plant Vogtle on March 25-26, 1990. McCoy at 2.

18. The NRC put a hold on Plant Vogtle, and it could not restart without NRC permission. To obtain restart Georgia Power was required to file a Confirmation of Action (COA) letter. Plant Vogtle personnel were informed to preserve evidence and the "as found" condition of equipment especially on the diesel generators so that the cause of the failures could be determined. Mosbaugh at 13.

19. During this time period, Georgia Power explained that the root cause was due to the intermittent failures of the jacket water switches. Mosbaugh at 27, Int. II-20.

20. At that point there was not any data or test results on the jacket water sensors that demonstrated it was likely that two CALCON sensors simultaneously experienced intermittent actuation resulting in two separate trips of the diesel on March 20, 1990. Mosbaugh at 27.

21. Management and outage personnel pushed the schedule while the critique team struggled to find the root cause. Frequently in this time period the root cause testing did not get support because outage activities were given priority. This approach was criticized by other Georgia Power managers. Mosbaugh at 27-28, Int. II-21, Int. II-22, Int. II-247.

22. We find that this philosophy provided a motive for Georgia Power to mislead the NRC about diesel generator

reliability and air quality by making material false statements to convince the NRC that it was appropriate to grant restart.

C. Intimidation of Mr. Mosbaugh.

23. Mr. Mosbaugh has been criticized by Georgia Power for not being more forceful in asserting his concerns, not bringing up the diesel start statement on the conference call with Mr. Hairston. However, the record demonstrates that Allen Mosbaugh did reasonably report his concerns even in the face of intimidation.<sup>16/</sup> While Mr. Mosbaugh did not feel comfortable raising his concerns with senior executives he did however bring them up with his counter-parts. The Board recognizes the fact that Mr. Mosbaugh felt intimidated by a series of events that had occurred between January 7 and March 20, 1990. These events significantly increased Mr. Mosbaugh's concern about the management culture, his hesitation in directly confronting senior executives as well as his ability to be heard when advancing concerns within such a culture. Mosbaugh at 8.

i. "Backstabbing Meeting"

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<sup>16/</sup> We also note that the Secretary of Labor has recently held that Georgia Power illegally terminated Mr. Mosbaugh's employment for raising safety concerns. Many of the facts presented in Phase II of these proceedings concerning Georgia Power's intimidation of Mr. Mosbaugh for raising safety concerns have been validated by the Secretary of Labor inasmuch as the Department of Labor's finding that Georgia Power violated the Energy Reorganization Act when it discharged Mr. Mosbaugh. We are bound by the Secretary's determination that Georgia Power, in fact, violated the ERA when it terminated Mr. Mosbaugh in 1990 for documenting and reporting the very safety concerns that have been presented in these proceedings.



24. The first event occurred on January 19, 1990, the "backstabbing" meeting, after which Mr. Mosbaugh felt intimidated upon finding out that Mr. Bockhold viewed his pursuing the dilution valve issue, as "not supporting the directed resolution" and that my actions were considered "backstabbing". This meeting increased his concern because Mr. Bockhold did not address the failure to comply with regulations. Mosbaugh at 8, Int. II-133.

25. Mr. Bockhold called a meeting with both Messrs. Mosbaugh and Kitchens. When Mr. Mosbaugh enter the room he saw the word "backstabbing" written on the white board. In the meeting they talked about their faults. Mr. Bockhold stated that some of Mr. Mosbaugh's faults were that he would not support the "directed resolution" of problems and issues. Id. Mr. Mosbaugh interpreted Mr. Bockhold to mean that this was an inadequacy that in his performance. Tr. 5401 (Mosbaugh). Mr. Kitchens reviewed Mr. Mosbaugh's notes of this meeting and stated that he had no reason to believe they contained any inaccuracies. Tr. 13606 (Kitchens), Int. II-133.

26. Mr. Bockhold also made statements regarding the fact that there had to be a unified position between the Assistant General Managers and the General Manager. Tr. 5402 (Mosbaugh), Int. II-133.

27. While the meeting addressed the faults of both Messrs. Mosbaugh and Kitchens, we feel it was focused at Mr. Mosbaugh. The writing of "back-stabbing" on the white board indicated to Mr. Mosbaugh that it was considered "back-stabbing" of Mr.



Kitchens by sending an allegation to the NRC involving dilution valves, which alleged that Mr. Kitchens had violated technical specifications. Tr. 5402 (Mosbaugh).

28. Mr. Bockhold admits that the word backstabbing was probably on the board and that it was intended for Messrs. Mosbaugh and Kitchens to see. Tr. 13347 (Bockhold).

29. Mr. Bockhold and other people at the plant knew the entire history of the dilution valve allegation. They knew that Mr. Mosbaugh was the one who brought up and pursued the issue. Tr. 9406 (Mosbaugh).

30. Therefore when Mr. Rogge, the resident inspector, inquired into the dilution valve allegations shortly after January 9, 1990, it was natural for Georgia Power to suspect Mr. Mosbaugh (or at the very least, someone within Mr. Mosbaugh's organization) had brought the issue to the attention of the NRC. Tr. 9407 (Mosbaugh).

31. The fact of Mr. Mosbaugh's raising this issue internally and then raising it with the NRC, along with the fact that Mr. Bockhold held a meeting where he brought the accuser and accused together and wrote back-stabbing on the white board in his office, were far too connected to have been coincidence.

32. Mr. Bockhold stated that the purpose for this meeting was to counsel Mr. Mosbaugh because his attitude and cooperation were not improving. Bockhold Rebuttal at 3. However he admitted that a month later he gave Mr. Mosbaugh a performance review that stated his communication skills were "fully acceptable." Tr.

13332 (Bockhold), Int. II-232. Mr. Bockhold also told Mr. McCoy during this period that Mr. Mosbaugh's communication skills were improving. Int. II-233.

33. Additional evidence of Mr. Mosbaugh's fears of intimidation and retaliation includes the fact that he took precautions similar to the ones stated by Mr. Blake during cross examination, when submitting his allegation, i.e. wearing gloves when handling the allegation before mailing it to the NRC, using pre-printed labels from other correspondence and mailing it from a zip code other than his own. Tr. 9414 (Blake) and (Mosbaugh). Mr. Mosbaugh admitted that these precautions proved insufficient due to the fact that he would be the logical conduit of this information to the NRC. Id. (Mosbaugh).

34. Mr. Mosbaugh did not want the company to know that he was taking that issue to the NRC. He feared retaliation. Tr. 10606 (Mosbaugh).

35. Nothing occurred after this meeting to change Mr. Mosbaugh's conception of what occurred at this meeting. In fact he still had these feelings on April 19, 1990. Tr. 5403 (Mosbaugh).

#### ii. Questions About the Source of the OI Investigation

36. The next event occurred on January 29, 1990, when the Office of Investigations came on site to investigate the dilution valve allegation. Shortly after OI first came to site and they met with Mr. Bockhold and apparently informed him of the investigation. Mosbaugh at 9, Tr. 10867 (Mosbaugh).

37. Mr. Bockhold stopped by Mr. Mosbaugh's office and started asking questions about what he knew about the OI's interest and their pending investigation; what the source of that might have been. Id.

38. This appropriately intensified Mr. Mosbaugh's feelings of intimidation due to the fact that he was the manager over the Quality Concerns Program yet he had never previously been asked about the source of an allegation. Mosbaugh at 9.

**iii. Professional Training in "Yes, Sir"**

39. On February 7, 1990, Mr. Mosbaugh met with Mr. Bockhold to go over the plans of his department managers to down size their organizations to meet overall goals. The next day Mr. Mosbaugh was to be interviewed by OI regarding the dilution valve allegation. Mr. Bockhold, who knew of the interview, made statements to Mr. Mosbaugh such as: "[H]e had professional training in the Navy in saying 'yes, sir'" and "Al if you can't conform and accept then you need to get out." Mosbaugh at 9, Int. II-134.

40. Mr. Mosbaugh felt that this was like an ultimatum that if he could not conform and accept, i.e. accept the directed resolution and go along with management, then he needed to leave Georgia Power. Tr. 5406 (Mosbaugh). Shortly after the meeting Mr. Bockhold mentioned that NRC OI was going to be interviewing all of the PRB members which included Mr. Mosbaugh. Tr. 5407 (Mosbaugh).

41. While Mr. Mosbaugh was distressed by this management attitude, he stated that due to his experience in the industry it did not totally shake his self-confidence, and he could still perform his job. Tr. 9434 (Mosbaugh).

42. Nothing occurred after this meeting to indicate to Mr. Mosbaugh that this was no longer his instructions. He still believed this was the way management felt on April 19, 1990. Tr. 5406 (Mosbaugh). Mr. Mosbaugh did not have enough information on April 19th to feel comfortable in challenging the directed resolution of the LER. Tr. 5407 (Mosbaugh).

43. Georgia Power tried to suggest that Mr. Mosbaugh was merely paranoid to believe management knew he was the alleger. Tr. 9432 (Blake). We disagree with this characterization of Mr. Mosbaugh. We find that Mr. Mosbaugh's feelings of retaliation were valid.<sup>12/</sup> It is reasonable to infer that Georgia Power management felt, knowing of Mr. Mosbaugh's concerns regarding this issue, that he was the source of the allegation. This is especially so when taking into consideration that Messrs. Bockhold and Kitchens had taken a unified defensive posture toward Mr. Mosbaugh's concerns at an earlier meeting. Tr. 9417 (Mosbaugh). We find that Mr. Mosbaugh acted appropriately in

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<sup>12/</sup> We take note that the Secretary of Labor found that after Mr. Mosbaugh reported safety concerns to the NRC, Mr. Bockhold "intentionally did not invite Mosbaugh to a meeting of the plant managers concerning how to prepare for the [NRC] inspection," and that Mr. Mosbaugh "later overheard Vice President Ken McCoy state that the special inspection occurred 'because of some immature behavior on the part of an employee or employee alleger.'" Mosbaugh, supra., slip op. of SOL, pp. 5-6.

expressing his concerns in the face of pervasive intimidation.<sup>18/</sup>

D. Attempt to Use SSPI Data to Demonstrate Diesel Generator Reliability

44. Mr. Mosbaugh's testimony included a discussion of the communication of certain "Safety System Performance Indicator" data to the NRC. Mosbaugh at 99-104. We ruled that this testimony was admissible to show a pattern and the "state of mind" that existed at Georgia Power. Memorandum and Order (Motion to Strike Mosbaugh Testimony) (May 11, 1995) at 19.

45. Georgia Power provided the NRC IIT team with a document on April 2, 1990, which was subsequently designated IIT Document No. 143. Int. II-89; Bockhold Rebuttal at 21. This document was used to give the impression that Vogtle's diesels were reliable even though they were experiencing problems because they had been more reliable than other industry diesels. The Safety System Performance Indicator ("SSPI") data for the diesel generators for

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<sup>18/</sup> The fact that Georgia Power has discriminated against whistleblowers has now been conclusively determined as a matter of law in Hobby v. Georgia Power. Hobby is probative because the decision-makers involved in that case had executive authority over Plant Vogtle during the time directly related to this proceeding. As noted earlier, this decision has collateral estoppel effect upon the NRC's Licensing Board in all matters related to harassment and discrimination and the conclusions drawn by the Secretary of Labor in the Hobby decision are incorporated herein. Moreover, Georgia Power's contentions in this matter have been conclusively refuted by the findings of the Secretary of Labor in Hobby and in Mosbaugh v. Georgia Power.



1990 was intentionally omitted, resulting in a misrepresentation of diesel generator performance. Mosbaugh at 99-104. The SSPI-related statements were made to present the diesel engines in an inaccurately favorable light as part of Georgia Power's April 9 request to restart Unit 1. Tr. 10363 (Mosbaugh), Mosbaugh at 99, Int. II-89, Int. II-90.

46. The SSPI data is an industry standard measure of Diesel Reliability and Availability. It is calculated by taking the average of each individual diesel generator SSPI value at a particular licensed unit. GPC II-140.

47. The SSPIs for individual diesel generators are calculated using a formula of dividing the unavailable hours (planned, unplanned and estimated) by the total number of hours the diesel generator is required to be operational during the period of time for which the SSPI is being assessed. GPC II-140 at 1-2.

48. The SSPI is a numerical value representing the amount of unplanned hours in a time interval when the diesel was not available to perform its safety function divided by the total hours in the time period expressed as a decimal. It is a representation of availability and reliability used as a standard in the Industry and is reported to INPO. INPO requires SSPI reports on the key PWR and BWR safety systems, such as Emergency AC power (Diesels), Auxiliary feedwater, and High Head Safety Injection. Since SSPI is based on unplanned unavailable hours, the major reason for SSPI hours is unexpected trips, failures and



problems with the diesels. Mosbaugh at 101-102. GPC used the SSPI data to claim that its diesels had been more reliable than other industry diesels. Mosbaugh at 100, Int. II-89.

49. The Safety System Performance Indicator (SSPI) Data for Vogtle's Unit 1 and Unit 2 diesels for 1990 was omitted from the document given to the NRC. Mosbaugh at 101, Int. II-89.

50. A draft of the COA letter contained the same SSPI table as that in Int. II-89. Mosbaugh at 101, Int. II-91. Mr. Bockhold also planned to give this information to Mr. Brockman of the NRC. Mosbaugh at 101, Int. II-92, Int. II-93 (the document discussed in the transcript).

51. The SSPI data in question was presented to the NRC by George Bockhold. Mosbaugh at 100. Bockhold Rebuttal at 21. The SSPI data on diesel reliability presented in IIT Document No. 143 is set forth below:

#### **Diesel Reliability**

In 1989 Vogtle diesels were more reliable than other nuclear industry diesels.

#### Safety System Performance (Emergency AC Power -- BWR & PWR)

	<u>1987</u>	<u>1988</u>	<u>1989</u>
US BQ	0.010	0.009	0.012
US MEDIAN	0.017	0.017	0.020
SISTERS	0.027	0.033	0.030
VOGTLE U1		0.05	0.006
VOGTLE U2	0.04		0.006

52. Given the calculation methodology for SSPI, the greater the number, the less reliable the diesel generator was in terms of its availability when it was needed. The 1987 and 1988

numbers were worse than the industry averages; the numbers were much better than the industry for 1989. Tr. 14164 (Bockhold).

53. SSPI is normally computed and reported monthly by the site but it can be computed for any interval. The SSPI data on exhibits Int. II-89, 91, and 93 the Unit 1 values for 1987 are for only about half a year. The data for 1990 was available. Mosbaugh at 102.

54. Vogtle's 1990 SSPI was about 13 times higher than 1989. Vogtle's SSPI numbers were far worse than industry averages, about four times higher than the U.S. median. Mosbaugh at 103.

55. There had been four unexpected failures of the diesels in 1990 prior to the SAE. Two failures to start from an inadequate air roll supplied from the diesel air system, one trip attributed to a CALCON sensor circuit and one failure from an electrical problem on the generator end of the diesel. Mosbaugh at 102.

56. Two days after the information was provided to the NRC, on April 4th, Mr. Mosbaugh, Mr. Aufdenkampe and Mr. Gus Williams reviewed a document "similar to" IIT 143. Tr. 10367 (Mosbaugh). The document which they discussed "had a table like the one" contained in IIT Document No. 143. Tr. 10368 (Mosbaugh). This conversation was recorded by Mr. Mosbaugh. Int. II-94.

57. Messrs. Williams and Aufdenkampe told Mr. Mosbaugh that the data was available. They stated that the 1990 numbers, at that point, were ".08" and that those values were "really shitty."

58. The SSPI data year-to-date at the end of February, 1990 for Vogtle's four diesel generators was 0.0804. GPC II-140 at 3. This is the same value discussed on April 4, 1990 between Aufdenkampe, Bockhold and Williams. Int. II-94, II-94A and II-94B. They told him that 1990 data was left off the table because it "looks really shitty". Mosbaugh at 102, Int. II-94.

59. A review of the transcript of the relevant conversation shows that Mr. Williams told Mr. Bockhold that the 1990 SSPI numbers were not very good. Mr. Williams states, in the recorded conversation, that upon presenting the numbers to Mr. Bockhold he explained their values: ". . . so that's why I didn't give him 1990 numbers, and I told him that, and we discussed it, we discussed this Sunday [April 1], how bad it looked for 1990, for both Units." Int. II-94 (Segment 3), II-94A at 6, II-94B at 6 (emphasis added), Mosbaugh at 103.

60. Mr. John Aufdenkampe's Technical Support organization at the site was responsible for preparing the SSPI data. Tr., 4849 (Aufdenkampe). Mr. Aufdenkampe testified that he did not know why the February 1990 year-to-date SSPI data was not included in the information which was provided to the NRC IIT team members; he had no recollection of the specific reasons for that decision or who made that decision. GPC II-140 at 4.

61. Georgia Power suggests that Mr. Williams withheld the information on his own, this does not explain why Mr. Bockhold chose to withhold the information. We believe that this is a prime example of knowingly providing misleading information to

the NRC. It is clear that Mr. Williams had already had a conversation with Mr. Bockhold about the 1990 data and Mr. Bockhold had made the decision not to include the 1990 data in the document provided to the IIT "because it might look bad." Tr. 10369 (Mosbaugh).

62. Despite the taped conversation, Georgia Power also suggests that Mr. Bockhold may not have been aware of the 1990 data. In addition, Mr. Bockhold does not believe he would have felt it appropriate to present that data for several reasons. The data would have covered two months in 1990 and would not have been meaningful. There would not have been any corresponding industry average to compare it against. Bockhold at 21. We find that the purpose in presenting the data was to show the reliability of the Vogtle diesels as compared to industry reliability, however, the ultimate reason for this was to prove the Vogtle diesels reliable. Therefore this misrepresentation is highly material.

63. Georgia Power further states that in addition to providing the NRC with SSPI data and sensor problem lists, Mr. Bockhold explained to the NRC on April 2nd that Georgia Power had experienced problems with the sensors during overhaul times, and that when the engines were run during overhaul periods, the Plant had problems and switches were replaced.<sup>12/</sup> Bockhold Rebuttal at

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<sup>12/</sup> We understand that there is no direct correlation between sensor failures and the SSPI calculated values of unavailability. Tr. 14166 (Bockhold). For example, a failure during overhaul might not affect the unavailability of the diesel because it was already out of service.

22; GPC II-77 at 14-15, 18. Because the focus of inquiry was the 1A diesel and sensor failure problems, Bockhold believed Georgia Power was providing the NRC with information that was relevant at that particular time. Tr. 14165 (Bockhold). This is irrelevant to the fact that during a period where the NRC had heightened interest in all information provided regarding diesel reliability Georgia Power would feel it appropriate to provide highly misleading information. The NRC's decision on restart was probably broad based. Tr. 1065 (Mosbaugh). It should also be noted that since this was the only data given to the NRC before April 9, the omission is even more vital. This omission is evidence of an attempt by Georgia Power to paint a rosy picture to ensure that restart was granted.

64. The omission of the 1990 SSPI data from the table supplied to the NRC was material, even though we would not expect that the table was something that the NRC would solely rely on in determining diesel reliability, it is information it would consider in making its decision. Mosbaugh at 104, Tr. 10364 (Mosbaugh).

E. April 2, 1990 IIT Discussion; Basis for Diesel Start Count.

65. On April 2, Mr. Bockhold participated in a meeting with the IIT Team. During this meeting plant Vogtle personnel were questioned by Mr. Chaffee as to the number of successful starts since March 20. Board II-2.

66. In the discussion that ensued Mr. Stokes stated that there were possibly eight successful starts. Board II-2. We questioned Mr. Stokes regarding this statement during the hearing. Tr. 6989-99 (Stokes).

67. Mr. Stokes stated that he tended to agree with Mr. Owyong's statement that there were approximately six starts. Tr. 6991 (Stokes). Mr. Owyong was at the site during the troubleshooting effort and was knowledgeable about the number of starts during the time period. Tr. 6992 (Stokes).

68. A recent review of completion sheets apprised Mr. Stokes that there were four starts after the static logic test and the sensor calibration test that were performed to verify proper venting through the sensors and verify that the logic was working correctly in that condition prior to going on into some of the other testing. Tr. 6993 (Stokes).

69. He stated that the UV testing and the water slug testing, would be classified normally as a successful start if the engine received the signal and came up to ratable frequency without any problems. Tr. 6993-94 (Stokes).

70. When asked if it was credible that there would have been nine tests during the period April 2nd to April 9th, Mr. Stokes responded that it could have been and that he would have known if there had been. Therefore, if Mr. Bockhold would have asked him he would have advised him that 17 was a high number. Tr. 6995-96 (Stokes), Board II-2. Using "it could have" seems



to be a popular basis for statements made by Georgia Power personnel.

71. Mr. Stokes stated that he did not know if Georgia Power performed nine different tests in that seven-day period. He stated that the most increased frequency would be one or two days of testing. Tr. 6997-98 (Stokes).

72. This demonstrates that the actual start history was on the minds of key GPC personnel before April 9, 1990, and it establishes an NRC expectation of the basis to begin counting, after the switches were replaced "because that's what you currently have in place," as Al Chaffee stated. It also establishes that Bockhold and GPC personnel had no difficulty whatsoever accurately answering an impromptu question by Chaffee about successful starts counts, from memory alone, within seconds. In addition, it demonstrates that there was no confusion about the definition of the term successful start, and therefore no one needed any discussion of the definition of the term successful start to provide Chaffee the answer to his question on April 2, 1990. Mosbaugh at 44, Board II-2.

73. Most significantly it establishes that Bockhold had the information available to him that demonstrated that the maximum start count he could claim on April 9, 1990 for DG1A was 12.

F. Prior Knowledge of Diesel Failures.

74. Mr. Mosbaugh made a duty report on March 24, 1990 to Messrs. McCoy and Bockhold about the problem with start 136 on

DG1B. They both expressed to him that the problem in the logic could have been related to the cause of the SAE on the 1A diesel. Mosbaugh at 45, Int. II-50, p. 5.

75. On March 22, 1990 Mr. Mosbaugh also made a duty report of a 1B diesel trip on starts 132 and 134 to Bill Shipman and Paul Rushton. Mosbaugh at 45, Int. II-51.

76. Mr. McCoy routinely participated in the morning call from the site. On the March 23, 1990 morning call there was a discussion about the trip of "B" DG on "Hi lube oil temp," a CALCON sensor (start 132). On March 26, 1990 during a morning call and during a McCoy staff meeting there were discussions regarding a problem on "B" DG that was found in the shut down ("S/D") portion of "the logic board." These discussions demonstrate Mr. McCoy's knowledge of diesel problems and trips. Mosbaugh at 46, Int. II-52.

77. The knowledge of the trips and problems on starts 132 and 136 gave Messrs. McCoy and Hairston<sup>20/</sup> the ability to determine that the COA response letter diesel start statement was inaccurate, incomplete and misleading. Mosbaugh at 46.

78. GPC personnel had the successful start count in mind when preparing for the April 9, presentation. They also understood the meaning of successful starts and Mr. Bockhold knew that the maximum successful start count he could claim on April

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<sup>20/</sup> The record reflects that Mr. Hairston was a "hands-on" manager and paid close attention to details. For example, he received telephone calls every morning from Mr. McCoy keeping him informed on daily occurrences at the plant. Tr. 3633, 11531 (Hairston).

9th, was 12. The process of submitting information that is to be provided to the NRC to the PRB for review was not utilized and, therefore, the information given to the NRC during the April 9, 1990 presentation was not verified. Mosbaugh at 44, Int. II-45.

79. Georgia Power's knowledge of diesel failures is demonstrated by the conflict in testimony between Messrs. Stringfellow and Bockhold. Mr. Stringfellow testified that he does not have recollection of the discussions that took place in the conference call recorded on tape 58, before the taping begins. Tr. 4036 (Stringfellow), GPC II-2. However, from his review of the transcript of tape 58, he believes that Mr. Bockhold would have known about the diesel starts and failures on April 19, 1990. Id.

80. Mr. Stringfellow bases his inference that Mr. Bockhold is knowledgeable on the fact that he discusses the comprehensive test program during the conference call. Tr. 4037 (Stringfellow).

81. Mr. Stringfellow understood, based on discussions that he had at some point during that day with Mr. Bockhold, that the trips and failures were occurring after the comprehensive test program. Therefore, he believed that the LER was correct with respect to April 19th, at that time, as well as the April 9th letter. He believed that they were based on the same data. Tr. 4040 (Stringfellow).

82. However, Mr. Bockhold stated that when he was participating in the April 19th call, it was indicated to him

that there were plenty of starts. He was not aware of any problems. Tr. 3499 (Bockhold).

83. Mr. Bockhold also stated that did not remember anyone questioning the accuracy of the April 9th letter before the term comprehensive test program was introduced, except to state that the number of starts could have been higher. Tr. 3500 (Bockhold).

84. The evidence shows that Mr. Bockhold knew the April 9th numbers were suspect on April 19, 1990, yet he allowed the LER to be sent out with inaccuracies. The inconsistency in this testimony is significant in that it demonstrates Georgia Power's lack of candor. It seems that time after time Georgia Power had the information necessary to avert repeating false statements but failed to use it.

G. Georgia Power Prepares to Request Restart from NRC.

85. NRC presentations typically involve the preparation of slides and other background information. Mosbaugh at 43; Tr. 3376 (Bockhold); Tr. 7848 (Ward).

86. The normal practice for making a presentation to the NRC was for management to review copies of slides and other potential presentation materials and conduct a "dry run" of the presentation. The final determination as to what was to be presented would be made by Corporate management. Mosbaugh at 43-44.

87. Mr. Ward's notebook demonstrates that a high-level discussion was planned for Sunday, April 8, 1990. Int. II-17 at project no. 48001. According to Mr. Ward, he had been asked by Mr. Bockhold to call Mr. McCoy, Mr. Shipman, and Mr. Rushton to find out when they should schedule their review of the draft of the COA response letter. Mr. Ward confirmed that everyone would be available for April 8, 1990 conference call to commence at 1:30 that afternoon. Tr. 7797-99 (Ward).

88. Mr. Bockhold admitted that he transmitted documents to Birmingham in advance of the presentation. Tr. 3401 (Bockhold). Mr. Hairston stated that although he did not do a detailed review of the slides he did thumb through them before he went to the airport. Tr. 3599 (Hairston). It is apparent from this Mr. Hairston knew or should have known that the Cash slides existed but were not used in the presentation.

89. It was Georgia Power's normal practice to prepare back-up information and slides to respond to NRC questioning. The circumstances surrounding their development demonstrates that the "Cash lists" were prepared for the presentation. Mosbaugh at 44, Int. II-42. Intervenor presented the position that the slides of the "Cash lists" were pulled from the final presentation. We find that Georgia Power has not presented sufficient evidence to rebut this assertion.

H. Diesel Start Counts Prior to April 9 Presentation.

i. **NRC Asks for Start Count**

90. Mr. Kendall was part of the IIT team which was at plant Vogtle the day after the event and stayed for about 10-12 days. He reported directly to Mr. Chaffee. Tr. 5043, 5037 (Kendall). One of Mr. Kendall's responsibilities was to determine root cause. Tr. 5019 (Kendall).

91. By April 9, 1990, based upon everything he had done at that point, Mr. Kendall did not have a solid factual basis to render an opinion as to whether the diesel generators should be considered operable. Tr. 5034 (Kendall).

92. When Mr. Kendall first saw the diesel testing slide he compared it to the data in his notes and found that there was a discrepancy. He therefore assumed there must be some test for which IIT did not have data. Tr. 5055-57 (Kendall).

93. Mr. Kendall kept detailed notes of the diesel testing. After returning to Washington, D.C. he created a list based on his notes to determine all the starts that were made, all the characteristics concerning the start, what the signal was that started the engine, how long the engine was run, what tripped the engine, whether it was just a manual stop or whether it was two out of three high jacket water temperature trip or whatever. This list spanned from March 20 to April 9 or 12. Tr. 5042-43 (Kendall).

94. Mr. Kendall recalled that Georgia Power personnel were questioned in April, as to whether his count was the same as their count on the number of starts of the diesel generators. Tr. 5046 (Kendall).



95. He stated that Mr. Chaffee was particularly concerned about discrepancies concerning numbers of starts. He had requested Mr. Kendall to look into that to try to determine the number of starts that the NRC had and try and see if it correlated with numbers of starts that were provided by Georgia Power in other information. Tr. 5047 (Kendall).

96. Mr. Kendall stated that he was concerned during the April 10th conference call that he did not have 16 starts on his list but that Georgia Power was stating it had 16 starts. Tr. 5053-54 (Kendall), GPC Ex. II-31 at 5; Aufdenkampe at 4-5. Mr. Kendall stated that he had a list that Mr. Kochery had provided but it only went through the first phase of troubleshooting. GPC II-31 at 5. This was an issue Mr. Chaffee was concerned with and pursued. Tr. 5055 (Kendall).

97. Mr. Kendall participated in the IIT teleconference on April 10, 1990. During this call Mr. Kendall asked Mr. Stokes to give him a call so that he could explain to him what information he had and so Mr. Stokes could provide any additional information to help complete the picture, i.e. any starts that were missing. Tr. 5049-50 (Kendall). Mr. Kendall does not recall whether or not the NRC ever received what they considered to be a complete and accurate list. Tr. 5055 (Kendall)

98. Mr. Aufdenkampe has some recollection of Mr. Beacher putting together information for the IIT including a list of starts. Tr. 4756-57 (Aufdenkampe). He believes that a list of starts through April 1st was provided to the IIT on May 9, 1990.

Aufdenkampe at 18; Tr. 4757-58, 5650-51 (Aufdenkampe); GPC II-10 (IIT Document No. 336).

99. We find it unthinkable that Georgia Power did not ensure the NRC received the information it requested. Georgia Power knew the NRC wanted a list of starts, yet the typed list prepared for the April 9, 1990 presentation was not provided to NRC. This is further evidence of the cavalier attitude that persists at plant Vogtle throughout Georgia Power.

I. The "Cash List".

100. Convincing evidence is found in the Cash list that Georgia Power willfully made false diesel start statements to the NRC in Mr. Bockhold's April 9, 1990 oral presentation and in the April 9, 1990 COA. The Cash list was prepared for the April 9th presentation and contained all the information necessary to know that the diesel start information that Georgia Power formally presented to the NRC to gain restart was inaccurate and incomplete prior to its being submitted.

101. It is no wonder that Georgia Power and the personnel who knew about it failed to reveal its existence time after time when there were clear and logical opportunities to do so. See GPC II-2, GPC II-15.

i. **Initial Preparation**

102. We find a detailed examination of the testimony regarding the preparation of the "Cash list" [Int. II-41] to be revealing.

103. As set forth in the introduction section of this brief, Jimmy Paul Cash researched and wrote a detailed list of DG starts at the request of Mr. Bockhold. This list was prepared on April 8, 1990. Mr. Cash made a hand written listing of the Unit 1 A & B diesel starts from the Control Room logs. Mr. Cash met with Mr. Bockhold and gave him the start count list. Cash testified, in his August 14, 1990 OSI interview the he "turned the data over to Mr. Bockhold and he prepared some point papers . . . ." Int.

II-131, p. 5. Then, the secretary (Cash thought this individual was Gloria Walker, but according to Ester Dixon, she typed the Cash list) specially tasked by Bockhold to assist in the preparation of materials for the upcoming April 9th NRC presentation, typed the six page list. Int. II-43, pp. 12-17.

104. Georgia Power's NOV response states that Cash counted the 18 and 19 starts for the April 9th presentation. Int. II-105, p 3 of the "REPLY TO NOTICE OF VIOLATION EA 93-304" ("The Unit Superintendent confirmed the number which was placed on the transparency.").. Mr. Cash did not supply the numbers on Mr. Bockhold's diesel testing slide above the line (the numbers in parenthesis). Tr. 4455 (Cash). Georgia Power cannot identify who did.<sup>21/</sup> Tr. 10859 (Burr). Mr. Cash testified the number of starts above the line on the diesel testing slide add up to 18 and 19. Id. Also see Intervenor demonstrative aid \_\_\_\_\_. We believe this to be true. Many questions arise concerning Georgia Power's explanations, from the fact that one can arrive at the 18 and 19 start count included in the slide without using the control logs. Some of these questions are where did the 18 and

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<sup>21/</sup> Georgia Power stated in their response to Intervenor's request for admissions that they "believe[d] Mr. Burr assisted Mr. Bockhold in developing the Diesel Testing overhead." Int. II-168, p. 8, ¶¶ 31-32. Mr. Burr denies having any part in the preparation of the overhead, and furthermore, states that he had not seen the data until April 9, 1990, when he saw Mr. Bockhold's presentation. Int. II-39, p. 22, ¶¶ 31-32. Burr could not help the weekend before the presentation because he had to travel to Birmingham on Saturday morning. Int. II-39, p. 28, ¶80, Int. II-168, p. 14, ¶80. This is yet another instance demonstrating that Georgia Power never got to the bottom of the issue as to where the 18 and 19 start numbers came from.

19 starts came from, what was the real nature of Mr. Cash's start count assignment, what was the intended purpose of the typed Cash list, and who knew about it?

105. Mr. Cash was not the source of the 18 and 19 start numbers which appeared on the DG slide and in the COAR letter. Those numbers had been formulated by Georgia Power before Mr. Cash even started his count. They were incorporated into a draft COAR response prior to Mr. Cash commencing his count. They were incorporated into the DG testing slide prior to Mr. Cash performing his count.

106. Significantly, Ms. Dixon testified that the 18 and 19 successful starts were below the line on the bottom of a handwritten draft of Bockhold's Diesel Testing Slide, base system document 059, before she began typing at about 4:00 p.m. on April 6, 1990. Tr. 8167 (Dixon). Ms. Dixon testified that the word processor she used automatically organized the base system numbers in chronological order. Tr. 8105 (Dixon). The Base system documents 005 and 006 were the last two documents in the series of documents that became Bockhold's slide presentation to the NRC on April 9, 1990. See Int. II-44.

**ii. Bockhold's Knowledge of the  
Existence of the Cash list**

107. We ask ourselves what discourse would have occurred between the general manager and the operations superintendent when Mr. Cash returned to Mr. Bockhold's office to report on his diesel start count assignment and informed Mr. Bockhold that his count of diesel starts did not add up to 18 and 19, but instead

27 and 23? Tr. 4464 (Cash). We would be surprised if this mismatch did not lead to Mr. Bockhold questioning Mr. Cash on the details, looking at Mr. Cash's hand written list and asking him to review it further. Even if Mr. Bockhold carelessly assumed that the totals 27 and 23 were greater than 18 and 19 there would still be the issue of the accuracy of the numbers in parenthesis on the slide to resolve.

108. In Mr. Cash's earlier testimony to the OSI, in which we believe Mr. Cash is more straightforward, he stated that he gave Mr. Bockhold both the number of starts and the list. OI Ex. 9, pp. 4-5. We therefore find it likely that Mr. Cash did supply Mr. Bockhold with a copy of his hand written list in the course of presenting his diesel start count information.

109. After Mr. Cash brought his diesel start count information to Mr. Bockhold, Mr. Cash worked with Ms. Dixon for several hours just outside Mr. Bockhold's office door helping her get the diesel start list typed. Tr. 8114 (Dixon). Ms. Dixon estimated that it took about one and a half hours to type the start list for just one diesel. Tr. 8130 (Dixon). Mr. Cash placed numerous calls trying to obtain additional information for the list while Ms. Dixon typed. Tr. 8124 (Dixon). Mr. Cash made numerous corrections and Ms. Dixon became frustrated with Mr. Cash's continuing changes. Tr. 8128 (Dixon). We find it unlikely that Mr. Cash would have made a typing assignment and tied up the "boss' boss' boss' secretary" in this manner when she was working overtime on Mr. Bockhold's NRC presentation with



neither Mr. Bockhold's direction, permission or knowledge. This is particularly significant, since this is a document which Georgia Power contends was neither intended to be a slide nor part of the April 9, 1990 presentation.

110. We ask ourselves if Mr. Cash was done with his task, having used his hand written list as an aid to obtain a total of starts, two numbers (18 and 19), which he had already given to Mr. Bockhold for Mr. Bockhold's diesel testing slide, why would he of his own accord ask Ms. Dixon to type his hand written list, especially since she was busy working on Mr. Bockhold's presentation.

111. Mr. Cash's numerous phone calls for additional diesel start information further convinces us that Mr. Cash's start list had another planned use. Mr. Cash's efforts to refine the list make no sense if Mr. Cash had already completed his task of supplying or verifying the diesel start numbers. We find it more likely that Mr. Cash's efforts with Ms. Dixon and his phone calls were a result of his discussions with Mr. Bockhold on the list and that he was calling various personnel trying to get information to address Mr. Bockhold's comments.

**iii. Comparison of Cash's list with the  
Unit Control Log**

112. Mr. Cash testified that he used the Unit Control Log to prepare his list. Tr. 4415 (Cash). We have found that a detailed comparison of the Cash list entries to the entries in the Unit Control Log tells us a lot about the purported use of this list. The starts on the typed Cash list are substantially

similar to the ones contained in the Unit Control Log. All the comments are generally the same as in the Unit Control Log with a few notable exceptions. In a few cases additional explanatory information was added to the Cash list and in a few cases important Unit control log information has been omitted from the Cash list.

#### **iv. Time Span of the Cash List**

113. In reviewing the Cash list, we note that the list does not begin on March 20, 1990 as does Mr. Bockhold's Diesel Testing slide, but instead on February 26, 1990 for DG1A and on February 24, 1990 for DG1B. If Mr. Bockhold requested a count of diesel starts to verify his diesel testing slide, why would Mr. Cash collect unneeded information outside the time span of the diesel testing slide to make his start count for Mr. Bockhold? If, however, Mr. Cash's list was being formatted as a potential NRC presentation slide, the dozen pre-event diesel starts shown would have been of considerable interest to address the initial conditions and recent history of diesel starts immediately before the SAE event at the NRC presentation.

#### **v. Additions to the Comments Column**

114. On page four of Intervenor's exhibit 41 there is a comment for DG1A start on March 20 at 08:20; "LOSP occurred - Lost 'A' RAT-DG1A tied and tripped (Several alarms came in- not noted in the log)". The first portion of this comment is taken verbatim out of the Unit Control Log (Staff II-23) but the portion in the parenthetical is not. Why would Mr. Cash add a

parenthetical comment in his list completely unnecessary to making his start count? On the other hand, if this list was being considered as NRC presentation material this elaboration on the start that initiated the SAE makes sense.

115. This page also contains a comment for DG1A start on March at 08:56; "Emergency Break Glass Start Locally to recover from Station Blackout." Int. II-41. The first portion of this comment is taken verbatim out of the Unit Control Log (Staff II-23) but the "to recover from Station Blackout" is not. Why would Mr. Cash add a generalized explanatory comment like this to his list, completely unnecessary to making his start count?

116. The next two entries on page four are not diesel starts or stops. The entry for March 20th at 10:29 is "RAT 'B' Energized" and the 10:40 entry is "1BA03 Energized from 'B' RAT." These events have nothing to do with counting diesel starts. Why would Mr. Cash make entries in his list not related to counting diesel starts? They would be important in explaining the timetable of the restoration of AC power in a presentation about the SAE.

117. Also on page four there are three starts for DG1A on March 20, 1990, at 21:19, 22:23 and 22:33. The explanatory comment "Troubleshooting" for each of these starts is not in the Unit Control Log. If Mr. Cash was only to get the totals of starts why would he add this comment in his list. If, however, the Cash list was being considered as a companion or backup slide to Mr. Bockhold's Diesel testing slide then the "Troubleshooting"

comment would fit with the "5 Starts, Troubleshooting" on Mr. Bockhold's Diesel Testing Slide.

118. On page two of the Cash list for DG1B contains a start entry for March 28, 1990, at 13:50, the comment is "Start to Perform Functional Test for MWO-189-03281 (Lo Lube Oil Pressure Trip Flow Orifices)." The entry in the Unit Control Log for this start is "1B D/G emergency started per 13145-1 for testing." Why would Mr. Cash add this explanatory information unnecessary to making a start count? Again, if the list was being considered as a companion or backup slide to Mr. Bockhold's Diesel testing slide then the entry would fit with the "Lube Oil DCP Run on Bockhold's diesel Testing Slide."

#### **vi. Deletions from the Comments Column**

119. Page two of the Cash list contains the entry for March 24, 1990 at 00:48. "Started for Maintenance" is taken verbatim from the Unit Control Log but the very next entry 00:49 has key information deleted. Int. II-41. The Unit Control Log quotes verbatim from the annunciator window caption "trip high temp jacket water" (See NUREG 5-26, 5-27) and further comments "alarm setpoint is 200 F on 2/3 sensors, jacket water temperature is 147 F, continuing to operate while monitoring temperatures." The Cash list omits the "trip" information and calls the alarm a "Hi jacket Water Temp" alarm. This omitted information would have been of significance in making a successful start determination.

120. The entry on page 5 for DG1A on March 30, 1990, at 19:20 is "emergency start" and at 21:15 it is "Stopped." Int.

II-41. The Unit Control Log entry for 19:20 is A-DG emergency break glass start and for 21:15 is "DG1A tripped, testing of sensor (hi jacket water temperature). This omitted information would be significant in making a successful start determination.

121. The numerous examples cited above provide a pattern of direct and circumstantial evidence that only makes sense if the Cash diesel start list was planned to be more than an accounting tool for obtaining a sum of starts. We find that at least at some point it was planned to be a presentation slide or a backup slide and that Mr. Bockhold knew about it. We conclude that Georgia Power modified the list after April 6, 1990, and that at some point Georgia Power concluded that the slide would raise too many questions and decided to eliminate it from the NRC presentation.

J. April 9, 1990 Presentation.

122. The April 9, 1990 presentation at Region II was attended by Messrs. Hairston (then the Senior Vice President), McCoy, Bockhold, Bailey, Frederick, Burr and Mr. Cash from Georgia Power and a large number of NRC personnel, including IIT personnel who participated via telephone conferencing.<sup>22/</sup> See

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<sup>22/</sup> We must state at the onset of our discussion concerning the April 9, 1990 presentation and letter that we find it inconceivable that neither Mr. Stokes, the diesel systems engineer, who was amongst the most knowledgeable, if not the most knowledgeable, person at the plant site concerning diesel testing, nor anyone in his chain of command, i.e., Messrs. Kochery, Horton, Mosbaugh, had any involvement in preparing or reviewing materials related to the April 9, 1990 presentation, nor did they review the April 9th letter. Tr. 6967, 7325 (Stokes).

Georgia Power II-12, Enclosure 1. A number of transparencies were used by Georgia Power during the presentation, including one which contained information on the diesel testing and the number of successful starts. GPC II-21. A part of this transparency was inaccurate.

123. Georgia Power admits that one of the transparencies was materially misleading. Tr. 3612 (Hairston). This transparency infers that, once the diesels were declared operable, there were 18 and 19 successful starts of the diesel generator following the Site Area Emergency.

124. During the presentation, Mr. Bockhold was asked by Mr. Matthews if he could draw a comparison between the "successful start" term used in the transparency with terminology NRC was more familiar. Tr. 14791-92 (Matthews). Mr. Bockhold responded that they had not counted the starts that way and never provided an explanation about how he counted the starts identified in the transparency. Tr. 14792 (Matthews).

125. Mr. Cash attended the April 9, 1990 presentation but did not participate. Tr. 4477 (Cash). Following the presentation, he raised a concern to Mr. Bockhold concerning the NRC's interpretation of the diesel testing slide. Mr. Cash felt that, based on his observations, NRC could be confused that the transparency was referring to "valid successful tests." Mr. Bockhold told Mr. Cash that the number of the starts shown on the transparency were clearly prior to the time the diesel was declared operable and so everyone knew he was not referring to



valid successful tests. Bockhold at 10-11; Cash at 6-7; Tr. 4392, 4421 (Cash).

126. Mr. Cash gave the original "Cash list" to Mr. Burr after the presentation. Tr. 4481 (Cash).

**i. Statements Made During Presentation**

127. Mr. Kendall reported to Mr. Chaffee. Tr. 5043, 5037 (Kendall). He had the responsibility to determine the root cause for the IIT. Tr. 5019 (Kendall). As of April 9, 1990, Mr. Kendall did not have a solid factual basis to render an opinion as to whether the diesel generators should be considered operable. Tr. 5034 (Kendall).

128. Mr. Chaffee and Mr. Kendall could not reconcile the starts identified in the diesel testing slide presented during the April 9, 1990 presentation. Mr. Chaffee was particularly concerned about this discrepancy and asked Mr. Kendall to look into it. Tr. 5046-47, 5055 (Kendall).

129. Following the presentation, NRC Region II, NRR and IIT officials, including Messrs. Stewart Ebner, Al Chaffee, David Matthews, Jim Partlow, Steve Varga, and Ben Hayes, discussed whether to allow Georgia Power to restart Vogtle Unit 1. If NRC knew that the presentation contained a material false statement concerning the number of successful starts, NRC Staff would not have authorized restart. Int. II-39, p. 31, ¶110, Int. II-168, p. 17, ¶110. Even without knowing about the false statements contained in the April 9, 1990 letter, Mr. Matthews still disagreed with the restart decision based on Georgia Power's

management attitude, but without knowing about the false information contained in the presentation, Mr. Ebnetter made the decision in favor of restart. Consequently, NRC Region II officials issued a letter to Georgia Power on April 12, 1990, allowing restart of Unit 1. McCoy at 10.

**ii. Preparation and Content of the  
April 9 Letter.**

- a. April 7, 1990 COA Response Letter Draft  
Contains 18 and 19 Start Count

130. What remains a mystery is who was responsible for drafting an earlier version of the April 9th letter that was sent to the plant site on April 7, 1990, which contains false statements which appeared in the final letter. Tr. 2943 (McCoy), Int. II-40 at 3. On page three of this exhibit, paragraph number six appears the following language: "Since March 20, the A1DG has been started 18 times and the 1B has been started 19 times. No failures or problems have occurred during any of these starts." Id. The inability for Georgia Power to assign responsibility or to designate the author of these initial statements is telling.

131. By default, the 18 and 19 starts number must have originated from the fax sent from the Birmingham corporate office to the site. The only evidence in the record of the origins of these number is from the April 7, 1990 draft of the COAR. This verifies the testimony of Mr. Cash that he was not the source of those numbers.

132. The fact that Mr. Bockhold was still attempting to have a count of diesel starts done after the April 7th draft letter list had been drawn up is circumstantial evidence that the numbers for that draft did not come from the plant Vogtle site.

133. Absent any testimony to the contrary which shows the origin of these material false statements, those numbers must have originated in Birmingham.

134. The failure of management to offer any explanation of how those numbers came into the draft letter combined with all of their actions after April 9, 1990, demonstrates willful acts originating at a corporate level above that of Mr. Bockhold.

135. The April 7, 1990 draft of the COA response was faxed to the site from corporate at 8:47 in the morning. Tr. 3403 (Bockhold). Mr. Bockhold did not know who drafted the language in the draft but he was comfortable with the language. Tr. 3405-06 (Bockhold). See also, Int. II-40.

136. An entry in Mr. Ward's notebook confirms that a draft of the COA response letter was faxed by Paul Rushton to Mr. Bockhold on the morning of April 7, 1990. Tr. 8027 (Ward), Int. II-17 at Project #047996.

137. Mr. Ward's April 8, 1990 entry indicates that Mr. Shipman would have the April 9, 1990 letter on Mr. McCoy's desk prior to the April 9th presentation. Tr. 7798 (Ward)<sup>21/</sup>, Int. II-17 at project #048001. Nonetheless, no one has ever claimed

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<sup>21/</sup> This is the only involvement Mr. Ward recalled with the April 9th letter. Tr. 8028 (Ward).

responsibility for the April 7, 1990 draft of the COA Response letter.

138. The final version of the letter addressed essentially the same items covered in the presentation. The letter was apparently modified during the plane ride back to Birmingham after the April 9th presentation.<sup>24/</sup> The final version of the April 9, 1990 letter conformed to the statements made during the April 9th presentation. McCoy at 8-9; Tr. 2972 (McCoy); Bockhold at 11.

139. Two statements pertaining to in the April 9, 1990 letter are at issue in this proceeding. The first concerns diesel testing and the number of times the diesel was successfully started after the Site Area Emergency. This statement is as follows:

Since March 20, 1990, GPC has performed numerous sensor calibrations (including jacket water temperatures), extensive logic testing, special pneumatic leak testing, and multiple engine starts and runs under various engine conditions. Since March 20, the 1A DG has been started 18 times, and the 1B DG has been started 19 times. No failures or problems have occurred during any of these starts. In addition, an undervoltage start test without air roll was conducted on April 6, 1990 and the 1A D/G started and loaded properly.

GPC II-13 at 3 (emphasis added).

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<sup>24/</sup> Mr. Stringfellow and Mr. Aufdenkampe recall Mr. Bailey remarking that they had rewritten the letter on the corporate plane returning to Birmingham after the April 9th presentation. Tr. 3932 (Stringfellow); Tr. 4745 (Aufdenkampe). However, a copy of an earlier draft sent to the site on April 7th shows that the statement concerning diesel starts was not changed. Int. II-40 at 3.

140. Georgia Power concedes that the intent of this language was to demonstrate the number of consecutive successful starts of the 1A and 1B diesel following the Site Area Emergency. Tr. 3208 (McCoy); Hairston at 4. Georgia Power also concedes that this statement is materially false.<sup>25/</sup> Tr. 3612 (Hairston).

141. Responsibility for preparing the April 9, 1990 letter rests with Mr. Bockhold, Mr. McCoy, Mr. Bailey and Mr. Hairston. Mosbaugh at 45, Int. II-48, Int. II-49.

142. Mr. Stringfellow and Mr. Aufdenkampe testified that Mr. Bailey told them that he, Mr. McCoy and Mr. Hairston rewrote the letter on the corporate plane returning to Birmingham after the April 9th presentation. Tr. 3932 (Stringfellow); Tr. 4745 (Aufdenkampe).<sup>26/</sup>

b. Failure to Follow Established Corporate Procedure - Blue Sheet Protocol.

143. Prior to the formation of the SONOPCO project there were procedures in place to verify the accuracy of information

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<sup>25/</sup> Intervenor contends that a second statement concerning air quality is also a materially false statement.

<sup>26/</sup> Georgia Power asserts in its FOF 75 that the "April 9 letter was prepared under the direction of the corporate licensing manager, Mr. Bailey." Mr. Bailey did not testify and we are not aware of any factual basis to support this claim. Georgia Power also states "It is not known who on his staff may have worked on the letter, though it appears from the "blue sheet" that Mr. Stringfellow may have initiated the document." This assertion was denied by Mr. Stringfellow, who testified that his only role was assisting with the typing of the letter he believed to have been drafted by persons returning to Birmingham on a company plane following the April 9th presentation. Tr. 3932, 4088 (Stringfellow).

given to the NRC. These procedures and directives were cancelled when SONOPCO project was established. Mosbaugh at 5; Tr. 3938 (Stringfellow).<sup>27/</sup>

144. Nonetheless, the SONOPCO project continued to track correspondence development and review through a "Blue Folder" process in place at the time SONOPCO project took over. Id.

145. A "Blue Folder" was prepared for all NRC correspondence. What is supposed to be included in the blue folder are all prior drafts of the document. Every blue folder was to include a "blue sheet." The "blue sheet" is used by the corporate office to track responsibility for the content of correspondence. Tr. 2953-54 (McCoy). Corporate personnel responsible for reviewing the correspondence are required to sign off on the "blue sheet." Mosbaugh at 4, 67.

146. The corporate sign-off process on NRC correspondence was to occur as follows. The corporate engineer responsible for the correspondence signs the blue sheet. He is also responsible for initialing the blue sheet under the heading "Plant Manager Concurrence." The licensing engineer also enters the date and meeting number where the PRB reviewed the document under the heading "PRB Concurrence." The blue folder is provided to Mr. Bailey, who is to sign off on the blue sheet under the heading "NSDL Manager." The blue folder is also provided to the manager

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<sup>27/</sup> If the procedures had remained in place there would be a formal paper trail and a formal basis for the information contained in the correspondence at issue in this proceeding. Mosbaugh prefiled p. 5.



of engineering and licensing, Paul Rushton, who signs under the heading "Manager NSDL." Thereafter, the blue folder is presented to Bill Shipman, the corporate general manager for plant Vogtle. After Mr. Shipman signed off, the blue folder would go to Mr. McCoy for his review. Tr. 3936-3938 (Stringfellow). After Mr. McCoy signed off on the blue sheet, the correspondence would be ready for Mr. Hairston's signature. Mr. Hairston would be presented with a final version of the correspondence. He would sign the correspondence rather than the blue sheet. Tr. 2956-57 (McCoy); Mosbaugh at 4; Int. II-77.

147. Mr. McCoy stated in his testimony that normally a letter which was going to the NRC would have gone through the blue sheet sign out process.

Q And are you aware that the trailer sheet for this specific COA has no names on it?

A No, I'm not aware of that.

Q And that would be highly unusual for the blue sheet to have no names on it for a letter going to NRC, isn't that correct?

A Yes, that would be unusual. Normally they have the various people that have reviewed it.

Q Okay, now I'd like to call your attention to what has been marked as Intervenor's Exhibit 47. And if you can look at the document, and isn't this the blue sheet for that response letter to the confirmation of action?

(Whereupon, the above-referenced document was marked as Intervenor's Exhibit 47 for identification.)

A That's what it appears to be. I also note on this form that there is a note under source of information that says, "See package in blue folder," which would indicate to me that there was some additional documentation that talked about where this information came from in the folder.

Q And that would be -- one moment. Would it surprise you to know that what was in this folder were just other prior drafts of this document?

A I have no recollection of what's there. And without looking at all that, I couldn't say whether it would surprise me or not.

Tr. 2951-52 (McCoy). This testimony shows a failure on the part of Georgia Power to follow its standard procedures and is evidence of willfulness.

148. The "blue sheet" sign-off process, although well established, was not used by those responsible for issuing the April 9, 1990 letter. Tr. 3939 (Stringfellow); Int. II-47. Georgia Power failed to present any evidence concerning who made the decision to alter the established practice or why that decision was made. The lack of signatures indicates that no one took responsibility for the accuracy of information contained in the draft of the April 9th letter.

149. Georgia Power's FOF 118, relying on testimony from Mr. McCoy (Tr. 2953) and Mr. Stringfellow (Tr. 3935), asserts that the blue Folder was "not a means of deciding who is responsible for particular documents or retained for any legal purpose, and is not governed by any written procedure." This assertion takes their testimony out of context. Both Mr. Stringfellow and Mr. McCoy testified that the blue folder was a means of holding someone responsible for the content of the correspondence. Tr. 2953 (McCoy).

150. The failure to utilize established review and verification procedures is a strong piece of circumstantial evidence that the SONOPCO project corporate office did not want the diesel generator start information nor the air quality assertions subjected to meaningful verification.

c. Failure to Obtain PRB Approval.

151. The April 9, 1990 Confirmation of Action response letter was not reviewed or approved by the Plant Review Board before it was issued.

152. Protocol at plant Vogtle requires PRB review of correspondence to be sent to NRC. The April 9, 1990 letter was a document which was expected to receive PRB approval. Tr. 3448-49, 3511 (Bockhold); Tr. 3935 (Stringfellow); Tr. 4745-46 (Aufdenkampe). Mr. Aufdenkampe testified that he was surprised that the April 9th letter had not received PRB review, Tr. 4746

(Aufdenkampe); Mr. Mosbaugh testified that it was "extremely unusual." Mosbaugh at 31.

153. Mr. Shipman testified that he "would have expected it to be reviewed by the PRB" unless the plant manager "made the decision himself" that PRB review was not needed. Tr. 10899-90 (Shipman). But, with respect to the April 9th letter, the plant manager, Mr. Bockhold, made no such decision. According to Bockhold, he did not discuss the necessity of PRB review with anyone and he didn't know, one way or the other, if the PRB had reviewed the April 9th letter. Tr. 3449 (Bockhold).

154. A draft version of the April 9th letter which included the air quality or diesel start information was not circulated to PRB members. Tr. 3448-49 (Bockhold). In this respect, Mr. Aufdenkampe, the manager over ENSAC (the organization responsible for coordinating site review with Corporate) and a key member of the PRB, testified that, not only was he unaware of a final version of the April 9th letter being circulated, he had no idea as to "what format [the letter requesting restart] was going to come in, and that it would end up occurring in the way it did." Tr. 4746 (Aufdenkampe).

155. Mr. Mosbaugh, the vice-chair of the PRB, testified that he was not given drafts of the April 9th letter and that the first time he saw it was on April 10, 1990. Mosbaugh at 31.<sup>28/</sup>

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<sup>28/</sup> Georgia Power asserts in FOF 117 that two drafts of the April 9th letter were transmitted to the site and presumably distributed to PRB members. Georgia Power cites two documents (Int. II-126 and II-40) and testimony of Mr. McCoy (Tr. 3120; Tr. (continued...))

156. PRB review of the April 9, 1990 letter was not a technical specification requirement. Staff II-20. However, the normal and established practice at that time was to submit all NRC correspondence for PRB review. Tr. 3448 (Bockhold).

157. The Board has searched the record to learn why the decision was made not to subject the April 9th letter to PRB review. The only explanation Georgia Power appears to provide is testimony from Mr. McCoy, who asserts that PRB review was not needed because the April 9, 1990 letter "was really going from a high level in our organization to the NRC." Tr. 2946 (McCoy). We find this explanation incredible. This explanation runs

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28/ (...continued)  
3122-23, 3130-33). First, Int. II-126 would not be recognized as a draft of the Confirmation of Action letter because it bears a different title: it contains no mention of air quality or diesel starts and, for this reason alone, is wholly irrelevant. As an aside note, we note that, although Mr McCoy testified that his interpretation of the distribution list appearing at the top of Int. II-126 indicated that the document was only transmitted to individuals who have a check mark by their name, Georgia Power nonetheless claims that the Resident Inspector, who has no such check mark, received the document. There is no support in the record for this assertion.

Georgia Power also points to the fact Int. II-40, a draft of the April 9th letter, includes the controverted diesel start and air quality statements, was telecopied to the plant on the morning of April 7, "presumably so that the changes could be reviewed." We have no doubt that this document was transmitted to the plant site, but there is nothing in our record to suggest that it went anywhere other than to Mr. Bockhold. Tr. 3406 (Bockhold). Unquestionably, it was never submitted to the PRB for review and approval.

Significantly, the only testimony concerning the transmission of drafts out of the corporate office came from Mr. McCoy. Mr. McCoy testified that the COA response letter was not handled like a routine piece of correspondence in that there was more hand-carrying and faxing of the document to speed up the drafting and review process. Tr. 2958 (McCoy).



counter to the "safety net" concept relied upon by Mr. Hairston to assure accuracy of information transmitted to NRC.<sup>29/</sup> Indeed, if anything, the fact that the letter was generated out of Corporate is more reason to impose a PRB review.<sup>30/</sup> Second, this assertion runs counter to Georgia Power's explanation stated in its response to the NOV that Corporate did not have access to documents nor did it have responsibility for verifying the diesel start information. If Corporate takes responsibility for excluding PRB review, then corporate management had to take on the responsibility of verifying the accuracy the start count information.

158. The PRB was formed in order to review documents for accuracy which would include the review of correspondence between

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<sup>29/</sup> Mr. Hairston testified that the PRB was an important safety net to be relied upon by the corporate office to assure the accuracy of licensing documents. According to Mr. Hairston:

If it's a licensing document, you use the concept of the plant licensing people, you know, the people at the plant and tech support that do the -- the drafting to sort of listen to all these technical experts and people that have knowledge about the issue and ask the questions, and then the next level is the PRB. And let's face it, your PRB you have got the top managers and disciplines at the plant...[I]f it gets by the PRB it -- it's pretty -- even the tech specs recognize this. It's -- it's pretty much hit and miss. You get up to corporate office you don't have the -- the detailed knowledge, you don't have the experience, the -- the general knowledge of the area. And, you know, you're -- you're really just casting a wide net. So I think it's those, the preparer, the reviewer, and then the PRB are your fundamental barriers in the area we're talking about.

Tr. 11612-13 (Hairston).

<sup>30/</sup> As far we can tell, Mr. Hairston did not know whether portions of the April 9th letter were ever subject to verification. Mosbaugh at 67.



Georgia Power and the NRC. Tr. 6023 (Horton). The fact that the April 9, 1990 letter was not reviewed by the PRB shows that they deviated from their own standard procedure. This departure from procedure is circumstantial evidence of their willful intent to mislead the NRC.

159. The failure of the PRB to review the April 9th letter is circumstantial evidence of intent to circumvent the review process needed to expose the erroneous diesel start count and air quality statements Georgia Power stated in the April 9, 1990 letter.

K. Bockhold's April 10, 1990 Staff Meeting.

160. On April 10, 1990, Mr. Bockhold held a staff meeting to address the April 9th presentation and the expected restart decision. Copies of the April 9th letter were distributed to Mr. Mosbaugh and other attenders of the meeting. Mr. Mosbaugh suspected that the statement concerning the number of diesel starts without problems or failures and the statement concerning air quality may not be complete or totally accurate. Mr. Mosbaugh specifically asked Mr. Bockhold "who has done this review that had drawn these conclusions?" Mr. Bockhold did not answer the question. Mosbaugh at 32.

161. Mr. Mosbaugh testified that the statement in the April 9 letter regarding no problems or failures "jumped out at [him] as being suspect" because he was aware there had been failures. Mosbaugh at 32. See also id. at 46; Tr. 5154 (Mosbaugh). We

believe, due to the heightened awareness during the testing, that it should also have been immediately recognized as suspect by others.

162. Georgia Power tries to suggest that Mr. Mosbaugh also did not read the April 9, 1990 letter as indicating or implying the absence of any problems or failures after March 20. In making this assertion, it cites to a conversation Mr. Mosbaugh had with Mr. Kochery on April 11, 1990. GPC II-108. In an attempt to read the letter in the most favorable light Mr. Mosbaugh states ". . . if we started the machines a total of 25 times, and those 18 and 19 are the last 18 and 19, and the failures, as I recall, may be one of the first set, you know, maybe this is still a true statement." GPC II-108 at 22. However, if one reads further in the transcript it is apparent that Mr. Mosbaugh is looking for information regarding the starts after March 23 in an attempt to determine if the letter was accurate. Mr. Mosbaugh's conversation with Mr. Kochery<sup>21/</sup> was as follows:

Mosbaugh: Paul, I don't know if you had a chance to see the letter that Hairston sent out...Do you have a copy of that?

Kochery: Yeah, right here.

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<sup>21/</sup> During a prior discussion about trips of the 1B diesel with Mr. Mansfield, it was suggested that Mr. Mosbaugh speak with Mr. Kochery. GPC II-108 (tape 42, Tr. pp. 18-19).

Mosbaugh: I was looking at two things. I was looking at number four...I was looking through at number G, okay? And I wanted to talk to you, as to whether you thought that was correct.

[Reading] 'Since March the 20th...the one A diesel has been started 18 times, and the one B diesel has been started 19 times. No failures or problems have occurred during any of these starts.' Now, if that's -- if those 18 and 19 starts include all of the starts since the 20th, I know we had problems and failures...

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Mosbaugh: ...does somebody have all the starts since the 20th, summarized someplace, so that I can compare them against what we've said in this letter, to make sure we haven't said something that's not true.

\* \* \*

Mosbaugh: ...you don't have any data then. past the 23rd?

Kochery: No.

\* \* \*

Mosbaugh: Who do you think has the rest of the starts?

Kochery: Jimmy Paul.

Mosbaugh: ...You think Jimmy Paul cash has all the starts?

Kochery: Yeah.

We believe the record supports that Mr. Mosbaugh, after locating and reviewing the necessary information determined that the April 9, 1990 letter was in fact inaccurate with respect to the diesel generator statement and that Mr. Bockhold was aware of this.

L. April 10, 1990 IIT Conference.

163. On April 10, 1990, Mr. Kendall and Mr. Chaffee participated in an IIT teleconference. Two members of Georgia Power's corporate organization, Mr. Ward and Mr. Burr, participated; Mr. Aufdenkampe and Herb Beacher participated from the site. GPC II-31 at p. 1.

164. During the April 10, 1990 conference call, NRC made it known, in no uncertain terms, that they were "concerned" by Georgia Power's "dragging out" the submission of documentation NRC needed to compete its licensing activities and that the delay in transmitting this documentation had begun to "cause the team to not be able to complete its activities in a timely fashion.". GPC II-31 at 2. The specific documentation that Georgia Power had failed to submit concerned diesel starts and data pertaining to CALCON sensors. Id. at 4.

165. NRC advised Georgia Power that the data they had conflicted with the diesel start count presented during the April

9 presentation, GPC II-31 at 5, and that NRC was "frustrated and a little confused that we cannot seem to get a finalized complete picture" of the diesel testing. Id. at 4. NRC specifically identified to Georgia Power that they wanted a document stating "when the diesel started and stopped, how it started, did you ever have any problems, that sort of stuff." Id. at 5.

166. In addition to obtaining the written data, NRC requested that Mr. Stokes contact them and orally explain the data NRC was desperately seeking. GPC II-31 at p. 5. Mr. Aufdenkampe advised NRC that he would have Herb Beacher work with Kenny Stokes to update his diesel log and make sure that the latest copy of the diesel log was faxed to NRC. Id.

167. Mr. Aufdenkampe testified that the only start count data transmitted to NRC in response to the April 10 IIT conference call was a list of starts that when up to April 1, 1990. Tr. 4757-59 (Aufdenkampe). Mr. Aufdenkampe acknowledged that the documentation provided to NRC did not satisfy the request made by NRC on April 10th. Tr. 4760 (Aufdenkampe).

168. Based on IIT communications occurring on March 30, Mr. Stokes knew that NRC wanted diesel testing data. Tr. 7303 (Stokes).<sup>12/</sup> Mr. Stokes specifically knew that the IIT wanted completion sheets and he responsible for providing that data to the IIT. Tr. 7304 (Stokes). Mr. Stokes confirmed that by April

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<sup>12/</sup> Mr. Bockhold was a participant to this call and, presumably, he too knew NRC wanted the data. NRC II-62.

13, 1990, Georgia Power still had not provided a the requested diesel start data. NKC II-63, Tr. 7306-07 (Stokes).

169. NRC witnesses could not recall receiving a complete or accurate list of diesel starts from Georgia Power. Tr. 5055 (Kendall). Our record is devoid of any such list and there is no basis to assume such a list was ever provided to NRC.<sup>33/</sup>

M. Drafting of Licensing Event Report

170. The Vogtle Nuclear Safety and Compliance Group (NSAC) was responsible for preparing an initial draft of the LER.<sup>34/</sup> This group reported to the Technical Support Manager (Mr. Aufdenkampe), who in turn reported to Mr. Mosbaugh. McCoy at 11.

171. NSAC probably began working on LER 90-006 in March shortly after the SAE. Tr. 4762 (Aufdenkampe); Webb at 3. The initial drafts were prepared by Tom Webb. Following submission of the April 9, 1990 letter, Mr. Aufdenkampe indicated to Mr. Webb that the LER should include the same statement about the

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<sup>33/</sup> Mr. Aufdenkampe has some recollection of Mr. Beacher putting together information for the IIT including a list of starts. Tr. 4756-57 (Aufdenkampe). He believes that a list of starts through April 1 was provided to the IIT on May 9, 1990. Aufdenkampe at 18; Tr. 4757-58, 5650-51 (Aufdenkampe); GPC II-10 (IIT Document No. 336).

Mr. Kendall stated during the April 10th IIT conference call that he only had a list that Mr. Kochery had provided but it only covered March 20 to the first phase of troubleshooting. The Kochery list sent to the IIT identified through March 23, 1990. GPC II-8.

<sup>34/</sup> After the initial draft of a LER or other NRC correspondence was PRB approved, the review responsibility transferred to the Plant General Manager and then to SONOPCO project corporate personnel.



diesel starts that was set forth in the April 9th letter and Mr. Webb complied. Webb at 3; Tr. 4763, 5601-02 (Aufdenkampe); Tr. 13121-22, 13182-83 (Webb).

172. LER 90-06 was not a routine LER; the drafting of this LER received special attention from corporate management. Tr. 3999 (Stringfellow). Aufdenkampe was in daily communication with either Mr. Stringfellow or the corporate manager of licensing, Mr. Bailey. Tr. 4774 (Aufdenkampe). As a result of the April 10th IIT conference call, Corporate had to be well aware of the fact that the NRC had already questioned the accuracy of the diesel start count presented to NRC on April 9, 1990.

173. Mr. Webb testified that he felt that it was more appropriate to use valid tests and valid failures when drafting the LER but that his management chose to do otherwise because "that was not what was written in the letter from April 9th and we wanted to use the information that had been in the letter from April 9th. Tr. 13120-21 (Webb).

#### **1. April 12 PRB Review**

174. The PRB reviewed a draft of the LER on April 12, 1990 which contained the 18 and 19 start count. This draft was returned to Mr. Webb with instructions to rewrite the LER so that it would be no longer than eight pages. Webb at 3-4. Mr. Webb completed another draft which was shorter but retained the diesel start statement, and provided it to Mr. Aufdenkampe on April 13, 1990. Id. at 4; GPC II-171-D.

175. Mr. Aufdenkampe testified that on or prior to April 13th he had discussions with Mr. Odom and Mr. Mosbaugh and presumably members of the Critique team that the start count in the April 9th letter was suspect. Tr. 4753 (Aufdenkampe). Mr. Aufdenkampe recalled that the IIT team was unable to count the same number of starts based on the data they had and had requested Georgia Power to assemble and transmit the necessary diesel start information needed for NRC to obtain an accurate count. Id.

176. By April 13, 1990, Mr. Webb and Mr. Aufdenkampe discussed the fact that the 18 and 19 start count contained in the April 9th letter appeared to be false.<sup>15/</sup> Tr. 13107 (Webb); Tr. 4750 (Aufdenkampe). Mr. Webb was instructed by Mr. Aufdenkampe to remove the phrase concerning the 18 and 19 start count from the draft of the LER. Webb at 4; Aufdenkampe at 2; Tr. 13114 (Webb); Tr. 4750, 4780 (Aufdenkampe).<sup>16/</sup> Inserted in its place was the phrase "Since 3-20-90, DG1A and DG1B have been started several times and no failures or problems have occurred

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<sup>15/</sup> Mr. Webb took no action to correct the April 9th letter because, according to him, a false start count in the April 9th letter was not so significant that immediate corrective action was needed. Tr. 13109-10 (Webb).

<sup>16/</sup> According to Mr. Aufdenkampe, Mr. Webb attended the April 18th PRB meeting and left that meeting with the responsibility of reinstating the actual number of starts. Mr. Webb then reincorporated the 18 and 19 numbers from the COAR into the LER. Tr. 4780 (Aufdenkampe).

during any of these starts." Webb at 4; Tr. 13107, 13114, 13178, 13183-87 (Webb).<sup>17/</sup>

177. Mr. Aufdenkampe discussed with Mr. Bockhold whether or not he should leave in the 18 or 19 start count. Nonetheless, Mr. Bockhold never offered data or explained what data he used to verify the 18 and 19 count for his April 9th presentation. Tr. 4765 (Aufdenkampe). Mr. Aufdenkampe was left to wonder where Mr. Bockhold obtained the information to validate the start count he presented to NRC. Tr. 4766 (Bockhold).

178. The draft of the LER was next presented to the PRB on April 18th. It appears that just prior to the April 18th PRB meeting, knowing that the diesel start count was critical, Mr. Shipman instructed Mr. Aufdenkampe to have George Bockhold approve the diesel start language contained in the LER.<sup>18/</sup> The

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<sup>17/</sup> Between April 13 and April 18, 1990, there were additional drafts and comments, including some provided by the corporate office. These drafts and comments do not reflect changes to the diesel start language. Webb at 4.

<sup>18/</sup> The transcript reflects the following:

Q: Now, do you remember having a conversation with corporate where they requested that you verify the 18 and 19 numbers with George Bockhold before the LER was approved by the PRB?

A: I have a recollection of corporate asking that we get George Bockhold to sign off on the draft LER before we sent it up.

Q: And why did they want you to get George Bockhold to sign off on the draft?

A: I think because of the criticality of this particular issue, they wanted to ensure that George had reviewed the LER in detail before we sent it to -- sent it out to the NRC.

(continued...)

start count phrase in the LER at that point only referred to "several" starts and did not provide an exact count.

**ii. April 18 PRB Review of LER.**

179. On April 18, 1990, the PRB reviewed the draft LER and voted unanimously to approve it with certain comments. One of the PRB comments was that the draft LER language referring to "several starts" of the diesels should be changed to state the numbers of starts rather than several. GPC II-28 at 2, 4; Aufdenkampe at 2; Webb at 5; Tr. 4674, 4752, 4779, 5603-04 (Aufdenkampe); Tr. 13114, 13195-96 (Webb).

180. Following the April 18th PRB meeting, Mr. Webb revised the LER to state that the diesel had been started 21 and 23 times in lieu of the 18 and 19 previously stated in the April 9th letter. Mr. Webb determined this number by adding to the 18 and 19 all the additional starts that occurred between April 9 and April 18, 1990, inclusive. Webb at 5; Tr. 13211 (Webb).

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28 / (...continued)

Q: And who in corporate asked you to whether Mr. Bockhold was comfortable with the draft?

A: My recollect was it was Bill Shipman.

Q: Now, was this normal procedure?

A: No, I would -- its not usual.

A: Okay. And when did that conversation occur?

A: I don't remember the specific date, but I think it was around the 17th or 18th [of April].

Tr. 4774-75 (Aufdenkampe).

181. There does not appear to be any sound factual basis to have reinserted the 18 and 19 count back into the LER without first verifying the numbers. According to Mr. Webb, he chose to consider the start count in the April 9th letter as correct and that is why he reinserted them. Tr. 13203, 13115 (Webb). Mr. Webb was unable to recall who provided him with the assurance that the April 9th numbers were correct. Tr. 13116-18 (Webb).<sup>19/</sup>

182. At this point, the draft of the LER contained the following statement concerning diesel starts; "Since 3-20-90, DG 1A and DG 1B have been started more than twenty times each and no failure or problems have occurred during any of these starts." Aufdenkampe at 3.

183. Mr. Stringfellow apparently circulated the revised draft to corporate management. Stringfellow at 2. Either on the afternoon of April 18, 1990, or early morning of April 19, 1990, Mr. Hairston reviewed this version of the draft. Mr. Hairston remembered the "18 and 19" numbers from the April 9th presentation and wanted to know why the number was being changed.

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<sup>19/</sup> Omitted from Mr. Webb's prefiled testimony was mention of who instructed him to reinsert the 18 and 19 numbers from the April 9th letter after he had previously been advised that they were suspected of being incorrect. Tr. 13116 (Webb). In fact, according to Mr. Webb, no one at Georgia Power ever asked him how he determined the April 9th numbers were correct. Tr. 13120 (Webb). This is not an insignificant omission. We note that Georgia Power failed to include prefiled testimony from any witness explaining who was responsible for reinserting false start count numbers into the draft of the LER.

Hairston at 6; GPC II-25 (Project No. 057942). Tr. 3621 (Hairston); Tr. 3945-46 (Stringfellow).

184. A draft of the LER was also circulated to Mr. McDonald. Tr. 4111 (Stringfellow); GPC II-2 at p. 73.

185. Mr. Stringfellow telecopied a revised draft LER with the comments from corporate personnel back to the Vogtle site early in the morning of April 19, 1990. Stringfellow at 2; Tr. 4058 (Stringfellow); Aufdenkampe at 3; Tr. 4786-87 (Aufdenkampe); Webb at 6.

186. On April 19, 1990 from 1:25 to 2:45 p.m., the PRB met to review and approve the Corporate comments to the LER. Aufdenkampe at 3; GPC II-29. Shortly after entering the PRB meeting, Mr. Mosbaugh asked: "Did you correct the diesel starts. I had given John [Aufdenkampe] a comment on the diesel starts." GPC II-2 at p. 15.

187. Mr. Aufdenkampe replied: "We have, there is a comment in the PRB minutes to either verify the sentence, reword the sentence, or delete the sentence. That's what we're actually doing." GPC II-1 at p. 15; Tr. 5124 (Mosbaugh). Mr. Webb was not in attendance. GPC II-29.<sup>40/</sup>

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<sup>40/</sup> Georgia Power asserted that the dialogue during the PRB meeting indicates that Mr. Mosbaugh was rather concerned that it would be incorrect to state that there had been no problems or failures since March 20th, but did not indicate a concern with the accuracy of the number of starts that was being reported. FOF 142. This is not true. The tape transcript of the PRB meeting states that Mr. Mosbaugh's initial comment was "Did you correct the diesel starts?" GPC II-2 at p. 15.



188. Mr. Kitchens confirmed that Mr. Aufdenkampe was assigned an action item to verify or take out the numbers, and take out the wording that said there had been no problems or failures. GPC II-1 at 16. The PRB, with Mr. Mosbaugh abstaining, voted to approve the LER with a comment to verify the number of starts and reword or delete the sentence. Tr. 5125 (Mosbaugh).

189. Significantly, the PRB minutes omit that the LER was approved with comment requiring the diesel start sentence to be reworded and the number of starts verified. GPC II-29.

190. Mr. Hairston left for Atlanta for a grievance proceeding on the morning of April 19th and return to his Birmingham office around noontime. Hairston at 6. When Mr. Hairston arrived, Mr. McCoy was not in, he returned to the office between 2:30 and 3:00 p.m. McCoy at 11.

**iii. Corporate is Notified of Diesel  
Generator Problems and Failures.**

191. Sometime after the PRB meeting, Mr. Aufdenkampe, Mr. Stringfellow, and Mr. Mosbaugh spoke on the phone to discuss the comments on the draft LER, going through it page by page. When they reached the page with the diesel start statement, the following conversation occurred:

Aufdenkampe: ...The next page on the 20 starts?

Stringfellow: Yea. Yeah, yeah.

Aufdenkampe: I'm struggling with that one.

Stringfellow: You struggle with that one[.]<sup>41/</sup>

Aufdenkampe: I'm struggling with that one. I'm trying to verify that still.

Stringfellow: Oh, okay. All right.

Aufdenkampe: Okay. We think that's basically a material false statement.

Stringfellow: Really?

Aufdenkampe: Yeah. Well, we know for a fact that the B diesel tripped at least once after March 20.

Mosbaugh: Actually, it tripped twice after March 20, or it had at least two separate problems.

Stringfellow: Well, do we need to take this more than 20 times each out then?

Aufdenkampe: That's what we're thinking but I've got Tom Webb reviewing the reactor operator's log and counting.

Stringfellow: Okay.

Aufdenkampe: I don't know where he's at. When is Hairston dew back in the office?

Stringfellow: He's supposed to be there now.

Aufdenkampe: Oh, so you've got to hurry and get this up there, huh?

Stringfellow: Well, yeah. Yeah. Well, I -- see, I had given him -- I've given Shipman, you know,

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<sup>41/</sup> GPC inserted a "?" at the end of the sentence. Intervenor disagrees with this punctuation.

the -- a versions -- typed version of what you guys have been looking at. So now, as soon as we get off the phone I'm going to run back in there and tell him what you told me, you know?

Aufdenkampe: Okay. So anyway, I'm still looking for words for you on that one, but that sentence is going to have to change.

GPC II-1 at pp. 44-46.

192. After addressing other comments in his call with Mr. Aufdenkampe, Mr. Stringfellow states "we're down to the 20, 20 times each question." GPC II-1 at p. 48. Mr. Aufdenkampe attempts to obtain an update from Mr. Webb. He places Mr. Stringfellow on hold and called Mr. Odom to check on Tom Webb's progress counting the diesel starts. At this point, Mr. Aufdenkampe makes a comment that "This one's going to be a killer."<sup>42/</sup> Tr. 5529 (Aufdenkampe). Mr. Odom reported that Mr. Webb was going to the control room because he was missing two or three days of the logs.<sup>43/</sup> GPC II-1 at 49-50.

193. Mr. Aufdenkampe then reconnected Mr. Stringfellow and the following conversation transpires:

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<sup>42/</sup> GPC II-1 at p. 48 identifies the person speaking as "VOICE". Intervenor identifies the voice as that of Mr. Aufdenkampe.

<sup>43/</sup> Presumably, Mr. Webb and Mr. Beacher had initially sought duplicates of the logs that are distributed to various departments. The originals are always maintained in the control room. Tr. 5599-5600 (Aufdenkampe).

Aufdenkampe: You there still?

Stringfellow: I'm here.

Aufdenkampe: We don't know yet.

Stringfellow: You don't know yet, but now, you know, I first -- it just dawned on me what Allen was saying a minute ago. In other words, if we say, 'and no failures or problems have occurred in any of these starts,' you are saying that that's not true.

Aufdenkampe: yes, I'm saying that's not true.

Stringfellow: Oh, wonderful. okay.

Aufdenkampe: So, which is also telling you that -- it's telling you something else, I imagine. Because you know this has been written to the NRC once already.

Stringfellow: Yes, I know. That's exactly what I was thinking.<sup>44/</sup>

Aufdenkampe: So, I'm working on that.

Stringfellow: All right, John. Okay. Well, I'll be patiently waiting or impatiently waiting or however you want to look at it. [Laughing]

GPC II-1 at p. 50.

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<sup>44/</sup> This statement reflects Mr. Stringfellow's apparent recognition that, if the information being provided by Mr. Aufdenkampe and Mr. Mosbaugh turned out to be true, the April 9th letter would contain a false statement. Tr. 3980 (Stringfellow).

194. At that point, the call ended. GPC II-1 at 50-51. Mr. Aufdenkampe, in conversing with Mr. Mosbaugh, then refers to the April 9, 1990 letter as the one where Corporate "lied." Id. Mr. Mosbaugh proceeds to Mr. Kochery's office and his conversation with Mr. Kochery is interrupted when he responds to a beeper page from Mr. Shipman. GPC II-1 at p. 54. Mr. Mosbaugh then placed a call to Mr. Shipman and the conversation, after discussing language in the LER pertaining to what the operator saw and did when he entered the diesel room and after being asked to set up a conference call between Mr. Hairston and the operator so that Mr. Hairston can personally speak to the operator, the discussion turned to diesel starts and the following discussion occurred:

Shipman: Okay and the other, of course, the other question we have been trying to get an answer to is to reassure George [Hairston] that we have had more than 20 valid starts since, you know, March 20, like we say in the LER.

Mosbaugh: Yeah, now you realize I think there is a problem with the way that is stated, because, you know, the machine -- we can -- you know, we got one of the guys trying to find what the total number of the valid starts is, but there were failures.

Shipman: The problem that we got, Allen, is that the data that is in the LER is what George wrote

and took and told to the, Ebnetter last Monday in Atlanta.

Mosbaugh: Well, you know, if anybody said that there weren't any failures, you know, that's just not true.

Shipman: Well, If you look at George's [Bockhold] outline that he made to take to Atlanta with him, he says, at that time, it was like 18 and 19.

Mosbaugh: Yeah.

Shipman: And without a failure.

Mosbaugh: Umm.

Shipman: So, you know, somebody had given George that information.

Mosbaugh: On the B?

Shipman: Have we had a failure since George went to --

Mosbaugh: No, on the B. Let me, let me tell you what I know, okay. On the B machine, on the B machine on 3/22 at 12:43, the machine tripped on high lube oil temperature.

Shipman: Caused by what?

Mosbaugh: Caused by the switch that give you a high lube oil temperature, probably [laugh].

Shipman: No. I understand that, but did we have a --

Mosbaugh: I don't believe a high temperature physical condition existed. I believe --



Shipman: Was that a valid -- considered a valid failure?

Mosbaugh: I haven't assessed these for being valid or not.

Shipman: See, because we, I could -- we could, we could solve the problem that is created by that information by saying no valid failures.

Mosbaugh: [Looking at a document] Let me find -- I think we've got one other one. Here it is. "On 3/23 at 17:31, the machine tripped on low" -- this is B machine again -- "on low jacket water pressure/turbo lube oil pressure low."

GPC II-1 at pp. 54-60

195. At this point Mr. Shipman and Mr. Mosbaugh discuss how the draft LER had gotten through the PRB.<sup>45/</sup> Mr. Shipman ends the conversation about the PRB review by stating: "irregardless, the who question is immaterial and, you know it is just -- it's sort of a bother. But what we need to do is find out what is correct and make sure we only say what's correct." GPC II-1 at 61. Mr. Mosbaugh then mentioned that the only data he had was a

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<sup>45/</sup> Mr. Stringfellow speaks up during this conversation, indicating that he had been a silent participant to the prior conversation.

tabulation of diesel activities prepared early on by Mr. Kochery.<sup>45/</sup> At this point the following conversation occurs:

Shipman:           Somebody, gosh, somebody must have looked. Allen would you take that as a second thing and try to get me the correct information for that? It sounds like this whole statement needs to be just stricken.

Mosbaugh:          You know, I basically don't have any better information that the two trips I told you about on the 22nd and --

Stringfellow:      Can you determine if those were valid tests or valid failures?

Mosbaugh:          Let me talk to Stokes and Kochery about them.

Shipman:           I guess at the point where we're in now where this thing -- it's been to PRB several times and we have several review cycles up here and everybody has gotten accustomed to the data. If we can use that data we probably ought to. Certainly, if it's not a valid statement, we need to get it the heck out of here regardless of what George told Ebnetter. So,

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<sup>45/</sup> Mr. Kochery had compiled a list, which had been provided to the NRC on April 6, 1990 showing starts through March 23, 1990. It identified the problem starts on the 1B diesel generator on March 22nd and March 23rd. GPC II-8. The list Mr. Mosbaugh had obtained and was reviewing during the call was a handwritten list he obtained from Mr. Kochery sometime after April 9, 1990 which also listed some starts that occurred in early April. Tr. 5152, 5156, 5158 (Mosbaugh). GPC II-1 at p. 61.

you know, of there is anything you need to do to check to make sure the data you have from Paul [Kochery] is correct and valid, we would ask that you do that, or if you feel very confident that it is correct now, I just need to see what I need to do about striking this statement.

Mosbaugh: Okay. I feel that this is the best data there is and I believe it's accurate. I will verify with Kochery though.

Shipman: Okay.

Mosbaugh: And I will pursue trying to get a conversation with the operator.<sup>47/</sup>

Shipman: Okay. Jack and I are going to leave here and walk down to Mr. Hairston's office to go over his comments and what we have been able to do with those and try to, you know, finish beating out what he wants to do to this thing. And so if you want, you know, if you find somebody and want to call back you might call down there.

Mosbaugh: What's the number?

Shipman: 5581.

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<sup>47/</sup> Earlier Mr. Mosbaugh was asked by Mr. Shipman to locate the operator who entered the diesel room to respond to a question Mr. Hairston had about observations made when the operator entered the diesel room. GPC II-1 at p. 55-56, 58.

Id. at 61-63.

196. The record supports the finding that Mr. Stringfellow and Mr. Shipman proceeded to Mr. Hairston's office to advise him of Mr. Mosbaugh's statement that the April 9th letter constituted a material false statement. Tr. 3951, 3953-54 (Stringfellow).

**iv. McCoy, Hairston and McDonald Consider Mr. Mosbaugh's Allegation that a Material False Statement Was Made In the April 9 Letter.**

197. Following his discussion with Messrs. Shipman and Stringfellow, Mr. Mosbaugh met with Mr. Kochery and Mr. Stokes to discuss valid starts and valid diesel failures and to locate the operator who entered the diesel room after the first diesel trip which led to the Site Area Emergency. GPC II-1 at pp. 64-69. He then stopped by Mr. Aufdenkampe's office and was told that the highest corporate officers in the company were considering the false statement contained in the April 9th letter. The conversation included Mr. Odom, as Mr. Aufdenkampe was on the phone with Mr. Odom when Mr. Mosbaugh arrived. Mr. Mosbaugh tape recorded the conversation, the transcript of which reflects the following:

Mosbaugh: Here's the trips.

Aufdenkampe: Yeah, I got them. Rick just talked to me about the trips.

Mosbaugh: Okay.

Aufdenkampe: There's two of them.

Mosbaugh: Yeah. There's two trips. One on the 22nd and one on the 23rd.

Aufdenkampe: Atlanta -- what Birmingham is thinking now is that they made a material false statement in the April 9th letter.

Mosbaugh: That would be a good thing for them to think about.

Aufdenkampe: Who'd he say? McCoy, Hairston and McDonald are reviewing this now?<sup>48/</sup>

GPC II-1 at pp. 72-73.

198. Mr. Aufdenkampe testified that he received his information from Mr. Stringfellow. Tr. 5537 (Aufdenkampe).

199. Mr. Stringfellow testified that he believes that he would have told Mr. Hairston about the material false statement in the April 9th letter.<sup>49/</sup>

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<sup>48/</sup> This statement as well as the prior statement of Mr. Aufdenkampe establishes that the issue of whether the April 9th letter contained a material false statement was passed up the corporate chain and a meeting was held between Messrs. McCoy, Hairston and McDonald to determine how to resolve the matter.

<sup>49/</sup> Mr. Stringfellow testified that, while he no longer recalled exactly what was said during his meeting with Mr. Hairston or whether Mr. Shipman was present, Tr. 4032-33 (Stringfellow), based on the tape recordings he was certain that he would have told Mr. Hairston about the April 9th letter. This is confirmed by the following testimony:

Q [by Mr. Kohn] Okay. And, do you have any reason to believe that you would tell an assistant general manager at the plant site that you intended to tell Mr. Hairston about a material false statement, the assistant general manager identified to you on the phone, that you would not, in fact, carry out that and tell Mr. Hairston?

A No, I don't have any reason to believe that I didn't do that.

BOARD EXAMINATION

(continued...)

200. We conclude that Mr. Stringfellow would have briefed Mr. Hairston on a matter as Mr. Mosbaugh's stated a concern that the April 9th letter constituted a material false statement -- a concern that Mr. Stringfellow acknowledged he understood (Tr. 3980). This was essential information Mr. Stringfellow had to pass up to Mr. Hairston. It is, moreover, difficult to imagine how Mr. Hairston would not have been so advised, given Mr. Shipman's tape recorded statement on the Afternoon of April 19, 1990 that the LER had "such political impact that Ken [McCoy] and Pat [McDonald] and George [Hairston] all wanted to fine-tune it for technical as well as political implications." GPC II-2 at p. 32.

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<sup>42/</sup> (...continued)

CHAIRMAN BLOCH: What is it that you think you did?

THE WITNESS: Well, I believe that we went and, as it says here, that we went and talked to Mr. Hairston about the LER and the information in it.

CHAIRMAN BLOCH: What is it you think you conveyed to him based on your conversations?

THE WITNESS: Well, I don't remember exactly what we conveyed to him but I would think that we would have conveyed to him the concern about the information in the letter.

\* \* \*

CHAIRMAN BLOCH: Can we count on your having given all the significant details that you were told to Mr. Hairston? Or, is there some reason to believe that you didn't do that?

THE WITNESS: No, sir. There would be no reason to believe that. No, sir. You know, I believe I would have given him everything that I could.

Tr. 3953-53 (Stringfellow) (emphasis added).



201. In addition, Mr. Hairston testified that if he had possessed the same information then that he has now, about the statements in the April 9th letter, he would have added the problems they were having and the dates they occurred. Tr. 3612 (Hairston). He also stated that "the letter tends to contradict itself." Id. The evidence demonstrates that Mr. Hairston knew of Mr. Mosbaugh's concern that the April 9th letter contained a material false statement.

202. Finally, Mr. McCoy testified, originally in 1990<sup>50/</sup> and at the hearing, that on the Afternoon of April 19, 1990, Mr. Shipman relayed Mr. Mosbaugh's concern that the April 9th letter contained a material false statement as did the draft of the LER.<sup>51/</sup> Mr. McCoy now seeks to deny the validity of this prior

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<sup>50/</sup> The deposition testimony is as follows:

Q: I'm talking about the corrective action letter, not the LER. There's a corrective action letter and an LER. Do you remember learning that there were false statements contained in the corrective action letter?

A: What I understand is that Allen Brought this up to Bill Shipman. That he felt that what was in the corrective action letter was in error. And what was in the LER that was being submitted was, also, he thought, in error.

Int. II-97 at p. 3.

<sup>51/</sup> Mr. McCoy testified as follows:

Q: And at the same time you learned that a concern had been raised about the counts -- those numbers in the LER, you also learned that there was a concern raised about what was in that original confirmation of action response?

(continued...)

testimony.<sup>52/</sup> Mr. McCoy asserts he has a clearer memory in

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<sup>51/</sup> (...continued)

A: I don't recall if both issues were raised or just one. My recollection generally is that there was a concern raised about the number of counts in the LER -- or the number of starts rather referenced in the LER.

Q: I'd like to call your attention to your deposition taken in a Department of Labor proceeding on September 12, 1990...and if you can look at your answer that was given to a question on pages six through nine -- on lines six through nine, page 89, does this refresh your recollection?

A: Yes, this is closer to the time frame. And you know, it appears that I had a more definitive recollection of what was said at that time. So I have no reason to believe that this is not true.

\* \* \*

Q: Now, you learned from Mr. Shipman that a concern had also been raised about the confirmation of action letter and the information contained therein. What steps did you take on April 19, 1990, to determine whether there was any validity to that concern?

A: ...I asked questions of the people involved and assured myself that to the best of my knowledge those issues had been resolved...

Tr. 2978-79, 3006 (McCoy).

<sup>52/</sup> On November 1, 1995, Mr. McCoy submitted an affidavit to the effect that his April, 1995 testimony was in error and that his earlier testimony in September, 1990 was also in error. According to Mr. McCoy, his recollection of the events surrounding the April 9 letter and LER "is much better today than it was five years ago when the deposition was taken" and that his "conclusion" flowed from:

a number of factors, including the breath [sic] and lack of specificity of the questions [asked], the fact that I had not attempted to refresh my memory with respect to diesel generator statements (a subject not particularly germane to the Department of Labor proceeding), the unavailability of Mr. Mosbaugh's tape recordings for review and the fact that the deposition was taken before the Company had spent months or  
(continued...)

1995 of events occurring in 1990. This assertion is ludicrous on its face and contrary to his testimony of April 1995.<sup>52/</sup> His claim that the deposition testimony was the product of questions that were overbroad or lacked specificity is false on its face. The testimony in question was the response to a well tailored and narrowly defined question. The question precisely asked Mr. McCoy to state how he recalled learning that the April 9th letter contained a false statement. Mr. McCoy's claim that his testimony was in error because he did not review the content of the April 9th letter or the LER 90-06 is nonsensical because these documents could only refresh Mr. McCoy's memory as to the nature of the false statement contained therein and would not amplify on how and when he initially learned that the statement was believed to be false or who brought this to his attention. We cannot conceive of how Mr. McCoy could have forgotten the nature of the false statement and there is nothing to suggest that Mr. McCoy needed to refresh his recollection to understand the false statement in question. Mr. McCoy's additional assertion that facts pertaining to the diesel start issue were not germane to Mr. Mosbaugh's labor case is a fallacy. Mr.

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<sup>52/</sup> (...continued)

even years exhaustively reviewing documents, tapes, interviews, transcripts and other pertinent information in connection with various NRC Proceedings and investigations..."

McCoy Affidavit, Nov. 1, 1995, at 3.

<sup>53/</sup> Mr. McCoy testified on April 17, 1995 that he believed he "had a more definitive recollection [in 1990] of what was said" than he currently possessed and that he had "no reason to believe that [what he said in 1990] is not true." Tr. 2979 (McCoy).

Mosbaugh's bringing this false statement to management's attention was the crux of the safety concerns he raised both within Georgia Power and to the NRC. Mr. McCoy's claim that the amount of time spent reviewing tape recordings, documents and other information has rekindled his memory is unpersuasive because 1) there is no tape recording that we are aware of that is germane to when or from whom he first learned that the April 9th letter was believed to contain a material false statement; and 2) the documentation he should have reviewed, specifically tape 57, contains reference to a meeting he held on April 19th with Mr. McDonald and Mr. Hairston to discuss the false statement in the April 9th letter.

203. Supplying mere generalities and relying on the passage of time -- which if anything should have diminished his recollection -- leads us to conclude that Mr. McCoy learned on the afternoon of April 19, 1990 that there were problems and failures of the diesel generator demonstrating that the April 9th letter was materially false.

**v. Hairston's Preoccupation and Personal Involvement with Fine Tuning the LER.**

204. After the corporate office was notified about the material false statement in the April 9th letter, Mr. Hairston remained interested in interviewing the operator who first entered the diesel building during the Site Area Emergency. On behalf of Mr. Hairston, Mr. Shipman instructed Mr. Mosbaugh to

track down the operator and arrange for the operator to speak directly with Mr. Hairston.<sup>54/</sup>

205. Mr. Hairston's decision to remain so personally involved with resolving what the operator saw is indicative of Mr. Hairston's level of involvement in the LER. The record evidence of Mr. Hairston's attention to detail is particularly important because the issue concerning the operator was, in all respects, minor by comparison.<sup>55/</sup>

206. Nonetheless, the result of having Mr. Mosbaugh set up the conference call, whether intentional or otherwise, diverted Mr. Mosbaugh from participating on a scheduled conference call between Mr. McCoy, Mr. Shipman and Mr. Bockhold to resolve Mr. Mosbaugh's concern that the April 9th letter contained a material false statement. If Mr. Mosbaugh's participation in the LER was so critical, why was he not invited to the most important LER meeting of the day?

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<sup>54/</sup> See GPC II-1 at p. 72-73 ("Shipman just called me. He's got me getting the operator so that Hairston can talk to the operator on that issue of what they saw when they got there. And then I gave Shipman the specifics [about the trips]...I'm calling back into Hairston's office as soon as we get the operator up here.").

<sup>55/</sup> According to Mr. Hairston, the problem with the LER statement concerning the operator was based on a concern that the "casual reader" could read something into the fact that there is no mention of the operator's actions when he entered the diesel room. GPC II-1 at p. 5. We also observe that Mr. Shipman did not inform Mr. Mosbaugh, who was working on resolving LER issues, of the April 19 conference call but instead had him set up a call between Mr. Hairston and the operators at the same time as the conference call. Mosbaugh at 48, GPC II-2 at p. 1.

207. Not inviting Mr. Mosbaugh to the LER conference call is indicative of either that Mr. Mosbaugh was suspected of being a potential whistleblower or that management did not think that his participation was critical.

208. Mr. Mosbaugh tracked down the operator and placed a call to Mr. Hairston. A transcript of the call indicates that Mr. Mosbaugh asked Mr. Hairston if Mr. Shipman was in the office with him. Mr. Hairston replied: "No. He's down on another phone downstairs." GPC II-2 at p. 1.

209. Mr. Hairston's statement demonstrates that he knew the whereabouts of Mr. Shipman and what he was doing and we infer from this comment and a comment made by Mr. Shipman that Mr. Hairston was aware of a scheduled conference call between Messrs. McCoy, Shipman and Bockhold to discuss the material false statement identified by Mr. Mosbaugh. In this respect, Mr. Shipman made the following statement after Mr. Mosbaugh joined the conference call he was on but before Mr. Hairston arrived: "[I]f Al just walked in, I understand that George [Hairston] just got off the phone with Jim Swartzwelder and the operator..." GPC II-2 at p. 1. Moreover, it would appear that Mr. Hairston knew the location of the conference call as, shortly after he ended his conversation with Mr. Mosbaugh, he entered the conference room where the call was taking place.

210. After the call with Mr. Hairston ended, Mr. Mosbaugh happened to return to Mr. Aufdenkampe's office where Mr. Aufdenkampe was engaged in the conference call. Mr. Aufdenkampe



announced Mr. Mosbaugh's arrival. The known participants to the call are Messrs. Stringfellow, Aufdenkampe, Bockhold, Shipman, McCoy, and Mr. Hairston. Mr. Mosbaugh's entrance is announced on the tape. Mr. Hairston is alleged to have joined some time after Mr. Mosbaugh. GPC II-2 at 6-9.

**vi. Introduction of the CTP Phrase.**

211. From the moment he joined "Call A", Mr. Mosbaugh tape recorded the remainder of call. The transcript of the conference call shows that Mr. McCoy and Mr. Bockhold reworded the LER diesel start statement. They added an undefined starting point for the count, the Comprehensive Test Program (CTP), and consolidated the 18 and 19 numbers to "at least 18." Messrs. McCoy and Bockhold reworded the LER to reflect the same number of starts Georgia Power presented to NRC on April 9th. Mosbaugh at pp. 36, 77; GPC II-2 at pp 8-9<sup>56/</sup>

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<sup>56/</sup> The key exchange was between Mr. McCoy and Mr. Bockhold. It went as follows:

Aufdenkampe: Well, the way -- Allen Mosbaugh just walked in, George, so I'll put you on the speaker. The way my people came up with the greater than 20 starts is they took the 18 and 19 starts and, based on the April 9th letter, and they went and checked and found out how many starts we had subsequent to April 9th. And that's why you can say greater than 20.

Bockhold: I think you can say greater than 20. Ah, you know, we even had more starts recently. We had a start last, the other night.

McCoy: We need to be sure that we know the number of starts after we've completed the comprehensive control test program.

(continued...)

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55/ (...continued)

Aufdenkampe: I do have people right not going out through -  
- my people going out through the RO's log.

Bockhold: From my numbers that I presented at the, at  
the conference, they were verified correct by  
Jimmy Paul Cash who went through the  
operators' logs.

McCoy: We ought to use those numbers.

Bockhold: Okay. So we'll say greater than those numbers  
that were used in the conference.

McCoy: Right. And those, um, and those numbers you  
used in the conference were after they had  
completed the comprehensive test of the  
control system of the diesel?

Bockhold: That is correct. Those numbers were not  
before that time.

Stringfellow: Are we going to say -- I just want to make  
sure I'm clear -- are we going to say "since  
3/20/90, DG1A and DG1B have ben subjected to a  
comprehensive test program?" Or do we what to  
say that kind of stuff, or do we want to just  
say --

Bockhold: Yes, you can say that

McCoy: That's pretty clear.

\* \* \*

Shipman: Eighteen and 19 -- what did you have in your  
presentation George. ? Seventeen or 18 or 18  
and 19?

Bockhold: Eighteen and 19.

Shipman: If we say greater than 18.

Bockhold: Greater that 18 would be good.

Shipman: Fine.

McCoy: Wouldn't be more than 18 on one of them. It  
would be 18.

(continued...)

N. Failure to Define "Comprehensive Test Program."

212. The meaning of the CTP phrase that was introduced into the LER on the afternoon of April 19 by Messrs. Bockhold and McCoy defies interpretation. We have no idea what it meant and, accordingly, we have no idea where the start count was to begin or where it ended. This confusion should have been obvious from the outset for, indeed, it appears that no one at Georgia Power knew what the phrase meant when it was used.

213. From the outset, we note that a quality assurance audit conducted in June of 1990 determined that the plant staff never agreed upon a definition for the CTP. Frederick at 6.<sup>57/</sup>

214. Mr. Cash (the person who allegedly made the count) testified that he had never heard the phrase "comprehensive test program" and he does not know what the term means. Tr. 4470-71 (Cash).

215. Mr. Aufdenkampe testified that he was unable to define it, Tr. 4693 (Aufdenkampe); and Mr. Shipman specifically stated on April 19th: "I can't define it." GPC II-2 at p. 24.

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<sup>55/</sup> (...continued)

Stringfellow: Say 18 times?

GPC II-2 at pp. 6-9.

<sup>57/</sup> The audit defined it as being completed when an operability run was completed pursuant to the surveillance procedure. Id. Mr. Frederick, the author of the audit, testified that the CTP "as an entity didn't exist" because "it was more of what I would refer to as a living program. It developed from the beginning until it was finished." Tr. 4159-60 (Frederick).

216. Mr. Webb testified that he was unaware of a definition on April 19th that would make the LER start count in the LER correct but until he knew how the CTP was being defined, he was unsure if the start count was correct. Tr. 13129 (Webb).

217. Mr. Mosbaugh searched in vain for a definition on April 19th and when he supplied his own or applied reason and logic to derive at a definition he was told by Mr. Shipman and Mr. Aufdenkampe that Mr. Mosbaugh's understanding did not square with Mr. Bockhold's, but that they were at a loss to tell Mr. Mosbaugh what definition Mr. Bockhold had in mind. GPC II-2 at pp. 22-28.<sup>58/</sup>

218. Mr. Stringfellow was the licensing engineer responsible for verifying its content. He testified that he had not heard of a "comprehensive test program" until the afternoon of April 19th;

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<sup>58/</sup> When Mr. Mosbaugh stated to Mr. Shipman "so the question again comes back to at what point are we going to start counting?", Mr. Shipman was unable to answer Mr. Mosbaugh's question because "I can't define it." Id. at 23-24. When Mr. Mosbaugh proposed a definition, Mr. Shipman asserted that "the problem with that is that that number is going to be significantly less, I think, than what George told Mr. Ebnetter, and you know, it's going to create a selling job..." Id. at 24-25. At one point Mr. Mosbaugh stated: "Well, one of those failures was when we were doing the, you know, an eight-hour loaded run. I should sure hope to hell think that we had calibrated the instruments before we did an eight-hour loaded run", to which Mr. Shipman responded "Well, not according to George", Id. at 25, who Mr. Shipman was "trying to defend." Id. at 26. Eventually, when Mr. Mosbaugh was asked if he still took exception to the diesel start data, Mr. Shipman cut off Mr. Mosbaugh such that he could not respond. Thereafter, Mr. Mosbaugh specifically stated that the CTP had to end "at least at the point in time after which we did the UV testing." Id. at 27-28. Mr. Shipman never addressed Mr. Mosbaugh's observation. Instead, he claimed that Ken McCoy had already discussed the matter with NRC and that NRC understands the basis for the diesel start numbers in the LER. Id. at 29.

he had no knowledge of where the test program began or ended; he did not know Mr. McCoy's or Mr. Shipman's definition of the test program. Tr. 3981, 3987, 4071, 4086, 4096-4098, 4091 4104-05 (Stringfellow).

219. Mr. Majors stated that he believed the CTP referred to a test program following the March 20th event but that he did not know when it ended. Tr. 6355 (Majors).

220. When we asked Georgia Power's diesel engineer, Mr. Stokes, he was unable to provide an exact definition, noting that:

one could define it just as the absolute troubleshooting efforts that we did on the diesel being as I described earlier, the static logic test and the sensor calibrations that were performed while the diesel was out of service. Or one could add to that the particular test, the four tests that we did afterwards to verify the venting. Also whatever particular test that -- that anyone else in the various different teams felt were necessary to be performed prior to performing an operability test and placing it back in service.

Tr. 6995 (Stokes). See also, Tr. 7394-95 (Stokes).

221. Mr. Bockhold told Mr. Shipman that the CTP ended with the completion of sensor calibrations. Both Mr. Shipman and Mr. Stringfellow assume that Mr. McCoy gave the same definition to Mr. Brockman. Tr. 11261 (Shipman), Shipman at 8-9, Stringfellow at 10. However, Mr. Stringfellow did not know what Mr. McCoy's definition was.

222. At the hearing Mr. Bockhold testified that the CTP ended with the completion of logic testing and sensor calibration. Tr. 3355-56 (Bockhold).

223. According to Mr. McCoy, determining where the CTP ended was of no importance to him. Tr. 2985-86 (McCoy).<sup>52/</sup> He further testified that on April 19, 1990 there was no agreed upon definition of what the CTP constituted. Tr. 3219 (McCoy).

224. In response to an interrogatory question, Georgia Power stated that the CTP phrase "was intended by Bockhold to refer to testing of the diesel control system which did not require diesel starts." Mosbaugh at 52, Int. II-57.

**i. False Definition of CTP in Interrogatory Response**

225. Georgia Power made false statements in a written response to questions from this Board regarding the definition of the comprehensive test program. Mosbaugh at 109, Int. II-57.

226. In response to this Board's question, Georgia Power responded: "The test program which is referred to in the sentence from the April 19, 1990 LER and Quoted in Interrogatory no. 1, was intended by Mr. Bockhold to refer to the testing of the diesel control systems which did not require diesel starts, i.e., the calibration of the CALCON sensors and the logic testing of the control systems." Mosbaugh at 110, Int. II-57.

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<sup>52/</sup> Mr. McCoy stated in his prefiled testimony that he believed that the plant staff knew at what point the CTP ended. McCoy 14. He testified at the hearing:

Today my understanding is that [Bockhold] had in his mind a definite set of tests that that comprehensive test program included, but that he had not defined that to other people, and that that led to miscommunications. Other people were assuming different things. That's my understanding of that.

Tr. 3003 (McCoy).



227. Georgia Power also stated that the test program ended on March 30, 1990 before start 148 for DG1A and on March 27, 1990 before start 137 for DG1B. Georgia Power claimed this was based on specific work orders and schedule entries also identified. Mosbaugh at 110, Int. II-57.

228. Switches 19110, 19111, and 19112 are the numbers of the High Jacket Water Temperature switches. According to the entry in Mr. Bockhold's notebook for 3-31 for switch 19111 and 19112 is "New Switch". These two switches were replaced on March 31, 1990, after they were suspected of malfunctioning and causing the 1A diesel trip on start 148. Thus, until the new components were installed, the "test program" could not be completed even under Georgia Power's definition. This occurred sometime after start 156. Mosbaugh at 109, Int. II-57, Int. II-18.

229. The CALCON sensors were calibrated after March 31, 1990. The CALCON vendor was on site on April 2, 1990, assisting in calibrating CALCON sensors. On April 2, 1990, the CALCON vendor found a loose sleeve on a sensor that affected calibration. Mosbaugh at 110.

230. It is not credible for Mr. Bockhold to believe the definition because on April 19, 1990, Bockhold stated that the 18 and 19 starts from his slide presentation on April 9, 1990 were all after the completion of the CTP. However, using Intervenor's Demonstrative Aid 2 and Demonstrative Aid 8, if you count back 19 starts from April 9, 1990, you don't get the same result as claimed in Mr. Bockhold's interrogatory response defining the CTP

for diesel 1B as being complete before start 137. For Diesel 1B, counting back 19 starts starting at start 148, the first start prior to April 9, 1990, the CTP would have to be complete before start 130, not 137. That is regardless of whether the starts were successful or not. The definition of what was a success, or what Mr. Cash counted or didn't count, has no bearing on this inaccuracy. Mosbaugh at 111, Int. II-16, p. 9, li. 7-13, Demonstrative Aid 2, Demonstrative Aid 8.

**ii. Reason for Inserting the CTP Into the LER**

231. Mr. Stringfellow did not know if LER and COA had the same starting point. Tr. 4092 (Stringfellow). He felt that the LER language was correct based on Bockhold's explanation that the trips occurred after the CTP. Tr. 4040 (Stringfellow).

232. According to Mr. Stringfellow, the purpose of introducing the comprehensive test program phrase was to "clarify" the starting point with respect to where the failures of the diesel generator occurred because Mr. Bockhold had explained that the diesel generator failures occurred before the CTP was concluded. Tr. 4038-40 (Stringfellow). This is simply not possible because the "comprehensive test program" was an undefined term alien to both plant and NRC nomenclature. No one who read the LER could possibly understand the starting point of the CTP and therefore no one could adequately decipher the adequacy or accuracy of the diesel start count presented to NRC to justify restart of the reactor.

233. The CTP phrase was inserted into the LER on the afternoon of April 19, 1990 because Georgia Power knew that the COA language that had been used on April 9, 1990 was false (i.e.: Aufdenkampe: "Because you know this has been written to the NRC once already." Stringfellow: "I know. That's exactly what I was thinking." GPC II-1, p. 50. Aufdenkampe: "What Birmingham is thinking now is that they made a Material False Statement in the April 9, 1990, letter. Who'd he say McCoy, Hairston and McDonald are reviewing this now." GPC II-1, p. 73.) Corporate knew that Mosbaugh and the site had identified the false statement in the April 9, 1990 presentations. Georgia Power also knew that the NRC was inquiring into the previous start count statements and had asked for a list.<sup>60/</sup> This presented a dilemma on April 19, 1990. Georgia Power had to go forward with the statement in the LER, pulling it from the final draft would clearly evidence a recognition that the COA statement was false, (something Georgia Power was not willing to acknowledge so soon after restart had been granted<sup>61/</sup> in April of 1990).<sup>62/</sup> Georgia Power made the LER statement look enough like the COA so as not to raise eyebrows at the NRC and Georgia Power had to change the statement enough to fend off the internal challenge

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<sup>60/</sup> GPC never provided the NRC a list sufficiently complete to demonstrate that the COA statements were false.

<sup>61/</sup> The diesel start statement was a basis for the NRC restart decision.

<sup>62/</sup> Even at the hearing in 1995 Hairston still denied recognition of the false COA statement until May or June of 1990.

from Mr. Mosbaugh. The undefined term CTP was inserted in the LER and Mr. Mosbaugh was told that the NRC understood the term.

234. The incorporation of the CTP phrase into the LER was deliberate. It was wholly inappropriate because the drafters of the phrase knew or should have known that this phrase obfuscated the meaning of the diesel start count because it had not been defined. Without an accompanying definition the ability to interpret the diesel start information vanished. Georgia Power had never before submitted a document needing oral explanation before it could be interpreted by NRC. Given the extreme importance of the underlying event and heightened management scrutiny, the fact that this LER was the only document Mr. Stringfellow could ever recall being submitted which needed an accompanying oral explanation to understand what it meant, is strong circumstantial evidence of wrongdoing. This is particularly true inasmuch as Mr. Stringfellow knew it was inappropriate to submit an LER requiring oral comments to interpret the document. Tr. 4080 (Stringfellow).<sup>62/</sup>

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<sup>62/</sup> Mr. Shipman stated in his prefiled testimony that "It didn't occur to us that it was necessary to define" the CTP. Shipman at 9. The reason for this, according to Mr. Shipman, was that Mr. McCoy told Mr. Brockman what he intended the basis of the diesel start count to be and that therefore the need to include a definition evaporated. Id.

The logic presented to us boils down to the assertion that Georgia Power was authorized to delete from an LER information it orally provided to NRC. This represents a shockingly deficient method of complying with mandatory reporting requirements. Mr. Shipman knew that a definition of the CTP was necessary because even he was unable to define it and determine a starting point for the diesel start count. GPC II-2 at p. 24. If he couldn't  
(continued...)

235. We conclude that Mr. Shipman's observation on August 15, 1990 that the inclusion of the CTP into the LER was the equivalent of throwing a "monkey wrench in the works" aptly described the event. GPC II-122 at p. 14.

**iii. Hairston's Participates in "Call A"**

236. At some point during the main conference call ("Call A"), Mr. Hairston became an active participant in the conference. The major disputed portion of tape 58 coincides with Mr. Hairston's participation. Significantly, Georgia Power had continuously denied that Mr. Hairston ever participated in this conference call. Int. II-95; Int. II-273. The denial includes numerous written statements, some submitted under oath, that were provided to NRC between August 1990 and December 1991. These denials were, of course false.<sup>64/</sup> Georgia Power now concedes that Mr. Hairston was a participant, but that a comment attributed to him belonged to an unidentified voice. First, we consider a portion of the tape to which NRC Staff and Intervenor are in complete agreement, but Georgia Power denies to be accurate. We set forth below a transcript of this segment of the tape and underline the portion disputed by Georgia Power.

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<sup>63/</sup> (...continued)  
adequately define it and if Mr. Mosbaugh argued with him as to its meaning, Mr. Shipman knew or should have known that a definition of the CTP had to be provided in order for persons reading the LER to make sense of the criteria used to determine the reliability of the diesel generators.

<sup>64/</sup> As stated elsewhere in this decision, we have concluded that Georgia Power's repeated denials as to Mr. Hairston's participation constituted materially false statements.

Georgia Power concedes that the transcript accurately sets forth what was stated, but asserts that the statements should be attributed to unidentified voices rather than to Mr. Hairston and Mr. Shipman.

Shipman: Let's see. What other question do we got?  
We got the start thing straightened out.

Stringfellow: The other question we had Bill, was the --

Hairston: [Interrupting.] We got the starts. So we didn't have no, didn't have no trips?

Shipman: No, not, not . . .

GPC II-2 at pp. 11-14.

237. The inquiry on this issue should stop here. The fact that Mr. Hairston asked the question demonstrates that he must have known about the issue. Mr. Hairston's failure to recollect when juxtaposed with his excellent memory of many other lesser issues is not credible. The evidence shows that he had direct actual knowledge of a potential material false statement in the COAR and potential material false statement in the LER shows that he failed to take reasonable steps to ensure no material false statements appeared in the COAR and that the LER did not contain a new material false statement.

238. In his testimony regarding his handling of the June 29, 1990 letter, Mr. Hairston stated that as soon as he received the QA data and saw that it was not what he wanted he told his staff to "[g]o down there and find out what the right (blank) number is, and find out why we can't get the -- why we can't get the



number straight." Tr. 3625-3634 (Hairston). This testimony showing his quick reaction and the fact that he took immediate steps to resolve the situation is indicative of what should have been done on April 19, 1990 and was not done. This tends to support Intervenor's contention that Birmingham corporate management was well aware of the overstatements made on April 9, 1990.

239. As stated above, NRC Staff identified the disputed voices as Mr. Hairston and Mr. Shipman. Mr. Mosbaugh testified that he is absolutely certain that Mr. Hairston and Mr. Shipman are correctly identified. Mosbaugh at 36; Tr. 8411-12, 9958-59, 9982-83 (Mosbaugh). Moreover, Mr. Aufdenkampe testified that the voices belonged to Messrs. Hairston and Shipman.<sup>55/</sup> Mr. Stringfellow testified that he could clearly identify Mr. Hairston's voice and was also able to identify Mr. Shipman's statement.<sup>56/</sup> Mr. Shipman admits in his prefiled testimony that

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<sup>55/</sup> Mr. Aufdenkampe testified as follows:

Q: Now, do you agree with Georgia Power's version on page 12, 'So we didn't have no -- didn't have no trips,' and "no, not not," that the voices are -- that you can't identify the voices?

A: I think you can identify the voices on that. I think the, "So we didn't have no --didn't have no trips" is George Hairston's voice." [sic] The "no, not not" is Bill shipman's voice.

Tr. 4808 (Aufdenkampe).

<sup>56/</sup> Mr. Stringfellow testified as follows:

MR. KOHN: Intervenor's version, page 14, lines 8 and 9. Mr. Stringfellow, isn't it true that with respect to Mr. (continued...)

he stated "No, not, not" but does not identify who made the statement "so we didn't have no, didn't have no trips?" Shipman at 7-8. Mr. Hairston testified that "there is a possibility" that it was him speaking. Tr. 3620 (Hairston).

240. Georgia Power asserts that there is a side conversation interspersed in the disputed portion of the tape. We note that Mr. Stringfellow testified that, with respect to the tape segment above, prior to Mr. Shipman's statement "no, not, not", there is no side conversation occurring. Tr. 3970 (Stringfellow).

241. We now turn to the significance of this segment of the tape. The question that had to be answered during the conference call was whether the trips of the diesel generator, identified with specificity by Mr. Mosbaugh prior to the conference, indicated that the April 9th letter contained a materially false statement and whether it indicated that the diesel start count about to be placed into the LER could no longer be assumed to be

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<sup>66</sup>/ (...continued)

Hairston's comment "So we didn't have no trips" that you could clearly hear Mr. Hairston say that on the tape?

\* \* \*

CHAIRMAN BLOCH: No, the question is did you clearly hear it on the tape.

THE WITNESS: Oh, I'm sorry. I'm sorry. Yes, I clearly heard it on the tape.

\* \* \*

Q: Well, when you listened to the tape, could you hear Mr. Shipman say "no not not"?

A Well, yes, I suppose I could hear that.

Tr. 3957-59 (Stringfellow).

accurate. It is Mr. Shipman's statement "We got the start thing straightened out" which prompted Mr. Hairston to interrupt and ask if it were true that there were no trips of the diesel generator. We have no doubt that Mr. Hairston's statement has but one meaning: Mr. Hairston knew that the April 9th letter (and the LER) may be or were false because there were trips of the diesel generator. This interpretation is logical because Mr. Hairston had already been notified of the assertion that the April 9th letter was materially false because there had been trips of the diesel after March 20, 1990.<sup>67/</sup>

242. Mr. Stringfellow testified that, based on listening to the tape recording, he believes the participants to the conference call would have heard Mr. Hairston interrupt him and ask the question "So we didn't have no, didn't have no trips?" Tr. 3959 (Stringfellow). Mr. Hairston was the Senior Vice President and the senior executive in the room. Because Mr. Hairston's question was clearly audible to all of the participants, we would expect a clearly audible response.<sup>68/</sup> We therefore turn to the response to Mr. Hairston's question.

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<sup>67/</sup> Since the record reflects that Mr. Hairston was a "hands-on" manager and paid close attention to details, it stands to reason that he would have been notified of the trips by Mr. McCoy on one of his morning phone calls. This would be particularly true in the period after the site area emergency since there was heightened awareness of the diesel starts. Tr. 3633, 11531 (Hairston); Mosbaugh at 46.

<sup>68/</sup> It is unbelievable that no one would answer a direct question as to whether or not there had been trips of the diesel generator.

243. Mr. Shipman's statement following Mr. Hairston's question is logically the beginning of the response. What occurs after that is in dispute. According to Intervenor, the tape segment following Mr. Shipman's statement constitutes evidence of an intent not to correct the materially false statement in the April 9 letter and to restate the same false information in the LER. Both NRC Staff and Intervenor hear Mr. McCoy state "I'll testify to that" followed by Mr. Shipman stating "disavow. What else do we have, Jack?" With the exception of acknowledging that Mr. Shipman states "[w]hat else do we have, Jack?" Georgia Power denied the remainder.

244. Assuming that the "disavow" and "I'll testify to that" comment are inaudible, we still find that this portion of the tape constitutes circumstantial evidence of wrongdoing. First, Mr. Shipman's statement "what else do we have, Jack?", represents the point in time in which Mr. Hairston's question had to have been answered. GPC II-2. There simply was an insufficient amount of time between the time Mr. Hairston asked the question and when the response was given to infer that any form of adequate explanation as to how the trips were being handled could have been discussed. Second, the tape demonstrates that whispering breaks out following Mr. Hairston's question. Georgia Power asserts that this whispering represents a side conversation between Mr. McCoy and Mr. Shipman. Because they were sitting next to the highest level managers participating on the conference call, they are the two most logical people to respond

to Mr. Hairston's question.<sup>69/</sup> That they would rather talk amongst themselves and ignore Mr. Hairston is not believable. Third, the whispering comes at a point in time where it represents questionable behavior in and of itself. Finally, we are reminded that the burden of proof rests with Georgia Power. We believe the words "testify" and "disavow" are distinguishable and we can find no logical explanation why these statements were not part of the response to Mr. Hairston's question.<sup>70/</sup>

**iv. Verification of the Number of Diesel Starts  
Following the CTP**

245. Georgia Power contends that Allen Mosbaugh and John Aufdenkampe were responsible for verifying the diesel start count contained in the April 19th LER. This assertion is not credible. In order to count starts, Mr. Mosbaugh necessarily needed a

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<sup>69/</sup> Mr. McCoy testified that he (Mr. McCoy), Mr. Shipman, Mr. Stringfellow and Mr. Hairston were in the same conference room during that conversation. Tr. 2994 (McCoy).

<sup>70/</sup> The weight of evidence against adopting Georgia Power's explanation of the conversation is overwhelming. First, Georgia Power originally denied that Mr. Hairston was on the call. Second, Mr. Hairston, Mr. McCoy and Mr. Shipman testified that they had no independent memory of the conversation. Third, we appreciate the fact that Mr. Shipman was unable or unwilling to outright deny under oath that he spoke the words "just disavow" or "disavow" on April 19th. Mr. Shipman's testimony is as follows:

I cannot make an assertion that I said 'valve' and I won't attempt to do that. I can say with a high degree of certainty that I did not say -- and I cannot hear it on that tape -- "disavow" or "just disavow." To what other alternatives may be there, valve may be one of them, but I'm not going to put that forth as that's what I think I said, because I have no independent recollection of that.

Tr. 11306-07 (Shipman).



starting and ending point. The starting point turned on the definition of the CTP phrase. Corporate management responsible for transmitting the LER knew that Mr. Mosbaugh had no idea of what was meant by the term CTP and was unable to arrive at an adequate definition. Moreover, an ending point was also essential. Mr. Mosbaugh was not told that the final wording of the LER excluded starts occurring after April 9 up until April 19. The final data available to Mr. Mosbaugh and Mr. Aufdenkampe on April 19th demonstrated that between March 20 and April 19, 1990 there were at least 18 consecutive successful starts of the diesel.

246. Without providing a definition of the CTP or advising the site management that they had altered the ending point of the start count (i.e.: April 9th rather than April 19th), those managers responsible for concocting the CTP language effectively stalled and prohibited site management from verifying the start count statement.<sup>21/</sup>

247. Mr. Shipman and Mr. Stringfellow should reasonably have known that they could neither verify the diesel start count nor ascertain where the CTP ended based on the documentation

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<sup>21/</sup> Mr. Shipman states that "I do not believe that I was even aware that some of the starts, which Messrs. Aufdenkampe and Mosbaugh were counting, had occurred after April 9, 1990." Shipman at 10. This assertion is ludicrous because it was well known that the LER under consideration was drafted to cover diesel starts up through April 19th and that, for this reason, the number of starts was increased to more than 20 times each to reflect the starts occurring after April 9th. The inclusion of the CTP phrase was to modify the starting point -- not the ending point -- of the diesel start count contained in the LER.



presented to them. Tr. 3987, 3990 (Stringfellow).<sup>12/</sup> The only basis they could rely upon was Mr. McCoy's and Mr. Bockhold's statements that the numbers presented during the April 9th presentation only included starts occurring after the CTP. According to the licensing engineer, "I didn't consider it to be essential that I personally verify [the start count]" because he felt "the word of George Bockhold and Ken McCoy" and the fact that no one spoke up to say "no" would suffice. Tr. 3991 (Stringfellow).

248. However, Mr. Aufdenkampe did maintain, during call "A" that verification of the numbers to be inserted into the LER may be appropriate under circumstances. GPC II-2, p. 8 (Tape 58). This suggestion was implicitly rejected by McCoy and Bockhold when McCoy stated that "we ought to use those numbers" referring to Bockhold's number, not the number of starts which would surface after Aufdenkampe's verification efforts were concluded.

249. In call "A" the decision to insert the "comprehensive test program" language was agreed to and the decision to use Bockhold's count of the number of starts was also agreed upon.

250. The complete failure of Georgia Power to exercise any form of appropriate management control over communications with the NRC was exemplified by Mr. Bockhold's sworn testimony

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<sup>12/</sup> That Mr. Stringfellow did not have documentation or sufficient knowledge to verify the information in the LER is significant. According to Mr. Stringfellow, he would normally independently verify the data and would examine the assembled data when reviewing a draft LER. Tr. 3990, 4001 (Stringfellow). Yet, with respect to LER 90-06, no such effort was taken.

regarding his basis for agreeing with the language placed in the LER. In an almost shocking admission, Bockhold stated his philosophy regarding the accuracy of information contained in the LER: the "language did not have any obvious faults. It could be true. You know, and that's what I was looking for. Could it be true?". Int. II-13 (OI Interview of Bockhold at p. 48).

Bockhold continued explaining his view of the language added into the April 19 LER:

It's a set of words that, you know, is describing a -- a perception of what was going on at the plant. It's not a -- y know, its not in bold. It not a defined set of terms. It's not like a tech spec term. It's an LER.

Int. II-13 (OI Interview of Bockhold at pp. 48-49).

251. The fact that Mr. Bockhold was not severely disciplined after he made these statements, and the fact that Georgia Power did not immediately distance itself from such a cavalier attitude, greatly troubles this Board.

#### **v. Conclusion of "Call A"**

252. Towards the end of "Call A", Mr Aufdenkampe stated that, if the changes discussed are all the changes that are to be incorporated into the LER, that a PRB meeting was not needed. Mr. Shipman responds that he could not guarantee whether additional changes would be made. GPC II-2 at p. 17. Mr. McCoy advises Mr. Aufdenkampe that Corporate will be done with the changes to the LER in 30 minutes, and "we'll call you back and let you know and you can make a judgement on whether you have to go back to the PRB. Id. at p. 18. Mr. Bockhold then told Mr.

Shipman that he had afternoon plans and "needed to run" and Mr. Shipman voices no objection. Id. The call terminated shortly thereafter.

253. That no further PRB action would be required was a foregone conclusion in Mr. Aufdenkampe's mind. In a conversation occurring shortly after Call A ended, Mr. Aufdenkampe stated:

I'm trying to figure out how many times the diesel started, but that's, that's irrelevant, too. It's just that corporate's reviewing the LER on the Site Area emergency, and I got to tell them whether we need to take it back through the PRB. And I've already determined, regardless of what they change, it doesn't need to go back to the PRB, but I can't tell them that until after the fact, and they're going to call me in a half-an-hour.

GPC II-2 at p. 21.

254. We interpret Mr. Aufdenkampe's statement as one of resignation; that he would accept the incorporation of the CTP phrase and not raise an issue with respect to the start count. Mr. Aufdenkampe's sentiments are well established later when he stated "regardless of how we put [the start count] in [the LER], when [NRC] comes and ask questions about it, we'll tell them this is what our basis for it was. This is why we get 18. If they interpret it differently, we're sorry. Well send a rev out...I'm not talking wrong or right, [inaudible], I'm just talking practical."<sup>23/</sup> GPC II-2 at p. 35.

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<sup>23/</sup> At the hearing Mr. Aufdenkampe admitted that his actions that day were influenced by Mr. Bockhold and Mr. Shipman:

Q Mr. Aufdenkampe, you were influenced by what you had been told by Mr. Bockhold as the definition of the comprehensive test program, is that true?

(continued...)

vi. Call "B"

255. Following the "After the completion of the CTP" and the "at least 18 times each" language was incorporated into the LER, Mr. Shipman and Mr. Stringfellow called the plant site. Mr. Mosbaugh began tape recording this call. A transcript of this call can be found between pages 22 and 33 of GPC II-2.

256. The tape recorded discussion begins with Mr. Mosbaugh's effort to define the CTP.<sup>24/</sup> Mr. Mosbaugh correctly understood that, to count the number of starts subsequent to the CTP, first you had to define the CTP. Mr. Mosbaugh made repeated efforts to understand how the CTP was defined by Mr. Bockhold before he joined "Call A" but the participants to that call, Mr. Aufdenkampe and Mr. Shipman, were unable to provide him with this definition and otherwise rejected Mr. Mosbaugh's effort to apply logic and reasoning to reach a workable definition. The recording of this portion of the call reflects the following:

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<sup>23/</sup>(...continued)

A I think that's correct.

Q And you were influenced by the fact that you had been told that Mr. McCoy had contacted the NRC, is that true?

A That's correct.

Q So would you say your decision-making was influenced by the actions of your superiors?

A Yes.

Tr. 5522 (Aufdenkampe).

<sup>24/</sup> Mr. Mosbaugh was handicapped because of his exclusion from the portion of "Call A" when Mr. Bockhold apparently discussed the CTP.

Mosbaugh: We have the data. The question is, is what's that date and time? [[Laughing] What --- what, as soon as we get to the point at which we want to start counting, we can get the count pretty quick.

\* \* \*

Mosbaugh: ...so the question again comes back to at what point are we going to start counting?

Shipman: Well, George [Bockhold] said he started counting after we had completed the instrument recalibration, okay? So that's one point. I can't define it. I don't, you know, I don't know when that was. Somebody generated this set of data that generated the numbers 18 and 19 to George [Bockhold] on that basis.

\* \* \*

Shipman: Okay. One other thing we could do, Al, you know, saying we still continue to have problems with trying to define this. We could back away from this completely, and change this to say how many starts we've had since we declared the diesel operable.

Mosbaugh: Yes...That's easy to define...

Shipman: The problem with that is that that number is going to be significantly less, I think, than

what George told to Mr. Ebnetter, and, you know, it's going to create a selling job for me, I think, but -- it that's the only way we can tell a valid story that, you know, we can defend if somebody calls Allen Mosbaugh, Bill Shipman and John Aufdenkampe to testify, that's the story I want to tell.

Mosbaugh: Well...let me try some logic here. We have these two failures, and now John says there are three failures.<sup>25/</sup> You know, we're kind of saying, hey, those are not valid failures, you know, because we were coming out of maintenance on the machine and had yet to declare it operable. You know, that's how and why we're discounting those failures.

Shipman: So we had yet to, to, to determine that coming out of an outage on the machine, we

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<sup>25/</sup> Mr. Mosbaugh's comment concerning the third trip is very significant. The tapes clearly depict that Mr. Mosbaugh was only aware of two failures. It appears that Mr. Mosbaugh is, for the first time, made aware of a "third" failure (presumably referring to start 136 of the 1B diesel). At the hearing Mr. Aufdenkampe testified that prior to the commencement of "Call B," presumably during the portion of "Call A" before Mr. Mosbaugh joined the call, that the "third failure" was identified to Mr. Aufdenkampe as occurring before the CTP ended. Tr. 5512 (Aufdenkampe).

The revelation that there were three failures is also significant to Mr. Hairston's question during "Call A" as to whether there were trips of the diesel. The participants to Call A apparently also knew about a third problem that we assume was not previously told to Mr. Hairston. Yet, there is no discussion of the third "failure" in response to Mr. Hairston's question.



had to go and basically do a complete set of recalibrations of the instruments. That was the logic that George used, not that, not that we were declaring it operable, because we obviously hadn't declared it operable.

Mosbaugh: Well, one of those failures was when we were doing the, you know, an eight-hour loaded run. I would sure hope to hell think that we had calibrated the instruments before we did an eight-hour loaded run.

Shipman: Well, not according to George. We hadn't recognized the need to go back and redo all those things. Is that not what he said John Aufdenkampe?

Aufdenkampe: That's what I understood.

Mosbaugh: I'm just thinking from the standpoint of testing logic. You know, you're going to do an eight-hour loaded run on the machine, you know, obviously the component testing ought to be done at that point.

Shipman: ...we thought he had done everything we needed when we returned it to service....We found out that we hadn't, and George is saying, oh, oh, hey, gang, from the time we realized that 1A and 1B, we had to do a complete recalibration and make sure we had

our facts together on all the instruments, we had many many starts. I'm trying to defend George and --

Aufdenkampe: Well you know, the bottom line is on the B diesel, we had done major maintenance on it. We were in the process of testing to, make sure it was working right. During that testing process, we had it fail apparently three times. Once we got all the bugs worked out of it -- since the point we got all the bugs worked out of it that we've had -- we had -- and I'm kind of guessing, but, uh, 27 starts, because I don't know where the three failures are in the sequence of 27 starts, but we had X number of starts. And George's argument is that is, after we got all the bugs worked out, we had 18 starts.<sup>76/</sup>

Shipman: What he's trying to do is he's trying to show by data that once you get the bugs worked out, like you say John, the diesel works fine.

Aufdenkampe: That's right. And that's regardless of the point of declaration of operability or not.

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<sup>76/</sup> On page 34 of the transcript, Mr. Aufdenkampe states that George Bockhold "said the comprehensive test program ended after the third trip." Apparently during an early part of "Call A" before Mr. Mosbaugh arrived, the participants that call discussed the three problem starts.

Shipman: Fine. Right.

Aufdenkampe: You know, I think what we discussed on how to handle those, the number of actual diesel starts, how we discussed that before, I think we ought to just leave it at that.

Shipman: Just say at least 18 times each, huh?

Aufdenkampe: Yeah.

Shipman: Okay.

GPC II-2 at pp. 23-27.

257. At this point Mr. Aufdenkampe indicates that someone had validated the data on which Mr. Bockhold based his presentation numbers and the data currently available to Mr. Aufdenkampe did not demonstrate that the information Mr. Bockhold presented at the conference was wrong. Mr. Aufdenkampe then begins to ask Mr. Mosbaugh if he agreed and, before he could complete the sentence, Mr. Shipman overspeaks him to state that he was going to go with Mr. Bockhold's numbers. The transcript reflects the following:

Aufdenkampe: I mean, that, that, that -- someone had gone and validated that data, and that's what George presented. The data that's been offered to us does not bring into question that data.

Shipman: Okay.

Aufdenkampe: It tends to support that data. Would you take exception<sup>27/</sup> to that Allen?

Shipman: We're going to go with that. Jack Stringfellow's just grinning from ear to ear.

GPC II-2 at pp. 26-27.

258. After being cut off in the middle of his last comment, Mr. Aufdenkampe begins speaking. He tells Mr. Shipman that "we can't let people be misled, to think that there were not failures until we started doing that count." Mr. Shipman then assures Mr. Aufdenkampe that that was the case (i.e., "and we way that") and proceeds to read the final wording of the LER. GPC II-2 at pp. 27-28. The reading of the final language to Mr. Mosbaugh triggers him to renew his objection to the language. He states:

Mosbaugh: When you read it that way to me Bill, when you talk about the comprehensive test program, you know, I kind of set the philosophy for that down here, is that we would have a test program to, you know, determine root cause and restore operability, and, uh, you know, that kind of sounds like what I talked about down here on our diesel

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<sup>27/</sup> Before Mr. Aufdenkampe could finish saying the word "exception", Mr. Shipman, in a louder and faster paced voice overspeaks Mr. Mosbaugh stating "we're going to go with that. Jack Stringfellow's just grinning from ear to ear." This segment of the tape was played numerous times at the hearing for Mr. Aufdenkampe, who testified that Mr. Shipman did, in fact, commence overspeaking him at this point in the conversation. Tr. 5505 (Aufdenkampe). Mosbaugh at 54; Tr. 5250-51 (Mosbaugh). Our listening to the tape confirms this.

test program, and it sounds like that is kind of establishing the starting point [of the diesel count], you know, at least at the point in time after which we did the UV testing.

GPC II-2 at 28.

259. Mr. Mosbaugh's statement presented a significant problem because everyone knew that the diesel experienced a trip after UV testing was completed. At this point Mr. Shipman sidesteps Mr. Mosbaugh's final attempt to define the CTP and obtain the starting point for the count. He accomplished this by telling Mr. Mosbaugh that they did not need to know the exact definition of the CTP because it had already been explained to the NRC by Mr. McCoy during a telephone call he placed to Mr. Brockman earlier that afternoon. According to Mr. Shipman, Mr. McCoy placed this call because "we had an issue" with the definition of the CTP and Mr. McCoy resolved that issue by obtaining absolute assurance from Mr. Ken Brockman that he and the IIT team understood the meaning of CTP. GPC II-2 at pp. 28-29.

260. The end of tape 58 reflects that both Mr. Aufdenkampe and Mr. Mosbaugh were troubled with the resolution of their initial concerns regarding material false statements in the COAR and the problems this was causing with the LER. Mr. Aufdenkampe stated at the hearing:

I saw on the part of Mr. Mosbaugh some concerns and some questions that were not -- that he could not at that point in time come to grips with. I had assertions from the general manager of his definition, and I went with what the general manager provided.

Tr. 5523 (Aufdenkampe).

**vii. McCoy's Communication with Brockman**

261. Mr. Brockman, of the NRC, stated that he understood that the CTP "was a detailed program by which all the repairs and modifications were verified to be effective and complete." Brockman understood that "at no time during the verification process were any failures experienced." Brockman further stated that "[b]y not including the starts associated with the troubleshooting process a "full and complete picture" was, therefore, not given at the April 9th presentation." Mosbaugh at 52, Int. II-58.

262. Mr. Hunt of the NRC had no knowledge of the phrase "comprehensive test program." In fact it seemed to mean nothing to him. Tr. 4993 (Hunt).

263. Mr. Kendall had also never heard of the term. Tr. 5036 (Kendall). However, he stated that the use of the term in the LER meant to him that "all the testing that was done since the event...all the tests that were conducted during that time period. Tr. 5074-75 (Kendall).

264. Significantly, on April 10, 1990 the IIT team spoke with Georgia Power Corporate and site representatives and advised



them that they needed a complete list of diesel runs so that NRC could "understand what your testing" program consisted of. GPC II-31 (April 10, 1990 IIT tr. at p. 6). Georgia Power failed to produce this list. It is difficult to imagine how NRC could understand a "comprehensive test program" when they had yet to receive the very documentation they previously requested and needed to understand what testing was actually accomplished.

**ix. Mr. Swartzwelder Joins Call B**

265. Immediately after Mr. Shipman defends the use of the CTP based on Mr. McCoy's conversation with Mr. Brockman, Mr. Swartzwelder enters the room where Mr. Mosbaugh and Mr. Aufdenkampe are located and participates in the conference call.<sup>28/</sup> The discussion that took place when Mr. Swartzwelder joined the conference appears is striking for the sole reason that it appears to reflect a desire on the part of Mr. Shipman to discourage bring forth information that might controvert the LER. The transcript of the tape recording reflects the following discussion:

Aufdenkampe: Jim Swartzwelder just walked in, too. He's going to help shed light on various things.

Shipman: Various things.

Aufdenkampe: Because I'm not sure I can answer --

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<sup>28/</sup> Mr. Swartzwelder was aware of the outstanding issue concerning the diesel start count as he attended the April 19th PRB meeting. Moreover, Mr. Cash reported directly to Mr. Swartzwelder and it stands to reason that Mr. Swartzwelder would have had some information concerning Mr. Cash's involvement on the diesel start count.

Swartzwelder: Other things he doesn't want to shed any light on.

Shipman: Things he doesn't want to be quoted on, right?

Aufdenkampe: Other things that I'm, in the dark --

Swartzwelder: That's correct.

Aufdenkampe: That I'm in the dark on.

Voice: [Inaudible]

Voice: And I would never hear.

GPC II-2 at p. 29

266. The transcript next reflects that Mr. Aufdenkampe changed the topic to discuss comments raised by Mr. McDonald. Id. Thereafter, the conversation turns to the false statement pertaining to diesel starts Mr. Shipman terminates the conversation because it was "getting soggy" around that tree. He asks the site to "hang with us on this" because the LER had "political impact" and was "fine-tuned" by Messrs. McDonald, Hairston and McCoy. The transcript depicts the following dialogue:

Shipman: . . . [Reading] "the control system to both diesels have been subjected to a comprehensive test program, period. Subsequent to this test program, Diesel Generator 1A and Diesel Generator 1B have been started at least 18 times each, and no failures or problems have occurred with any

of these starts, period." John can walk you through all of the discussion. I just don't think I want to go through it all again.

Aufdenkampe: Well, why not, Bill?

Shipman: I've been around that tree so many times today.

Aufdenkampe: All right. It's getting soggy around there.

Shipman: It sure is.

Aufdenkampe: Okay.

Shipman: Okay, fellows. I appreciate you all's helping. Hang with us on this. I think I said earlier that this thing has such political impact that Ken and Pat and George all wanted to fine-tune it for technical as well as political implications.<sup>29/</sup>

GPC II-2 at pp. 31-32.

267. At this juncture Mr. Aufdenkampe asks if further PRB action is needed. Mr. Shipman states that he has discussed all the changes Corporate was going to make and that he does not believe the PRB needs to review them unless Mr. Aufdenkampe felt it was needed. GPC II-2 at p. 33. Mr. Shipman and Mr. Swartzwelder then discuss arrangements for Mr. Swartzwelder to

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<sup>29/</sup> This comment appears to refer back to the earlier comment made by Mr. Aufdenkampe to Mr. Mosbaugh that Mr. McDonald, Mr. Hairston and Mr. McCoy had been advised of the trips and were assessing whether they had made a material false statement in the April 9th letter. GPC II-1 at pp. 72-73.

call Mr. McCoy from his office and Mr. Shipman's participation ends. Id.

268. The transcript indicates that, after the call to Mr. Shipman ends, Mr. Mosbaugh was shown a list of starts prepared by Mr. Webb. We infer this from the following taped conversation:

Mosbaugh: I can't find enough starts so far.

Aufdenkampe: Can you find 18?

Mosbaugh: No. Not even close ...

Aufdenkampe: Odom got this.

Mosbaugh: I'm not sure when he started.

Aufdenkampe: He started on March 20th.

GPC II-2 at p. 34.

269. Following this the discussion turned again to the definition of the CTP and Mr. Mosbaugh again expressed his disgust and frustration with the inclusion of the CTP into the LER; Mr. Aufdenkampe indicated, should the NRC question the definition of the CTP such that there are not enough starts, Georgia Power would say "we're sorry" and issue a revision to the LER and that this was the practical thing to do, whether it was wrong or right. The tape transcript reflects the following:

Aufdenkampe: George [Bockhold] said the comprehensive test program ended after the third trip.

Mosbaugh: Well, that's bull [expletive]. The undervoltage testing is part of the comprehensive test program, right?...On the B

unit, the undervoltage testing is certainly part of the comprehensive test program.

Aufdenkampe: I don't know, Allen.

Mosbaugh: Well [expletive], it was part of the test program that we put in writing in the little schedule we gave to the IIT.

O. The June 29, 1990 LER Revision

i. **Mosbaugh Initiates Revision to LER**

270. On April 20, 1990, Mr. Webb and Mr. Mosbaugh reviewed a telecopy of the final LER that had been submitted and Mr. Webb was surprised by the diesel start statement. Mr. Webb's initial reaction, which he expressed to Mr. Mosbaugh, was that it was wrong, and he questioned what was meant by "subsequent to the test program." Webb Rebuttal at 8-9.

271. Mr. Mosbaugh, in an attempt to get to the truth, proceeded to generate a list of the 1B diesel starts using four sets of source documents. Tr. 5211-12, 5148 (Mosbaugh). He did much of this work on his own time at home. Tr. 5212 (Mosbaugh).

272. Data gathered by Mr. Mosbaugh demonstrated that there were problems and failures with the diesel generators since the site area emergency, contrary to the information given to the NRC in the April 9th COA response letter and the April 19th LER. Mosbaugh at 36.

273. On April 30, 1990, Mr. Mosbaugh informed Mr. Bockhold of this data and that the information given to the NRC in the COA and the LER was incorrect. Mosbaugh at 36, Int. II-29, Tr. 4047

(Stringfellow). He also gave Mr. Bockhold the list he had compiled of diesel starts. Mosbaugh at 36.

274. Mr. Bockhold asked Mr. Mosbaugh to verify his diesel start list. Mr. Stokes provided Mr. Mosbaugh with a DG1A start list at this time. On May 2, 1990, Mr. Mosbaugh informed Mr. Bockhold that the diesel start lists were correct and that the LER was incorrect. He then proceeded to correct the LER and got the PRB to approve it on or about May 9, 1990. The LER was sent to Corporate on or about May 15, 1990. Mosbaugh at 37.

275. Mr. Bockhold had acknowledged the error in the LER by May 2, 1990 and by May 15, 1990, Corporate had revised it. Other individuals within Georgia Power also acknowledged the errors. Mosbaugh at 58-59, Int. II-30, Int. II-64B, GPC II-1.

276. Mr. Webb was directed to prepare a revision to LER 90-006, which he did, and which reads:

After the 3-20-90 event, the control systems of both engines were subjected to a comprehensive test program which culminated in control logic tests on 3-30-90 for DG1A and 3-27-90 for DG1B. Subsequent to this test program, DG1A and DG1B have been started 11 times each (through 4-19-90) and no failures or problems have occurred during any of these starts. These included an undervoltage start test without air roll which was conducted on 4-6-90 and DG1A started and loaded properly.

Webb Rebuttal at 10.

277. On May 8, 1990, the PRB approved, with comment, the draft revision of the LER. Aufdenkampe at 16; GPC II-38. Mr. Frederick asked for clarification concerning the meaning of the "comprehensive test program." Mr. Mosbaugh provided a rewrite of the revision (GPC II-170) to address Mr. Frederick's comment. A



further revision was made to state that "DG1A had been successfully started 15 times and DG1B had been successfully started 14 times as of 5-14-90, with no start failures." This draft revision was sent to Jack Stringfellow in the corporate office. Webb Rebuttal at 10.

**ii. PRB Action Item Dismissed**

278. At the PRB meeting held on May 10, 1990, the PRB, with Mr. Mosbaugh acting as Chairman, assigned an action item to the General Manager, Mr. Bockhold, to determine how the April 9th letter would be corrected. Mosbaugh at 37, Int. II-31, GPC II-39. Mr. Aufdenkampe believed he was instructed to use the cover letter for the revised LER to correct the April 9th letter. Aufdenkampe at 17-18.

279. On May 11, 1990, Mr. Mosbaugh was removed from the PRB and received notice that he would not be reinstated to the position that he had held prior to being made Acting Assistant General Manager Plant Support. Mosbaugh at 38.

280. During the summer of 1990 the diesels continued to experience trips and problems. Mosbaugh at 38.

281. Mr. Bockhold signed off the action item to determine how to correct the COA on May 24, 1990, but no corrections were made to the COA for over 3 months. Mosbaugh at 38, Int. II-33.

**iii. Delay in Issuing the LER Revision**

282. Mr. Stringfellow was assigned the task of drafting a revised LER on May 15, 1990. Tr. 4055 (Stringfellow). He

initialed out a draft of the revision for signature on May 31, 1990. Tr. 4048, 4083-84 (Stringfellow).

283. The draft of the revised LER "sat on the office shelf" in Corporate for a couple of weeks. Mr. Webb couldn't recall when that had ever happened before. Tr. 6762 (Greene), GPC II-44, p. 30. In fact, it was unusual for any report to go to Corporate and not to be looked at for several weeks. Tr. 13300 (Webb).

284. The blue folder for the revised LER demonstrates that Mr. Stringfellow worked on it in early June. He also recalled that it sat on the shelf in the corporate offices for a significant time. Tr. 4048 (Stringfellow), Int. II-136.

#### iv. Mr. Hairston Directs a QA Audit

285. Mr. Hairston directed that QA conduct an audit in early June of 1990. Mr. Hairston does not remember that he requested a narrowly-scoped audit. He testified that he probably said something to the effect of, "Go down there and find out what the right (blank) number is, and find out why we can't get the -- why we can't get the number straight." Tr. 3631 (Hairston).

286. Mr. Frederick stated that he was tasked with conducting an audit that was to determine the correct number of starts that should have been in the April 19th LER but was not instructed to determine the problems with the April 9th letter. Tr. 4163-64, 4177 (Frederick).

287. Although Mr. Frederick claimed that he was told the scope of the audit was only to determine the correct start count he stated in a conversation, taped on June 12, 1990, that his

original instructions were also to determine "why the discrepancy exist[ed]" and stated that they were looking at "everything, All the logs that supposedly exist on it." Tr. 10604 (Frederick), Staff II-16 (tape 160). Mr. Ajluni testified that he was "dead sure" that he did not give him this instruction. Tr. 10840 (Ajluni). He also stated "And he [Mr. Hairston] told me, 'Mark, go find out what the right numbers are.'" Id.

288. Mr. Frederick also demonstrates on tape 160 that the control room log was being reviewed during the audit and that he has knowledge that "the control room log is not accurate." Tr. 10604, Staff II-16.

289. The final audit report did not mention the control room log or list or tabulate any audit findings regarding it. This is a factor that makes the audit suspect. It leads to the conclusion that Georgia Power knew that a reviewer could get a correct count using the control log and therefore expunged its reference from the final audit report.

290. The audit report included tables listing the starts of the 1A and 1B diesels from March 20th through June 7th. GPC II-15. It concluded that subsequent to the completion of the test program (as defined in the audit report) through April 19th, there had only been 10 and 12 successful starts of the 1A and 1B diesels respectively. Id. at 1.

291. The June 29, 1990 SAER audit stated, in part:

No specific cause for the error in the LER number of 18 starts was identified. However, it appears the major problem was that on April 19, 1990, when the LER was prepared, the Diesel Generator Start Log [maintained by

the Engineering Support Department] had not been updated. . . . Therefore, no single source document was readily available for determining the results of diesel start attempts following the Site Area Emergency March 20, 1990, and prior to submittal of the LER April 19, 1990. Also, it appears that confusion about the specific point at which the test program was completed exists. Therefore, successful starts made during the program were counted . . . .

The error introduced in the LER appears to be the result of incomplete documentation. It was determined that on the date of the LER submittal, entries in the Diesel Generator Start Log were not up-to-date. Additionally, data forms generated by the Control Room during each start had not been processed.

GPC II-15 at 4 (emphasis added). Thus, both record keeping and confusion regarding the end of the comprehensive test program were identified in the SAER (QA) Audit Report as problems leading to the inaccuracy in the original LER. McCoy at 19; Tr. 3070-71 (McCoy).

292. However, Mr. Frederick never asked Mr. Cash at what point he started counting starts and at the time the audit was performed he did not know which log Mr. Cash had used. Tr. 4164-66, 4171 (Frederick). He also never asked Mr. Bockhold what instructions he gave to Mr. Cash to do the count. Tr. 4173 (Frederick).<sup>80/</sup>

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<sup>80/</sup> The fact that no one ever asked Mr. Bockhold or Mr. Cash how the count was obtained and what they thought the instructions were is disturbing. This is especially so with regard to the people who were in positions of responsibility and those who were delegated to determine how the errors were made (i.e., Messrs. Hairston, McCoy, Ajluni and Frederick). Tr. 3611 (Hairston, Tr. 2886, 2950 (McCoy). Mr. Ajluni describes an incident in which he asked Mr. Cash if "he recalled where the mistake was made in counting the log" and that Mr. Cash explained his error. Tr. 10781 (Ajluni), Int. 11-20. However, Mr. Cash stated that "[he did] not ever remember sitting down with the man and going over anything in (continued...)

293. In fact Mr. Frederick admitted that he did not want to interview anyone because he did not want to worry about what others had done before. Tr. 4173 (Frederick). In addition, the control room log used in Mr. Cash's count was not reviewed during the audit. Tr. 4176 (Frederick).

294. Mr. Frederick stated the fact that the control supervisor's logs could have been used to make the count was reason enough to conclude that the error was due to the fact that they were not up to date. Tr. 4180-81 (Frederick), GPC II-44. We find this logic completely incredible.

295. Mr. Majors admitted that at the time of the June 29th letter he knew it was possible that the logs were complete and that the personnel error could have been due to the counter's instruction as to what to count, but yet the letter blamed the error solely on record keeping. He stated the fact that the counter made a mistake could be blamed on record keeping, but finally agreed that if the person simply counted wrong then this would not be a correct statement. Tr. 6238-43 (Majors).

296. Mr. Frederick also never requested the Cash list to review it to see whether or not it was inaccurate, he just assumed it was. Tr. 4181 (Frederick).

297. Due to the fact that the audit report did not review the records that were used to make the count, it was misleading

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<sup>80</sup>/ (...continued)  
detail" and that he did not make an error counting. Tr. 4546, 460001 (Cash).

to provide the NRC simultaneously with the audit report and the revised LER. Tr. 6259 (Majors).

298. It is clear that the audit was grossly inadequate. The fact that it was narrowly scoped and did not try to determine why the errors occurred is a major flaw. The auditor failed to ask the people involved how the original count was made and the meaning of definitions used. It is notable that since the errors in the April 9th and April 19th cover letters were different, so were their root causes. Merging the two letters in this fashion put a stop to the investigation into where the count numbers of 18 and 19 came from and who verified them. However, the fact that it failed to fulfill its objective, to determine the correct start count, is even more significant. The fact that this audit was so inadequate is evidence that Georgia Power was either not highly concerned about finding the root cause of the errors and providing accurate information to the NRC or that the errors were willful.

#### **v. Differences in Prior Drafts**

299. There were several versions of the revised LER which all stated different incorrect reasons for the error. Mr. Webb told Mr. Mosbaugh that Messrs. Shipman and Hairston had been responsible for some of those versions. Mosbaugh at 57, Int. II-64, Int. II-32.

300. The various drafts of the June 29th cover letter are contained in Intervenor's exhibit II-64. Tr. 6284 (Majors).



These drafts demonstrate that Georgia Power was searching for a "good story" instead of looking for the truth.

301. It took more time to put together the cover letter, with the best story, than it did to put together the revised LER. Mr. Majors' role was to send the changes back and forth between Corporate and the site. Tr. 6291 (Majors). He was not a verifier of facts. Tr. 6302 (Majors).

302. It is incomprehensible that the fact the various letters had extremely divergent explanations for the errors in the April 9th and April 19th letters did not cause concern to Georgia Power's management. Tr. 6292 (Majors), Int. II-64.

**vi. Assignment of Responsibility to Mr. Majors**

303. Mr. Majors took over this assignment shortly before the revised LER was issued. Tr. 6308 (Majors). Mr. Majors had not had any prior involvement in the preparation of the April 9th presentation or letter, or the April 19th LER. Majors at 1.

304. Mr. Majors states that his assignment was mainly to revise start count numbers. However, this was the extent of his assignment. His only other task seems to have been to include mention of corrective actions taken. Majors at 2, Tr. 6229 (Majors). Mr. Majors recalls working on this assignment for possibly less than a week. Tr. 6316 (Majors).

305. Input was received by Mr. Majors on more than one occasion from Messrs. McCoy and Hairston. Tr. 6315 (Majors). Georgia Power used the information obtained from trying to correct the LER to provide an explanation that acknowledged the

differences in the April 9th and April 19th start counts. Tr. 6342-43 (Majors). This was done without a determination of the root cause of the error in the April 9th letter. See paragraph \_\_\_\_, above.

306. The word "clarify" was used in the final version of the June 29th letter because Mr. Majors was not comfortable using the word "correct" if he did not specifically know that there was an error in the April 9th letter. Tr. 6351 (Majors).

307. The person with the ultimate responsibility for ensuring the June 29th revised LER was accurate and complete in all material respects was Mr. Hairston. Tr. 6368 (Majors). He was also the person who wanted the June 29th letter to mention the April 9th letter because he was concerned that the revised LER would raise questions about its accuracy. Tr. 6372 (Majors).

308. Mr. Majors does not feel today that the statements identified in the June 29th letter as false and misleading are in fact false or misleading. Tr. 6224 (Majors). The fact that he and other Georgia Power witnesses express that there was no false or misleading statement, after the company has admitted to them, is demonstrative of the licensee's persisting lack of candor in its communications with the NRC.

309. Mr. Majors never tried to find out how the error in the LER occurred and did not know who he should ask to find out. He testified that he still does not know what happened. Tr. 6245-46 (Majors).

310. Yet Mr. Majors believes the information given to the NRC was the best they had at that time. He felt that it was not necessary to investigate it further because he did not believe that it impacted on safety or licensing. Tr. 6248 (Majors). He felt the audit report was an adequate basis even though he knew it did not contain a root cause analysis. Tr. 6248 (Majors).

311. Messrs. Hairston and McCoy worked on drafts of the June 29th cover letter. Tr. 3046-47 (McCoy). They even personally designed the wording of the sentence, which states: "The discrepancy is attributed to diesel start record keeping practices." Mosbaugh at 58, Int. II-32.

312. The next to the last sentence of the first paragraph of the June 29th letter which reads: "The number of successful starts included in the original LER included some of the starts that were part of the test program," is also a sentence crafted by Mr. McCoy and Mr. Hairston. GPC II-44, p. 21, Tr. 6273 (Majors).

313. In the conversation on Tape 187, Mr. Majors makes statements such as: "Now, that's a Ken McCoy additional sentence that has been blessed by George Hairston" and "There's another George and Ken McCoy designed sentence." GPC II-44.

314. Mr. Hairston had personally "zeroed in" on the record keeping sentence and in fact it was his desire to include the reference to the April 9th letter. Tr. 6277-78 (Majors).

315. Knowing that this statement had possibly originated from Mr. Hairston gave Mr. Horton pause to think that there might

have been a lot of research put into it. The manner in which he structured his conversation with Mr. Frederick and Mr. Mosbaugh [GPC II-44] might have been different if he had known the source was not Mr. Hairston. Tr. 6062 (Horton).

316. Mr. Frederick was also aware at the time that the sentence was designed by Mr. Hairston. Tr. 4191 (Frederick).

#### **vii. Implications of the PRB Review**

317. Before the revised LER was submitted, a draft of the cover letter, worded essentially the same as the final version, was transmitted to the site and was reviewed by the PRB members.<sup>21/</sup> GPC II-44. The PRB approval was obtained by polling the PRB members by telephone because they could not be assembled. Id. at 25; Horton at 2. In these conversations, Mr. Mosbaugh, who was no longer a PRB member, expressed concerns that the cover letter was not complete and accurate with respect to the cause of the error in the April 19th LER and that it failed to explain the April 9th letter. GPC II-44. The failure of the PRB members to resolve Mr. Mosbaugh's concerns, was probably due to the fact that they knew that Mr. Hairston and Mr. McCoy were responsible for key sentences in the June 29th cover letter. See generally GPC II-44.

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<sup>21/</sup> The only difference between the draft and final versions was that the last sentence of the first paragraph of the draft stated, "The discrepancy is attributed to diesel start record keeping practices . . .", whereas the final letter stated, "The difference is attributed to diesel start record keeping practices . . .". Compare GPC II-16 with Int. II-64 (page 8). See GPC II-44 at 25.

318. Mr. Horton agreed with Mr. Mosbaugh as to why there was a mistake in the June 29th LER cover letter, yet he said he would go with the flow and withdrew his comments. Tr. 5924-25 (Horton), GPC II-44, p. 4-5. While Mr. Horton stated that he still had questions in his mind, he did not voice them. Tr. 5925 (Horton). We believe this is indicative of the reluctance of the PRB to change wording they knew originated from Mr. Hairston.

319. In the conversation recorded on June 29th, [tape 187] the discussion centered around whether or not a material false statement would be submitted to the NRC if the proposed draft by Mr. Hairston, which stated the difference is attributed to the diesel start record keeping practices, was submitted. Tr. 4183 (Frederick), GPC II-44.

320. It is clear from the tape transcript that Mr. Mosbaugh explained to Mr. Frederick his concern that the sentence was inaccurate. The fact that the control supervisor's log was not relied upon by Mr. Cash and the fact that the letter said it addressed the April 9th letter, but that it did not, were both facts that would make the statement false. GPC II-44.

321. Mr. Mosbaugh expressed his concerns that the cover letter was inaccurate; however, nobody made sure Mr. Mosbaugh's concerns were resolved. Tr. 3261 (McCoy). Mr. Greene and Mr. Horton admitted that they did not adequately resolve Mr. Mosbaugh's concerns regarding the June 29th letter in the PRB. Tr. 5942 (Horton), Tr. 6734 (Greene), Greene at 6.

322. Mr. Mosbaugh informed Mr. Majors that the June 29th cover letter did not adequately address the problems with the April 9th count. The fact that one explanation for the different reasons for the error would not be sufficient was also related by Mr. Mosbaugh. Tr. 6250-51 (Majors), GPC II-44. Mr. Mosbaugh also stated to the others that the "basis in the LER is different" than the April 9th COA letter; that the error was not due to "record keeping". GPC II-44.

323. Mr. Majors stated that it was obvious to everyone on the call that personnel errors had occurred. Tr. 6236 (Majors), GPC II-44. If this was true, it is hard to understand Georgia Power's rationale in not stating it as a cause in the June 29 letter. The record reflects that Mr. Majors would have briefed Mr. Hairston on the information he obtained in this discussion. Tr. 6353 (Majors).

324. Mr. Mosbaugh represented to Mr. Greene that the misinformation in the original LER started with Jimmy Paul Cash and, therefore, the pertinent question was "why did Jimmy Paul Cash make a mistake?" Mr. Mosbaugh then represented that Mr. Cash's error was propagated through Tom Webb and the NSAC group because "they assumed that the information was correct and then just added on to it for extra days." GPC II-44 at 18.

325. Mr. Majors joined the call at about this point. GPC II-44 at 19. With respect to the record keeping sentence, he explained that it was referring to and trying to summarize, the findings of the audit report -- that "there is no single document



readily available for determining the results of diesel starts." Id. at 21.

326. Mr. Greene proposed a minor change to the sentence -- that the word "discrepancy" be changed to "difference." GPC II-44 at 21. Mr. Greene stated that he really felt that something needed to be included in the cover letter that was useable. Id. at 25.

327. Mr. Mosbaugh stated that the cover letter was incomplete in not fully addressing the April 9th letter. GPC II-44 at 26-27. In response, Mr. Greene asked Mr. Mosbaugh to "[t]ell me how you would change the letter." Id. at 27. Mr. Mosbaugh responded that the cover letter only explained references to the comprehensive test program, and that the April 9th letter did not use such words. He then asked Mr. Greene a series of questions, "how did we make that mistake [in the April 9th letter]?"; "[h]ow was that false?"; "[w]hy was that false?" Id. After listening to further discussion between Messrs. Webb, Mosbaugh and Frederick, Mr. Greene asked further questions, including "[w]hat do you [Mr. Mosbaugh] think the cause was?" Mr. Mosbaugh responded by saying, "I don't know . . . you're trying to ask me to state why somebody else made mistakes, okay, and I don't know how to do that. I took the same set of information and got right numbers." Id. at 28.

328. By the end of the meeting, Mr. Greene believed that Messrs. Frederick, Webb and Odom agreed with the content of the revised LER and had no problems with it. Tr. 6755 (Greene). Mr.

Greene also believed that Mr. Mosbaugh had accepted the conversations' conclusions and had been provided answers to the concerns which he had raised. Tr. 6734 (Greene). It is obvious to us that Mr. Mosbaugh felt that he was not being heard and it was therefore futile to continue the conversation. In hindsight, Mr. Greene acknowledges that he does not believe that Mr. Mosbaugh left the conversation with the feeling that Mr. Greene had satisfied his concerns. Tr. 6730 (Greene). It is apparent that at that time, Mr. Mosbaugh had been relieved of most, if not all, of his authority and therefore others may not have taken his concerns seriously.

329. Mr. Greene acknowledged that he could have done more on June 29th by reviewing the underlying data and by further pursuing Mr. Mosbaugh's concerns. Tr. 6730, 6733 (Greene). He lacked the personal knowledge concerning the underlying matter and chose to take the opinions expressed by the SAER audit instead of the knowledge of individuals who had studied or been directly involved with the matter. Greene at 3; Tr. 6730, 6775 (Greene).

330. Mr. Horton agreed that it was extremely significant on June 29, 1990, to have known the reason Mr. Cash made an error counting starts but yet he never even asked Mr. Cash if he had made an error. Tr. 5953 (Horton).

331. The knowledge that it was possible to get an accurate count from the control room log did not change the importance that Mr. Greene gives to the need to have the diesel log

complete. Tr. 6743 (Greene). We agree that it is important to have all of the logs up to date, however, it is and was obvious that if the log used was adequate to get an accurate count then the log was not the problem.

332. Furthermore, if Mr. Bockhold had been made aware of the comments Mr. Mosbaugh made to members of the PRB regarding the June 29th letter he would have recognized that another cause had to be included in the letter. Tr. 3801 (Bockhold), GPC II-44. It seems apparent that the PRB was influenced by the fact that Mr. Hairston and Mr. McCoy had designed the cover letter and that this influence caused a breakdown in the functions of the PRB.

**ix. The Final Version of the June 29 LER Revision**

333. Georgia Power submitted the revised LER on June 29, 1990. Mosbaugh at 55, Int. II-62. The final version of the cover letter for the revised LER stated:

This revision is necessary to clarify the information related to the number of successful diesel generator starts as discussed in the GPC letter dated April 9, 1990 and the LER dated April 19, 1990 and to update the status of corrective actions in the LER. If the criteria for the completion of the test program is understood to be the first successful test in accordance with Vogtle Electric Generating Plant (VEGP) procedure 14980-1 "Diesel Generator Operability Test," then there were 10 successful starts of Diesel Generator 1A and 12 successful starts of Diesel Generator 1B between the completion of the test program and the end of April 19, 1990, the date the LER 50-424/1990-06 was submitted to the NRC. The number of successful starts included in the original LER included some of the starts that were part of the test program. The difference is attributed to diesel start record keeping practices and the definition of the end of the test program.

GPC II-16 at 1.

334. On June 8, 1990, Messrs. Rushton, Bailey, Mosbaugh and Aufdenkampe had a discussion regarding the cause of the errors in the April 19th LER. Mosbaugh at 56, Int. II-63.

335. Mr. Rushton said he was looking for a good story to explain how the error was made that would not "make us all look like a bunch of dummies but sounds like we were a bunch of dummies." He suggested that they could attribute the error to the fact that everything was done quickly and without adequate checks and balances. Mosbaugh at 56, Int. II-63, p. 14.

336. Mr. Bailey attributed the errors to the fact that there was too much confusion. He also suggested that the revised LER should not be sent out until after the IIT report is published to prevent conflicts. Mosbaugh at 56, Int. II-63, p. 14.

337. Mr. Aufdenkampe stated that the error was due to the errors in the April 9th presentation and that most of the verification was not done first hand. Mosbaugh at 57, Int. II-63.

338. On June 11, 1990, the draft LER, which had been put into corporate form, was sent back to the site, along with a cover letter, for Mr. Bockhold's approval. Webb Rebuttal at 11. Mr. Bockhold asked that the numbers be updated through June 11th. When the numbers were updated, it was also decided to use "valid test" terminology. Webb Rebuttal at 11-12.

#### **ix. Communications With the NRC**

339. Mr. Hairston testified that he telephoned Mr. Stewart Ebnetter on May 24, 1990, and told him about the error and what he understood to be the correct numbers. Hairston at 9.

340. Mr. Hairston also claims to have called Mr. Ebnetter on June 14th for the purpose of telling him about the changed numbers in the start count. Hairston at 12. However, there is strong evidence which suggests that his call to Mr. Ebnetter concerned a happening at plant Hatch. Tr. 9764, 10680-10687 (Mosbaugh), Int. II-104, Int. II-177, and Int. II-198.

341. On June 14th, Mr. Hairston was at plant Hatch due to a fire that had occurred there. The call he placed to Mr. Ebnetter was only 18 minutes in length. It is more probable that this call concerned the NUE at plant Hatch than a detailed explanation about why the start count numbers would be different in the revised LER concerning events at plant Vogtle. Tr. 9764, 10680-10687 (Mosbaugh), Int. II-104, Int. II-177, and Int. II-198.

342. Mr. Ebnetter remembers that Mr. Hairston called him and informed him that they were going to perform an audit. It was agreed that if a revision was necessary it would be submitted. Mr. Ebnetter did not remember being told of an error in the LER. Int. II-57.

343. Georgia Power also claims that both Mr. McCoy and Mr. Shipman called Mr. Brockman on separate occasions to inform him of errors in the LER. McCoy at 18, Shipman at 12-13, Hairston at 10.

344. Mr. McCoy stated that he informed Mr. Brockman that they had discovered that the information previously provided was incorrect, and they were going to provide correct information. Tr. 3214 (McCoy).

345. Intervenor suggests that Mr. McCoy never called Mr. Brockman and that Mr. Shipman tried to but never got through. Tr. 9789 (Mosbaugh). In support of this Intervenor put forth the following evidence: 1) Georgia Power, in its response to the 2.206 petition, stated that Mr. McCoy called Mr. Brockman but it is documented on Int. II-48, tape 253, recorded on August 15, 1990, that he did not make the call but believed that Mr. Shipman did; 2) Mr. Shipman's phone logs show that he placed calls to Mr. Brockman on three occasions none of which lasted long enough to indicate that he was successful in reaching Mr. Brockman or relating any information to him. Tr. 9792 (Mosbaugh)

346. We find that Georgia Power did not put forth sufficient evidence to prove that it did communicate to the NRC during this period that the LER was inaccurate. Therefore the evidence presented by Intervenor on this point leads us to doubt whether or not the NRC was notified at this time about the errors in the LER. If, however, these calls were made to the NRC we believe Georgia Power was not fully candid and that the NRC did not receive the complete story as to what was going on in regard to correcting the LER. We believe that the communications regarding the inaccuracies in the LER probably left the NRC with a false



impression concerning the corrective actions that were being taken by Georgia Power.

**x. The Inaccuracy or Incompleteness of the June 29th Cover Letter**

347. The NRC Staff has determined that Georgia Power's June 29th cover letter was inaccurate in three respects: (1) in failing to include information regarding the April 9th letter to clarify the April 9th start count; (2) in erroneously attributing diesel generator record keeping practices as a reason for the differences reported in the April 19th LER and the June 29th revised LER; and (3) in failing to state that the difference between the diesel generator start counts was due to personnel errors. Matthews, Skinner, Hood at 5-6.

348. Georgia Power admits that the June 29th cover letter was also not complete in identifying all contributors or causes of the April 19th LER's inaccuracies. Georgia Power recognizes and agrees that the letter is incomplete because it did not identify personnel errors as root causes for the difference in the start counts reported in the original and revised LER. McCoy at 21; Tr. 3685 (Hairston).

349. Georgia Power does not deny that if Mr. Cash had applied the right definitions and made the right assumptions, he could have made an accurate count of successful consecutive starts prior to April 9th (as the NRC Staff took great pains to demonstrate). Georgia Power nevertheless maintains that record keeping practices were a factor in the inaccuracies in Georgia Power's April 19, 1990 correspondence for other reasons. The

fact that Georgia Power still holds on to its belief that its identification of record-keeping was not inappropriate is, at best, a sign of its inability to realize its mistakes. The fact that the diesel start log could have been used by Mr. Cash in making his list of starts is simply not a logical basis upon which to base record keeping practices as the only cause of the error.

#### **xi. Willfulness**

350. Intervenor argues that Georgia Power knew or should have known that the cover letter to the June 29th revision to LER 90-006 contained inaccurate statements or incomplete statements. More specifically, he asserts that Mr. Hairston and Mr. McCoy had knowledge that what was included in the June 29th cover letter was false. Tr. 9704-9705, 10391 (Mosbaugh). It is not only significant that Mr. Hairston and Mr. McCoy personally wrote the last sentence in the letter attributing the difference in numbers to record-keeping and the definition of the end of the test program, but also that the PRB had this knowledge.

351. Other indications of willfulness are: (1) that neither Mr. Bockhold nor Mr. Cash told Mr. Mosbaugh that Mr. Cash had compiled a list when Mr. Mosbaugh was questioning the validity of the April 9th and April 19th data. Mosbaugh at 56; (2) that responsibility for the revised LER and cover letter was reassigned from Mr. Stringfellow to Mr. Majors who had no prior knowledge concerning the April 9th and April 19th correspondence. Id.; (3) that there were multiple draft versions of the cover

letters which contained extremely different reasons for the errors. Id. at 57; (4) that the audit was narrow in scope; (5) that the audit did not review the appropriate logs; (6) that the scope of the audit was changed from a more broad to a narrow scope; and (7) that Mr. Mosbaugh explicitly informed Georgia Power that another material false statement would be made if this letter was submitted. The audit was a great opportunity for Georgia Power to get to the truth; however, it performed a grossly inadequate audit upon which to base its cover up. This, too, is a sign of willfulness.

P. On Site Inspection ("OSI")

352. Messrs. Bockhold and McCoy displayed an adversarial attitude toward the OSI, in August of 1990. Mosbaugh at 65, Int. II-76, Int. II-76A.

353. Mr. Bockhold's secretary informed Mr. Mosbaugh that he was not invited to Georgia Power's strategy meeting concerning how to address the OSI (a meeting attended by all the managers). Mosbaugh at 105.

354. During the OSI Georgia Power held daily, and sometime twice daily, damage control meetings where those in attendance discussed the NRC's findings and Vogtle positions were developed to counter the NRC's findings. Specific managers were assigned to handle different NRC areas of concern. Mr. McCoy attended several of these meetings. When the team exited Pat McDonald came down for the exit meeting and expressed his indignation that the

NRC would question the accuracy of information provided by Vogtle. Mosbaugh at 106.

355. Mr. Mosbaugh was one of the most senior and experienced engineer-managers and had no significant work load at that point. He was not assigned a single item from the damage control meetings. Mosbaugh at 106.

356. It is also significant that in the same time frame that the NRC was reviewing false statement provided by Georgia Power to the OSI team. In August of 1990 the OSI received verbal information from GPC that was questionable. The agency reviewed the information, held an enforcement conference, and concluded that there were no issues with it. Int. II-83, Tr.15360-61 (Reyes). Nonetheless, this is further evidence that a culture exists, in all aspects of Georgia Power, that allows for inaccurate information to be provided to the NRC.

Q. "White Paper"

357. During the OSI, Georgia Power was asked to address provide information responsive to matters under investigation. Georgia Power decided to draft a document in a question and answer format to respond to NRC's inquiries. Tr. 10995 (Shipman).

358. Georgia Power's written responses were referred to as "white papers." Different site and Corporate personnel were assigned to respond to the various issues. Mr. George Frederick

was assigned to prepare a response to the diesel generator start count issue. Int. II-95, at Project 045530; Mosbaugh at 105.

359. Georgia Power discussed how to respond to diesel generator-related "white paper," issues on August 15, 1990 in a meeting at the plant site in which Mr. Shipman and others in the corporate office participated by telephone. Mr. Mosbaugh taped this meeting. The parties jointly submitted a transcript of the taped meeting (Tape No. 253), which was marked as GPC II-122.<sup>82/</sup>

360. Georgia Power gave the white paper to the OSI team on or about August 17, 1990. Mosbaugh at 106.

361. We have reviewed answers to questions numbered 3.1, 3.1 and 5.1 and conclude that they represent materially false statements.<sup>83/</sup>

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<sup>82/</sup> A transcript was initially prepared by NRC OI, and a version of that transcript was marked as Int. II-48.

<sup>83/</sup> The questions #3 and #5 and the corresponding answers read as follows:

Question #3 (with regard to LER 90-06, revision 0, dated 4/19/90)

1. Who prepared the LER?

Answer: Several draft revisions of the LER were prepared by Tom Webb and others in the NSAC group of the Vogtle Site Technical Support. These drafts were reviewed and commented on by the Plant Review Board. The final revision of LER 90-06, revision 0 was prepared by a phonecon between site management and corporate management. Those participating are believed to be G. Bockhold, Jr., A. L. Mosbaugh, J. G. Aufdenkampe, W. Shipman.

2. Who reviewed the LER [90-06, rev. 0]?

(continued...)

362. We first turn to the response to questions 3.1 and 5.1. The response to these questions are false by omission because Georgia Power failed to list critical participants to the April 19th conference call that Georgia Power knew had either participated in the call or were present when the call transpired. No less than two participants to the April 19th conference call were omitted, Messrs. Hairston and McCoy, the two most senior managers responsible for issuing the LER. In addition, Mr. Stringfellow, the licensing engineer responsible for issuing the LER, was omitted from the response to 3.1 but is identified in the response to 5.1. GPC II-122.

363. The evidence overwhelmingly supports the conclusion that Georgia Power intended to conceal the fact that Messrs. McCoy and Hairston were directly involved with the drafting of false statements contained in LER 90-006. As previously noted, Mr. McCoy and Mr. Hairston were extensively involved in the preparation of drafts of the June 29, 1990 cover letter.

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<sup>21</sup>/ (...continued)

Answer: All revisions of the LER were reviewed by the PRB and the General Manager-Plant Vogtle.

Question #5

1. Who in corporate added the words "subsequent to the test program" in LER 90-06, revision 0?

Answer: Corporate Licensing Personnel in conjunction with the phone conversation described [in Question #3] above made editorial changes as directed. Those present during the phone conversation are thought to be W. Shipman, G. Bockhold, Jr., A. L. Mosbaugh, J. G. Aufdenkampe, and J. Stringfellow.

Int. II-95 at Project #045534 (emphasis added).



364. The tape transcript of the August 15th conference conclusively establishes that Messrs. Bockhold, Shipman and McCoy recalled that Mr. McCoy directly participated in the conference call identified in the response to questions 3.1, and 5.1. The transcript contains the following key segment:

FREDERICK: Here's the last one for you...there was a change made, and the words, 'subsequent to the test program,' were included. The number of diesel starts was changed to coincide with the number of starts in the April 9th letter. He wants to know who put the words 'subsequent to the test program' in here.

Initially I've been told it happened in the telephone conversation between two groups. One in corporate and one on the plant site.

BOCKHOLD: Ken McCoy if you remember I believe it happened between a group in your office and me. And we had some discussions about it...

VOICE: (inaudible).

MCCOY: Bill does that sound like your recollections.

SHIPMAN: Yes, sir.

MCCOY: All right, let's get that down in writing here for George [Frederick]. That's my recollection too. In general terms, I don't remember the specific words but I do remember the discussion.

This tape segment demonstrates that on August 15th, Mr. McCoy was able to "recollect" that he participated in the conference call identified in response to questions 3.1, and 5.1.<sup>84/</sup> It further demonstrates that Mr. Shipman and Mr. Bockhold were similarly able to recall Mr. McCoy's involvement.<sup>85/</sup> Indeed, the tape of the conference call where the phrase "subsequent to the test program" was added to the LER establishes that Mr. McCoy was key to the coining of that phrase. GPC II-48 at p. 7 (Tape 253).

365. To believe the omission of Mr. McCoy and Mr. Hairston from the response was not deliberate would require us to conclude that Messrs. Bockhold, Stringfellow, Shipman, McCoy and Hairston had collective amnesia of the culminating episode where the "subsequent to the test program" phrase was coined. This we cannot do. Their level of participation and degree of responsibility and culpability in drafting and submitting the LER

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<sup>84/</sup> Georgia Power failed to submit pre-filed testimony and otherwise failed to present any testimony from Mr. McCoy on the meaning of the statements he made during the August 15th meeting. Similarly, Georgia Power failed to submit evidence establishing that Mr. McCoy had a lapse of memory in August of 1990 such that he was unable to recall his participation in the April 19th conference call when the white paper response was submitted to NRC. Intervenor has met his burden of production inasmuch as Georgia Power concedes that the response to questions 3.1 and 5.1 is false by omission because it failed to identify Mr. McCoy and Mr. Hairston. In light of Georgia Power's failure to submit evidence to establish that he, in fact, was unable to recollect his participation in the conference call, we must conclude that Georgia Power has not met its burden and that the omission of Mr. McCoy as a participant to the April 19th conference call was intentional.

<sup>85/</sup> On August 15, 1990, Mr. Shipman identified "Jack" Stringfellow as participating in the conference call. GPC II-122 at p. 14, l. 22.

together with their obvious intellect, is sufficient circumstantial evidence to conclude that Georgia Power's response to questions 3.1 and 5.1 represents a deliberate omission. Moreover, given that, between May and August, 1990, each of these individuals had to contemplate submitting correspondence to NRC to explain the start count error contained in LER 90-006, Rev. 0, it stands to reason that their recollection of the events would remain fresh.

366. In addition to the tape transcript of the August 15th meeting, the testimony of Mr. Shipman constitutes direct evidence of willfulness. Mr. Shipman admitted that in the August, 1990 time frame he knew both Messrs. McCoy and Mr. Hairston participated in the April 19th conference call. Tr. 10996, 10999 (Shipman).

367. Georgia Power attempts to rely on the fact that, during the August 15th conversation, one of its attorneys, Mr. Domby, "asked whether anyone disagreed with Mr. Aufdenkampe's recollection about the participants on the phone call," GPC II-122 at 14, and "including Mr. Mosbaugh" no one "took issue with Mr. Aufdenkampe's recollection." GPC FOF 412. This assertion is flawed for numerous reasons.

368. First and foremost, in addition to the reasons stated above, Mr. Aufdenkampe was aware that Mr. Hairston participated during the conference call and that when he was individually interviewed by company lawyers about whether Mr. Hairston participated in the April 19th conference call, he told the

lawyers that he Mr. Hairston had, in fact, participated in the call and, in response to that admission, the "company lawyers" gave him "the impression" that he "was an 'outlier' in remember[ing] Mr. Hairston being on the phone call." Tr. 4719, 4721 (Aufdenkampe).

369. Second, Mr. Shipman testified that he was never again asked, until he was questioned by OI investigator Larry Robinson in 1993, whether he could recall who attended the April 19th conference call. Tr. 11000 (Shipman).

370. Third, at the point in time that Mr. Domby asked whether anyone disagreed with Mr. Aufdenkampe's recollection of the participants on the phone call, Mr. Aufdenkampe's actual prior statements as to the persons who participated was "Allen and me and Bill Shipman and, I think, Paul Rushton and Jim Bailey," GPC II-122 at 11, 11. 19-21. The final statement made by Mr. Aufdenkampe as to the participants is inaudible. Id. at 12 11. 24-25.<sup>86/</sup> Who, exactly, Mr. Aufdenkampe identified cannot be determined from the tape.<sup>17/</sup>

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<sup>86/</sup> In the audible portion Mr. Aufdenkampe again identified Messrs. Shipman and Bailey.

<sup>87/</sup> Georgia Power asserts that Mr. Mosbaugh's failure to correctly state who were the participants was somehow improper. First, we note that, when Mr. Domby asked "does anybody disagree with John's recollection about who were the participants on that phone call?", Mr. Bailey, who was a participant to the conversation, Id. at 7, did not object to his name being included in the list. Georgia Power apparently does not believe this to be improper even though Mr. Bailey currently denies participating in the conference call.

(continued...)

371. Fourth, the final statement on the matter was made by Mr. Shipman. According to Mr. Shipman, "practically everybody up here" in Corporate and "practically everybody down there" at the site participated in the conference call. Following this statement both Mr. Bockhold and Mr. McCoy signaled their agreement.<sup>88/</sup>

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<sup>87/</sup> (...continued)

Second, Georgia Power's assertion is ludicrous. Mr. Mosbaugh had, in writing, advised Georgia Power that he was pursuing the resolution of allegations concerning his management directly with NRC; NRC had already formally entered into a written confidentiality agreement with Mr. Mosbaugh and Mr. Mosbaugh had already advised NRC of Mr. Hairston's involvement in the conference call.

Third, Mr. Mosbaugh had no line management responsibility with respect to the issuance of the white paper and Mr. Bockhold's secretary informed Mr. Mosbaugh that he was not invited to Georgia Power's strategy meeting concerning how to address the OSI.

<sup>88/</sup> The transcript of this portion of the tape recording reads as follows:

SHIPMAN: ...Louis [Ward] just said he was involved, and Paul [Rushton], and Jim [Bailey], and Jack [Stringfellow] were involved. this was one of those, 'We've got to get this thing right so George will sign it out,' last minute exercises...We had practically everybody up here and practically everybody down there that was available on the phone call.

FREDERICK: Well, I think I can describe that one.

BOCKHOLD: Okay.

FREDERICK: I can talk to Jim Bailey after the meeting on the other one.

MCCOY: Is there anything else that we need on this... Okay, Let's go on to the ext one.

Id. at 14-15.



372. The "white paper" response to question 3.2 also constitutes a material false statement.<sup>82/</sup> Where Georgia Power asserts that all revisions to the LER were reviewed by the PRB, in fact, the most significant revision -- the addition of the "comprehensive test program" phrase -- was not reviewed by the PRB. To the contrary, the PRB conditionally approved the prior draft version of the LER until Mr. Aufdenkampe could verify the greater than 20 starts language contained in that draft. Tr. 3944 (Stringfellow); Mosbaugh at 33. The record demonstrates that the response to question 3.2 is false. It further demonstrates that this false statement demonstrates reckless disregard for the truth and constitutes further evidence of Georgia Power's willful misconduct. There is absolutely no excuse for making this false statement because Georgia Power's own records -- the records Georgia Power should have relied upon when reviewing the response to the "white paper" -- demonstrate that the PRB did not review the final draft of the LER. Moreover, the "blue sheet" for this LER indicates that there was no PRB review. In this respect, Mr. Stringfellow, the licensing engineer responsible for issuing the LER, testified that his practice was to enter the "PRB meeting number and the date" that the PRB approved the correspondence. Tr. 3937 (Stringfellow). Yet, the "blue sheet" for LER 90-06 demonstrates that Mr.

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<sup>82/</sup> Significantly, the earlier response to question 3.1 identified a "final revision of LER 90-06" prepared during the conference call. Thus, when the response to 3.2 refers to "[a]ll revisions of the LER," it necessarily included the "final revision" identified in response 3.1.



Stringfellow did not enter a PRB meeting number or date or otherwise indicate in any way that there was PRB approval of the final version of the LER. Int. II-61.

373. These omissions represent direct evidence of an attempt to cover-up management involvement and culpability for the inclusion of material false statements into the LER. The response to the "white paper" represent an important piece of evidence overlooked by NRC OI and the Vogtle Coordinating Group.<sup>20/</sup>

374. Mr. Mark Ajluni was the SAER manager, a position similar to a QA manager. He was responsible for issuing the white paper. Mosbaugh at 107, Int. II-95.

375. There are other instances of false statements in the "white paper." The first is the statement that Messrs. Cash, Burr and Bockhold sat together in Mr. Bockhold's office and worked on the diesel testing slide. Int. II-95, question 1, p. 6. The evidence cited previously in these findings demonstrates that this was not true. Tr. 4487 (Cash), Tr. 10852 (Burr).

376. The next instance of a false statement in the "white paper" is found in question 2, (Int. II-95, p. 6). Here Georgia Power states that the COA letter was written by Mr. McCoy, Mr. Bailey and Mr. Hairston as a group. The list of participants in this activity excludes Mr. Burr. The fact that Mr. Burr had an expertise with regard to the diesel testing and the fact that he

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<sup>20/</sup> Neither NRC-OI nor the NRC-VCG looked at the white paper response and neither issued findings concerning this matter.

had asked Mr. Cash, and Mr. Cash gave him a copy of the list confirms that he was involved in the preparation of the COA letter during the plane trip.<sup>21/</sup> Int. II-131, pp. 6-7.

R. Georgia Power Company's August 30, 1990 Letter to the NRC

i. "Top Down" Development

377. On August 17, 1990, during the exit meeting with the OSI team, the team leader suggested that Georgia Power submit an explanation for the record concerning the error made in the April 9th letter. Tr. 3223 (McCoy).

378. The OSI team leader indicated that NRC thought there was confusion about the start-related terminology in the April 9th letter relative to regulatory guidance definitions.<sup>22/</sup> Tr. 3097 (McCoy). According to Mr. McCoy, the OSI team leader did not ask Georgia Power to explain why Georgia Power believed the April 9th letter was inaccurate. Tr. 3098 (McCoy). However, the third paragraph was added in an attempt to show the root cause of why the April 9th and April 19th letters were inaccurate. Tr. 6860 (Greene).

379. On August 30, 1990, Georgia Power submitted the clarification letter requested by the NRC. GPC II-18. The letter included the following statement in the third paragraph:

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<sup>21/</sup> We should note that Mr. Burr stated that it was possible that there was conversation on the plane in which he was a participant. Tr. 10872 (Burr). However, we do not find this credible.

<sup>22/</sup> On April 9, 1990, Mr. Matthews had asked Georgia Power for an explanation of how "successful starts" compared with valid tests, but did not receive one. Tr. 14791-92 (Matthews).

The confusion in the April 9th letter and the original LER appear to be the result of two factors. First, there was confusion in the distinction between a successful start and a valid test. For the purpose of this letter, a start was considered successful when the DG was started and either ran or was intentionally shut down due to testing in progress, as identified on the attached tables. Our use of the term "successful" was never intended to imply a "valid successful test" in the context of regulatory Guide 1.108. Many start attempts were made to test the DG's 1A and 1B using applicable operating procedures. These procedures and data sheets do not contain criteria for determining if a start is successful which resulted in determinations of success which were inconsistent with the above definition. Second, an error was made by the individual who performed the count of DG starts for the NRC April 9th letter.

GPC II-18.<sup>23/</sup>

380. Mr. McCoy instructed Mr. Stringfellow to prepare the first draft of the clarification letter. Tr. 4045 (Stringfellow).

381. On August 30, 1990 the PRB met to review the draft clarification letter. The persons present included Messrs. Greene, Aufdenkampe, Horton, Frederick, Bockhold, Odom, Mosbaugh and Mr. Brian Bonzer, the NRC Resident Inspector for Vogtle. See Staff II-9. The meeting minutes reflect that the only item reviewed by the PRB was the draft clarification letter.

382. Mr. Mosbaugh tape recorded the August 30, 1990 PRB meeting. See Staff II-19; Int. II-68. The transcript of this

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<sup>23/</sup> The term "successful starts" used in the August 30 letter was defined by Mr. Horton in August. Tr. 5959 (Horton). Mr. Horton explained that it was not a "legalistic" definition in the sense that it did not comport with Regulatory Guide 1.108. Tr. 5959 (Horton). Mr. Horton testified that a "common sense approach" to defining "successful starts" was used as a result of feedback Georgia Power had received from NRC that prior communications with the NRC were unsatisfactory. Tr. 6137 (Horton).

tape, for the most part, is not disputed, however, we found it helpful to listen to the tape to discern the tone, tenor and inflection of the voices.

**ii. Bockhold Steering of the PRB**

383. Mr. Bockhold's attendance at the August 30th PRB meeting was not a typical occurrence. Tr. 11474-75 (Handfinger). We find that Mr. Bockhold's actions at the August 30th PRB meeting was unreasonable.

384. Mr. Bockhold participated in the PRB review of the August 30th letter even though he had previously been advised that his presence was intimidating to other members. Tr. 3510 (Bockhold), Mosbaugh at 59-60. Mr. Bockhold had a forceful and sometimes overbearing personality. Tr. 5776 (Aufdenkampe).

385. Mr. Bockhold stated that his purpose for attending this PRB meeting was that he was trying to understand what the PRB's comments would be and to try to get this letter out to the NRC. Tr. 3511 (Bockhold). He was not a member of the PRB at this time. Tr. 3516 (Bockhold).

386. Mr. Bockhold told the PRB that any changes made to the August 30 letter must come back through the PRB and must be unanimous. Tr. 5775 (Aufdenkampe).

387. Mr. Bockhold's steering of the PRB is further evidence of the "top down" manner in which this letter was prepared.

388. Mr. Aufdenkampe questioned Mr. Bockhold's conduct at the PRB meeting and he almost called a point of order with him because he was providing the Board direction, and "we could not

advise him in our capacity as the plant review board, if he was telling us what to advise him." Tr. 4840 (Aufdenkampe), Int. II-68. Mr. Aufdenkampe stated that Mr. Bockhold left before "I felt that he had crossed that line. But he was getting close." Tr. 4843 (Aufdenkampe), Int. II-68.

**iii. Mr. Bockhold's "Emotional" Comment to Leave the Letter Undisturbed**

389. The PRB meeting included a discussion of whether the first sentence of the last paragraph, which expressly stated the purpose of the letter, should be the opening line of the letter. Messrs. Greene and Frederick expressed the view that the sentence should be reorganized. Mr. Bockhold expressed his view that the letter could be reorganized but he did not think that should be done. Staff II-19 at 9-10.

390. Mr. Greene felt Mr. Bockhold's statement to the PRB that "If Birmingham likes this letter written this way, I don't, that's what we should do," was probably not appropriate. Mr. Greene also felt that Mr. Bockhold's statement about keeping another the sentence in the letter, even after it was pointed out that it was in error, was not appropriate. Tr. 6845, 6851 (Greene), Int. II-68.

**vi. Mr. Bockhold's Changing of the Word "Error" to "Confusion"**

391. During PRB meeting, Mr. Bockhold suggested substantive revisions to the August 30th letter. Mr. Aufdenkampe questioned Mr. Bockhold about whether Mr. Cash was confused between successful start and valid test. Mr. Bockhold stated that he was



not. Mr. Aufdenkampe then informed Mr. Bockhold that the sentence, "The error in the 4-9 letter appears to be the result of two factors. The first factor, the distinction between successful start and valid test," was not correct. Mr. Bockhold stated that the "sentence was not in error, and maybe that sentence should go someplace else." The word error was later changed to confusion and the sentence remained in the letter. Tr. 3514-15 (Bockhold), Int. II-68. Clearly Mr. Aufdenkampe was correct in asserting that there was no confusion and the sentence should not have been included in the letter.

**v. Mr. Bockhold's "Mix-up the Words" Comment**

392. The draft letter stated that "the errors in the April 9th letter and the original LER appear to be the result of two factors . . . ". Mr. Bockhold proposed changing "errors" to "confusion." Staff II-9, at 2; Staff II-19 at 3. After Mr. Bockhold suggested that the word "errors" be changed to "confusion," unidentified PRB attenders apparently questioned use of the word "confusion" more than once in two successive sentences. Staff II-19 at 3. In response, Mr. Bockhold stated:

I mean, English-wise, it's better to mix up the words, than to be technically correct. Say you're an engineer and you use the same term over again. Good thing you're an engineer and not an English major.

393. Georgia Power has admitted that the August 30th letter could have been reasonably misinterpreted by the NRC as stating that the underlying error in prior statements was caused by confusion of the counter about terminology. GPC II-202 at 2.



vi. Deletion of Footnote 2

394. A draft of the August 30th letter contained a typed Footnote 2 on table 2 (Int. II-54, p. 2) which identified several post-maintenance testing starts which were excluded from the total number of start attempts for the 1B engine.<sup>24/</sup> Tr. 5957-58 (Horton). The PRB voted to delete the typed footnotes at the bottom of both tables prior to inclusion with the August 30 letter. Staff II-9 at 2.

395. Mr. Aufdenkampe, in reviewing a transcript of the August 30 PRB meeting, testified that it appeared that the PRB was excluding a sentence from the letter itself concerning five (5) post-maintenance starts. Tr. 5811-12 (Aufdenkampe). The PRB minutes reflect this change in text. Staff II-9 at 2, line 6. Consequently, it appears that both the letter and the tables did not segregate some post-maintenance testing starts from the balance of start attempts.

396. When Mr. Bockhold realized that the explanation in the sentence and the footnote would be contrary to the explanations that the Company was pursuing he made efforts in this meeting to cut off that discussion and suggested that the comments be excluded. Tr. 8963 (Mosbaugh).

397. Mr. Horton was unsure whether four or five starts should be classified as post-maintenance, since the issue was not

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<sup>24/</sup> The footnote stated that the total number of start attempts is 24 not counting starts 120 through 124. There were other typed footnotes on the tables which addressed the total number of successful start attempts. Int. II-54 at 2.

addressed in the LER, Mr. Bockhold influenced the decision that it be cut. Tr. 8963 (Mosbaugh), Staff II-19 at 11-12.

398. The table is misleading without the footnote when comparing the post-maintenance interval to the subsequent explanations that Georgia Power has made to justify the exclusion of the problems and the failures as being in the post-maintenance interval. If the footnote had remained in the final version it would have defined the point from which to start counting. Tr. 8967-69 (Mosbaugh).

#### **vii. McCoy's Inconsistent Statements**

399. Mr. Mosbaugh contrasts the August 30th letter with a statement in press release which quotes Mr. McCoy. Mosbaugh at 60. In this statement Mr. McCoy gives a different reasons for the error in the LER. He is quoted as stating that the "employees who gathered the diesel start information for the April 9th presentation used data from the operators' logs only." Int. II-67A. We believe that this "public statement" is inconsistent with Mr. McCoy's understanding of what the August 30th letter was communicating.

400. The Board draws a negative inference from this statement by Mr. McCoy. This statement was made prior to the August 30th letter. The fact that he used this explanation and then was willing to sign off on yet another explanation without referencing a previous one, is evidence of a willingness to find a good story instead of searching for the truth.

401. The August 30th letter was developed in a "top down" fashion; that is, drafted in Birmingham and then presented to the site for review and approval. In addition, the fact Mr. Bockhold influenced the PRB's review, as shown above, is demonstrative of this "top down" approach. We believe that corporate management inappropriately exercised control over the language in the letter to the exclusion of other site personnel<sup>25/</sup> and that it was inappropriate for Mr. Bockhold to attend the PRB meeting.

Wording changes were not clear enough for the NRC, or even other Georgia Power personnel, to understand. Mr. Bockhold cautioned the PRB not to "Englishize" what he perceived to be a technically correct letter. The evidence supports the conclusion that Mr. Bockhold's actions at the PRB constitute a lack of character or integrity.

S. Intervenor's 2.206 Petition and Georgia Power's Denial of Hairston's Participation in the April 19th Conference Call

402. On September 11, 1990, Mr. Mosbaugh filed jointly with Mr. Marvin Hobby a petition pursuant to 10 C.F.R. § 2.206. This "2.206 petition" alleged, inter alia, that Georgia Power submitted inaccurate information regarding Mr. Hairston's participation in the April 19, 1990 late afternoon phone call which revised the wording of LER-90-006. Mosbaugh at 63, Int. II-39 (admitted paragraphs only).

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<sup>25/</sup> Mr. Frederick testified that when Georgia Power management doesn't get the product they want, they go behind closed-doors and do it themselves. Tr. 4146 (Frederick), Int. 22B.

403. In late February, 1991 the NRC requested that Georgia Power submit a response to the 2.206 Petition signed under oath. On April 1, 1991, Mr. McDonald submitted a sworn response. This response fails to identify any participation of Mr. Hairston during any April 19, 1990 conference call. The entire response to the April 1, 1991 2.206 response only references a single conference and, with respect to footnote 3, Georgia Power altogether denied Mr. Hairston's participation in that conference call.<sup>26/</sup> Int. II-73.

**1. October 3, 1991 Clarification**

404. By way of a letter dated August 22, 1991, NRC requested Georgia Power to respond, under oath, to allegations raised in a supplement Intervenor filed to his original 2.206 petition which alleged, inter alia, that the April 1, 1991 2.206 petition response filed by Georgia Power was materially false because it

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<sup>26/</sup> Reproduced below is footnote three and the relevant portion of the text:

Additional diesel generator starts had occurred subsequent to April 9, 1990 (the date of the GPC meeting in Atlanta with NRC representatives), and the final April 19th LER wording stated that each diesel engine had been started "at least 18 times each."<sup>3/</sup>

<sup>3/</sup> The wording was reviewed by corporate and site representatives in a telephone conference call late on April 19, 1990. Although Mr. Hairston was not a participant in that call, he had every reason to believe the final draft LER presented to him after the call was accurate and complete.

Int. II-73.

claimed Mr. Hairston was not a participant to the late afternoon conference call. Int. II-73.

405. Georgia Power, under the signature of R. P. McDonald, filed its response on October 3, 1991. Int. II-74. Therein, Georgia Power states that the "foundation for the footnote's statement that Mr. Hairston did not participate in the telephone conference call which finalized the LER late on April 19, 1990" was its earlier response to "questions #3 and #5 [of the "white paper"] as well as Mr. Hairston's own recollection." Int. II-74 at p. 4. Because the only conference call referred to in questions 3 and 5 of the "white paper" is "Call A" (i.e., the call where Mr. Bockhold was a participant), the conference call necessarily being referenced in footnote 3 had to be the call in which Mr. Hairston was a participant.<sup>27/</sup>

#### **ii. Dec. 10 1991 Clarification**

406. On December 10, 1991 Georgia Power submitted a supplement to its October 3, 1991 submission. Int. II-75. This supplemental submission states in relevant part:

GPC's October 3, 1991 supplemental response sets forth the basis of GPC's April 1, 1991 statement regarding the Senior Vice President's lack of participation in a telephone conference call late on April 19, 1990 which finalized LER 1-90-006. In late October, 1991...GPC obtained cassette audio tapes...Tape No. 71[] indicates that Mr. Hairston was not a participant during the April 19, 1990 telephone conference call when language

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<sup>27/</sup> We adopt Intervenor's shorthand identification of the April 19th telephone calls. Mr. Mosbaugh refers to the April 19th telephone call in which Mr. Bockhold participated, as "Call A". See GPC II-2 at 7 to 19. "Call B," in Intervenor's nomenclature, was the last phone conversation between site and corporate in which Mr. Bockhold was not a participant See GPC II-2 at 22 to 33.

concerning the emergency diesel generator start counts was finalized in the LER. The following is a transcript of a portion of this tape which contains a discussion between Mr. Mosbaugh ("ALM") and another participant ("P") on the April 19th conference call.

- ALM: I think there is a high probability that there is a problem with their statement [in LER 90-06 concerning diesel generator start information].
- P: What George told me over the phone--
- ALM: George Who?
- P: George Bockhold--
- ALM: When?
- P: Before we issued the LER.
- ALM: Yeah.
- P: We had a big conversation on those numbers with George [Bockhold], uh, [George] Hairston--
- ALM: Yeah.
- P: --or not Hairston, [Bill] Shipman.
- ALM: They were all on there.

\* \* \*

As can be observed from the highlighted portion of this excerpts, the participant indicated that Mr. Shipman and not Mr. Hairston participated in conversations which finalized the LER. This is consistent with the collective recollection of participants during the August 1990 special inspection, as reflected in [the white paper]...

Int. II-73 at pp. 3-4 (emphasis in original; brackets in quoted transcript excerpt in original). This submission reconfirms that the conference call being referred to was "Call A" because that



is the only "big conversation" in which "George Bockhold" participated.<sup>28/</sup>

407. Georgia Power provides four bases to show that its failure to indicate Mr. Hairston's involvement in the April 1, 1991 2.206 petition response was innocent. Georgia Power Phase II FOF ("GPC FOF") 418. First, Georgia Power claims it did not have access to the tape recording of the conference call. Georgia Power did not need access to the tape recordings to know who participated in the conference call -- it only needed to speak to the participants to the call because both Mr. Shipman and Mr. Aufdenkampe have admitted to knowing that Mr. Hairston was a participant.

408. Second, Georgia Power asserts that the error merely replicated "the same information" previously provided to Georgia Power in its August, 1990 white paper and that error was the result of "imperfect memories." GPC FOF 418. As noted above, the memories of Georgia Power's own witnesses were not imperfect. Moreover, Mr. McDonald claimed that he took steps to verify the accuracy of the 2.206 petition response.<sup>29/</sup> Thus, whatever

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<sup>28/</sup> Significantly, the quoted portion of this response reads: "...Mr. Hairston was not a participant during the April 19, 1990 telephone conference call..." (emphasis in original). This phrase is consistent with Georgia Power's earlier communications with NRC indicating that there was only one conference call occurring on April 19th.

<sup>29/</sup> Mr. McDonald testified that prior to submitting the response to the 2.206 petition he asked Mr. Shipman if he recalled Mr. Hairston being on the call. Mr. McDonald repeated this assertion at the hearing. Tr. 11116 (McDonald). Mr. Shipman testified that there never was a time when he did not recall that  
(continued...)

errors led to the error in the White Paper, they should have been detected rather than repeated.

409. Third, Georgia Power asserts that the error was innocent because Mr. Hairston was not on the portion of the call "where the language 'comprehensive test program' was apparently coined." GPC FOF 418. This is unpersuasive because Mr. Hairston's statements during the call are highly significant and directly relate to the diesel generator start issue.

410. Finally, Georgia Power points to the Vogtle Coordinating Group's conclusion that Georgia Power had a reasonable basis to conclude that Mr. Hairston was not on the late afternoon conference call referred to in footnote 3 of the December 10, 1991 supplemental response of Georgia Power. GPC FOF 418. We do not believe the Coordinating Group's analysis holds much weight.<sup>100/</sup> The sole basis of the Coordinating Group's analysis is that Footnote 3 could be construed as referring to "Call B" rather than "Call A."

411. For the reasons set forth above, this analysis is defective. The Coordinating Group did not analyze evidence to

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<sup>99/</sup> (...continued)

Mr. Mr. Hairston participated in that call and that he is on record as such. Tr. 11322 (Shipman). See also Section HH(iii) below.

<sup>100/</sup> In analyzing this issue, the Coordinating Group gave the benefit of doubt to Georgia Power. That may be appropriate in enforcement matters before Staff, but in this proceeding Georgia Power has the burden of proof. Moreover, we are not bound by the findings of the Staff and the factual record created here, which is more complete, does not support Georgia Power's proposed findings.

determine what call was being referred to. Indeed, the White Paper response was apparently not considered by NRC Staff.

412. We therefore conclude that the conference call identified in footnote 3 of the December 10, 1991 supplemental response submitted by Georgia Power referred to "Call A".

T. December 10, 1991 Response to the 2.206 Petition Contains a Material False Statement Concerning the Meaning of Tape 71

413. Georgia Power asserts in its December 10, 1991 response to the 2.206 petition that "Tape No. 71[] indicates that Mr. Hairston was not a participant during the April 19th, 1990 telephone conference call..." This assertion is simply false. The record demonstrates that Georgia Power's reliance on its transcription of Tape 71 as a factual basis to claim that Mr. Hairston was not a participant to the April 19th conference constitutes reckless disregard at a minimum.

414. The December 10, 1991 2.206 petition response sets forth a transcription of a segment of Tape 71. This segment represents a private conversation held between Mr. Mosbaugh ("ALM") and Mr. Aufdenkampe ("P"). Based on this segment, Georgia Power asserts that Mr. Aufdenkampe did not believe Mr. Hairston was a participant to the "big conversation" referred to as "Call A."

415. The record establishes that there was no factual basis for Georgia Power to draw this inference. We listened to the tape when this segment was played during the hearing and determined for ourselves that the tone and actual statements made

by Mr. Aufdenkampe and Mr. Mosbaugh indicate that both agreed that Mr. Hairston was on the conference call. But, more critical is Mr. Aufdenkampe's testimony which unequivocally establishes the intent and meaning of the conversation he was having with Mr. Mosbaugh. Mr. Aufdenkampe testified 1) that Tape 71 in no way indicates that either he or Mr. Mosbaugh believed that Mr. Hairston was not a participant in the late afternoon conference call; 2) that during the conversation Mr. Mosbaugh emphatically stated that Mr. Hairston was a participant; 3) that Mr. Aufdenkampe agreed with Mr. Mosbaugh that Mr. Hairston did participate in the late afternoon conference call; and 4) that the portion of the tape relied upon in Exhibit 75 to indicate that Mr. Hairston was not a participant on the call, in fact, cannot possibly stand for that assertion. Tr. 5421-5425 (Aufdenkampe).<sup>101/</sup>

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<sup>101/</sup> Because of the significance of this testimony, we provide the following relevant excerpts:

Q ...look at Intervenor's Exhibit 75...the "P" identified as "participant" on Page 2 of Exhibit 75, that would be you, correct?

A Yes, that would be me.

Q And if you would look on the same page...

A ...I see the sentence, "One of those tapes of April 27, 1990, discusses," parenthetical, "(identified as Tape #71)," unparenthetical, "indicates that Mr. Hairston was not a participant during the April 19th, 1990 telephone conference call when the language concerning emergency diesel generator start counts was finalized in the LER."

Q Now, if I understand it, you have an independent recollection that Mr. Hairston attended a portion of that call, is (continued...)

416. We therefore conclude that Georgia Power intentionally

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101/ (...continued)  
that correct?

A That is correct.

Q Okay. And you are aware that Mr. Mosbaugh had independent recollection that Mr. Hairston attended a portion of that call, is that also correct?

\* \* \*

A Yes, I think that Allen was aware that Mr. Hairston participated in the late afternoon, on April 19th, 1990, telephone call.

Q So then are you aware of anyone else participating in the portion of the Tape 71 identified in the -- in Exhibit 75? Was this a conversation limited between you and Mr. Mosbaugh?

\* \* \*

(The witness reviews certain material.)

THE WITNESS: ...I don't have any recollection of anybody else being involved.

BY MR. MICHAEL KOHN:

Q And it's your best recollection that this was a face-to-face meeting with Mr. Mosbaugh?

A Real vague, Michael, but I think it was face-to-face in my office.

\* \* \*

Q Well, if you know that you had independent recollection of Mr. Hairston being on the call, and you know that Mr. Mosbaugh had independent recollection of Mr. Hairston on the call, then is it not true that the portion of the tape relied upon in Exhibit 75 to indicate that Mr. Hairston was not a participant on the call in fact cannot possibly stand for that assumption, is that true?

(The witness reviews certain material.)

A That would appear to be true.

Tr. 5421-5425 (Aufdenkampe).

or with reckless disregard utilized a segment of Tape 71 to establish that Mr. Hairston was not on the call when, in fact, the tape segment actually relied upon clearly indicates that Mr. Hairston was a participant to the conference call.

417. Moreover, the record indicates that Georgia Power knowingly or with reckless disregard utilized a transcript of Tape 71 which was submitted into evidence that altered the meaning of the conversation to reflect that Mr. Mosbaugh and Mr. Aufdenkampe were unsure whether Mr. Hairston was on the late afternoon conference call. We reach this conclusion based on the following.

418. On May 17, 1995, Georgia Power submitted its pre-filed testimony for Mr. Aufdenkampe which included reference to the Transcript of Tape 71. The pre-filed testimony is as follows:

Q. DID MR. MOSBAUGH RAISE THE ISSUE OF THE DIESEL STARTS STATEMENT WITH YOU AFTER APRIL 19, 1990?

A. Yes. Based on tape recordings that Mr. Mosbaugh made of many of our conversations, I know that we discussed the issue on Tape No. 71, which apparently was made on April 27, 1990. The transcript of our conversation on Tape 71, attached hereto as Exhibit F, is an accurate account of that discussion....

Aufdenkampe at 14, 11. 14-20.

Exhibit F [GPC II-32] is a transcript version of Tape 71, apparently prepared on June 30, 1992. GPC II-32 at p. 1. According to this "accurate" transcript of the conversation, Mr. Mosbaugh is alleged to have asked Mr. Aufdenkampe in a questioning voice whether Mr. Hairston was on the conference



call.<sup>102/</sup> This version provides Georgia Power with an adequate rationalization to assert that, if Mr. Mosbaugh asked if Mr. Hairston was on the conference call as a question, then it was reasonable for Georgia Power to rely on this segment of the tape to demonstrate that there was a question in both Mr. Mosbaugh's and Mr. Aufdenkampe's mind as to whether Mr. Hairston participated in the conference call.

419. However, the record establishes that before GPC II-23 was submitted into evidence, Georgia Power had twice prepared and submitted transcript excerpts of Tape 71 (Int. II-75, dated December 10, 1991; Int. II-116 dated December 18, 1992) indicating that Mr. Mosbaugh's comment "They were all on there"

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<sup>102/</sup> This transcription provides:

AUFDENKAMPE: What George told me over the phone --

MOSBAUGH: George Who?

AUFDENKAMPE: Bockhold.

MOSBAUGH: When?

AUFDENKAMPE: Before we issued the LER.

MOSBAUGH: Yes.

AUFDENKAMPE: We had a big conversation on those numbers with George Hairston --

MOSBAUGH: Yeah.

AUFDENKAMPE: Not Hairston, Bill Shipman.

MOSBAUGH: They were all on there?

GPC II-32 at pp. 5-6

was an affirmative statement indicating his belief that Mr. Hairston in fact participated in the conference call.

420. Georgia Power's attempt to submit a false and misleading interpretation of Tape 71 into our record is further established through the testimony of Mr. Aufdenkampe, who testified as follows:

- Q And when Mr. Mosbaugh states on [Intervenor's] Exhibit 75, Page 3, second line from the top, they were all there, is he questioning you or is he making that a statement of fact? Didn't he have enough knowledge to make it as a statement of fact?
- A That appears to be a statement of fact.
- Q And -- and you don't respond to it as if it's a question, do you?
- A No, I don't respond as if it were a question.
- Q Okay. Now I'm going to call your attention to Intervenor's Exhibit 116...Page 14...And does that paragraph stand for the proposition...that Mr. Mosbaugh was not a participant during the final stage of the telephone conference call when the LER language was finalized?
- A Well, it says in part, "We also do not believe that Allen Mosbaugh was a participant during the final stages of the telephone conference call when the LER language was finalized. See EG Mosbaugh Tape 71."
- Q And if you would now look at the -- Page 50 of this exhibit...[D]o you recognize this as an excerpt of Tape 71?
- A It appears to be an excerpt of Tape 71 with a lot of bracketed -- additional bracketed statements in it.
- Q And if you'd look in the middle of it you'll see again Mr. Mosbaugh is quoted as saying, "They were all on there," period. Do you see that?
- A Yes, I do.

Q Now, on Exhibit F at Page 6, Line 4 to your testimony, do you see that same sentence, "They were all on there"?

A Yes.

Q But instead of a period this time there's a question mark, isn't there?

A Yes.

Q Did you put that question mark there?

A No.

Q Did you verify if that was a question?

A In general I don't recall, in reviewing any of the tapes, trying to put in punctuation.

Q If I told you that at this section Mr. Mosbaugh raised his voice and emphatically stated, "They were all on there," do you recall hearing that when you listened to the tape?

A I -- I have no specific recollection of that.

Q Well, I'm going to play this portion, and I guess maybe the best way to do it is have the recorder next to you so at least you can hear it, and I'm going to ask you to listen specifically to Line 4, the words, "They were all on there," and tell me whether you can tell if Mr. Mosbaugh raises his voice when he says that and emphatically states it as an affirmative statement rather than a question.

\* \* \*

(Whereupon, a portion of a tape recording was played to the witness.)

\* \* \*

Q Did you hear Mr. Mosbaugh raise his voice to the point that the tape player went into distortion?

A ...Al Mosbaugh did raise his voice during that particular sentence saying that, "They were all on there."

Q And would you categorize his commentary as emphatically stating they were all on there?

A I think that's a correct characterization. It was more an exclamation than a question.

Q Okay. So then Page 6 of Exhibit F to your prefiled testimony is in error because it uses a question mark, is that correct?

A Yes.

Tr. 5428-5432 (Aufdenkampe) (emphasis added).

421. We find it troubling that Georgia Power's attempt to change the meaning of the Intervenor's comments about the participation of Mr. Hairston in the late afternoon conference call was contradicted by its earlier transcriptions of Tape 71 as well as the in-court sworn testimony of Mr. Aufdenkampe.

422. It is even more disturbing that Mr. Aufdenkampe directly refuted the pre-filed testimony prepared by Georgia Power -- which misleads the reader to believe Intervenor asked a question, when he in fact made an exclamatory statement about the presence of Mr. Hairston on the conference call. Significantly, the record is silent on any explanation for the curious transformation of a period into a question mark on the eve of the hearing in this case.

423. Based on the record before us we can only conclude that Georgia Power's Response to the 2.206 Petition contains a material false statement concerning the meaning of Tape 71. Notably, there is no credible evidence to controvert this finding.

U. Precursors to the Site Area Emergency - CALCON Sensors

424. A CALCON sensor is an instrument made by California Controls (CALCON), to sense temperature, pressure, and other parameters on the diesel. Unlike modern electronic instruments, these instruments use air pressure to send signals to produce alarms, and generate shutdown signals. Mosbaugh at 14.

425. Maintenance personnel had known about the CALCON problems for some time and they had just been living with the problem. Mosbaugh at 14, 40, Int. II-34, Int. II-9.

426. Plant Vogtle had one of the highest CALCON failures rates. Georgia Power was aware of its abnormally high CALCON sensor failure rate for a number of years.<sup>103/</sup> Mosbaugh at 39, Int. II-34; Tr. 7115 (Stokes). Yet, Georgia Power did nothing to alleviate this condition or to determine the root cause of an inadequate calibration procedure. Tr. 7110-11 (Stokes).

427. There were trips on the DG1B in March 1990 after the SAE that involved CALCON sensors. All of these trips involved the pneumatic air system and the pneumatic control board. Three of these trips were determined by Georgia Power to be related to the root cause of the EDG failure which gave rise to the SAE. Mosbaugh at 42, Int. II-36.

428. Georgia Power claimed it was justified in excluding these trips from the April 9th presentation and the COA letter and did not say they were related to the root cause until it

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<sup>103/</sup> There are eleven nuclear power plants that have emergency diesels with CALCON sensors. Five of them had reported CALCON sensor failures. Mosbaugh at 39, Int. II-34, Demonstrative Aid 3.

filed its response to Intervenor's Seventh Set of Interrogatories. Mosbaugh at 42, Int. II-36.

429. Georgia Power also mentioned for the first time in its response to Intervenor's Seventh Set of Interrogatories that the low jacket water pressure CALCON and the reason why a high JWTS trip alarm did not trip the diesel. This data taken together would have led to a common cause for the SAE, such as air quality, rather than singling out jacket water and ignoring the rest. Mosbaugh at 43, Int. II-36.

430. In the months after the SAE Mr. Mosbaugh learned of the CALCON history, the air quality trends and particular diesel failures. This knowledge caused him to suspect that air quality was a factor in the SAE. Mosbaugh at 40-41.

#### V. Prevailing Management Attitude

##### i. **Survey**

431. The results of a survey taken in the spring of 1990, of nuclear personnel showed that seventy-three percent of Vogtle employees agreed with the statement "Employees are afraid to voice an opinion that management does not want to hear" and fifty-two percent of Vogtle employees agreed with the statement "I am afraid to voice an opinion that my management does not want to hear." Mosbaugh at 10, Int. II-5; see also Int. II-5A.

##### ii. **FAVA**

432. Mr. Bockhold and Mr. Mosbaugh had a heated discussion about Mr. Mosbaugh's filing of a quality concern regarding FAVA.



Mr. Mosbaugh felt that Mr. McCoy did not approve of his filing of this concern. Mosbaugh at 11.

433. The Quality Concerns Coordinator, Mr. Lyons, interviewed Mr. Williams. His interview notes demonstrate that Mr. Williams had, in fact, been so intimidated by Mr. Bockhold that he altered his vote on FAVA.<sup>104/</sup> The intimidation issue was later investigated by a NRC Special Team Inspection conducted in August of 1990. A report of the inspection was issued in November of 1991. Int. II-83. The inspection report indicates that:

...on one occasion an alternate voting member felt intimidated and feared retribution or retaliation because the general manager was present at the meeting and the PRB member knew the general manager wanted to have the temporary modification approved. However, the testimony also indicated that the PRB member did not

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<sup>104/</sup> Mr. Lyon's interview notes were prepared in a question and answer format. The notes state:

Question: At the time did you feel any undue pressure to force the vote early?

Answer: Williams answer was yes. He said at the time he was sitting right next to George Bockhold [former plant General Manager]. Because of his presence Williams said he did not think there was 'true candid discussion.' He went on to say, had George not been there he would have probably voted No. I asked him Why? Williams agreed with Mosbaugh that the unit did not meet Regulatory Guide criteria...I felt it only proper to inform Williams that my asking these questions was at the request of George Bockhold and that a response was expected. Because of his response to [the above] question I asked if he preferred that I not tell him or wished to change his response. Williams seemed to be very honest and said no...

Int. II-231.

alter his vote and felt comfortable with how he had voted.

Id. at 20 (emphasis added).

434. Assuming this testimony came from Mr. Williams, it significantly differs from Williams' earlier statement made to Mr. Lyons. It is another indicia of less than candid responses to a formal NRC investigation into the FAVA allegation.

435. A strong indicator of management's motivation and response to significant regulatory concerns raised within the organization is established by the decision to allow Mr. Bockhold, the alleged wrongdoer, to control the investigation.

436. An indicator of management's commitment to root cause analysis and resolving deficiencies is established by management's decision not to issue a report on any of the issues the Quality Concerns department was investigating. Int. II-231.

**iii. April 30, 1990 "Cowboy-Cavalier" Meeting**

437. On April 30, 1990, NRC senior management held a closed meeting with Georgia Power management to express its concerns about communication problems. Tr. 14851-57 (Matthews). This type of meeting was extremely unique and it is not something the Staff does on a routine basis. Tr. 11856-57 (Hayes).

438. The meeting began with Dr. Murley announcing that the purpose of this meeting was to share some feelings held by the NRC regarding communication problems and attitudes reflected by the Vogtle plant that caused the NRC concern with regard to their management of the facility and their interaction with the NRC. Tr. 14853-54 (Matthews).

439. Mr. Hairston's understanding of the reason for the April 30th meeting is that the Staff was giving general feedback on the Staff's perception that Georgia Power's ongoing communications with NRC were poor and the perception of some of the overall operation's inattention to detail at Vogtle that went back in time several years. Tr. 9294, 9381 (Hairston).

440. Mr. Matthews stated that the purpose for the meeting was that after a series of internal NRC meetings that were in response to his and the region's expressed concerns about the attitudes and communication problems reflected at Vogtle. Tr. 14851 (Matthews), Tr. 11665 (Hayes).

441. Mr. Hairston felt that most of the criticism from the NRC concerned things that happened between 1985 and 1988 and that Georgia Power had made a lot of progress since then. He also felt that the NRC was much too critical and that the comments were based on history. He thought the depth and breadth of the comments did not exactly reflect his opinion, and probably not the Region's, of Vogtle at that time. Tr. 11570, 13463, 13466-67 (Hairston).

442. However, NRC management was concerned in April 1990 that the current Georgia Power management had a "cowboy cavalier" attitude and that they were not taking the regulatory effort seriously. Tr. 11668, 11856 (Hayes).

443. Mr. Hairston expressed surprise at some of the feeling behind the comments of the NRC, the way they were articulated, and the people who were there. He said that he was taken aback a

little bit and that he felt the NRC overstated the reality of the situation. Tr. 13463 (Hairston).

444. The NRC was very careful not to identify particular instances and did not let the meeting resort to did/did not kind of argumentative behavior. The NRC reflected an overall view that there were problems at Vogtle, and that it felt they needed to address them quickly. The NRC's concerns arose from what had transpired in the immediately preceding period of time and Georgia Power was aware that there was an ongoing investigation regarding the dilution valve incident. Therefore, the NRC did not particularize events but focused on the level of concern that the NRC held at that time. Tr. 14854 (Matthews).

445. Mr. Matthews coined the phrase "cowboy cavalier attitude." After Dr. Murley made a formal presentation, Mr. Sniezac, the Deputy Executive Director of Nuclear Reactor Regulation and Research and Regional Operations, stated: "The reason you're here is that my staff tells me that that plant is being operated with a cowboy cavalier attitude towards safety." Tr. 14855 (Matthews).

446. Some of the criticism given by the Staff included the use of phrases such as "cut corners" and "play close to the edge" with regard to technical specifications. Also, the Staff was very specific about its concern that there might not be strict technical specifications adherence, that there might be "creative interpretations of tech. specs." Tr. 14856 (Matthews).

447. These criticisms were stated by Mr. Sniezac with Mr. Matthews' occasional support. Mr. Sniezac's desire was to not particularize his concern because there was an ongoing investigation and he was fearful that individual circumstances would prompt Georgia Power to identify a specific event and provide a defense, he really just wanted to inform them of the perceptions of the NRC management. Tr. 14857 (Matthews).

448. In preparing for the meeting Mr. Matthews pulled information from many sources, project managers and resident inspectors, to try to focus management's attention on the issues at hand. Tr. 14858 (Matthews).

449. Mr. Hairston believes that Mr. Ebnetter did not agree with the all of the comments made by other NRC personnel at this meeting. Tr. 13465-66, 13470 (Hairston).

450. Mr. Matthews testified that was no way that Georgia Power could have left the meeting not realizing that the comments were a collegial-held view of the NRC. And that there was no indication during the meeting from Mr. Ebnetter that he did not agree with what was being said. Tr. 14862 (Matthews).

451. Mr. Hairston stated that the communication on both sides needed to be better. He felt that it was important for the employees to know how the regulator felt about them and that they should be very careful in how they communicated with people. They tried to impart this in a series of meetings with employees. Tr. 9295, 13465 (Hairston).

452. Georgia Power, after the April 30th meeting with the NRC, made no policy changes nor did it add to or change any of its procedures. Tr. 13481 (Hairston).

453. Mr. Hairston does not think that the inadequate fact checking that was performed on the April 9th COA response could be attributed to a cowboy cavalier attitude. Tr. 13499-500 (Hairston).

454. The material false statements addressed in this licensing proceeding are the same kind of events addressed in the April 30th meeting and buttress the NRC's contemporaneous examples of the same kind of communication and attitude problems that were common to the issues talked about in the April 30th meeting. There are many examples in the record of the kind of difficulties in terms of communication. However, Mr. Matthews does not believe that these events rise to the same scale in terms of safety consciousness. Tr. 14991 (Matthews).

455. In Mr. Matthews' view Georgia Power did not step back and assess the longer term implications of how they had responded to ensure that they wouldn't find themselves in that circumstance or a related circumstance again. The events that prompted the April 30th meeting were not viewed by Georgia Power with the same significance as the NRC, both by virtue of not feeling compelled to communicate to the NRC fully about them and not trying to get to the bottom of what caused them. Tr. 14992-93 (Matthews).

456. When Mr. Hairston found out about the false statements in the LER, he never inquired if the cause of the false



statements was a continued cowboy cavalier attitude. And he never asked Mr. Bockhold the reasons the errors were originally made. Tr. 13473-74 (Hairston).

457. In the time frame immediately following that meeting there was a long silent period in terms of communication back to the NRC, with the exception of a visits by Mr. McCoy, who wanted to enhance communication. Tr. 14865 (Matthews).

458. Mr. McCoy's testimony in his 1993 OI interview demonstrates the continued existence of the cowboy cavalier attitude among Georgia Power managers. Int. II-236, pp. 88-93.

459. The following statements from Mr. McCoy's OI interview are illustrative of his attitude:

I don't lose any sleep about whether we got to the bottom of why there was some confusion there. It's really not very significant.

\* \* \*

--this investigation may have adversely affected the safety of the operation of the plant and has resulted in increased prices for the cost of electricity to all of the people served by that plant.

\* \* \*

I think this whole thing needs to be reviewed to see how both of us, licensees and the regulator, can do our job better to avoid this needless waste of energy, time that is actually adverse to what we exist for.

\* \* \*

Int. II-236, p. 88-91 (emphasis added).

460. Another example of Georgia Power's continued cavalier attitude toward the NRC is the comments Mr. McCoy made to plant

Vogtle personnel on May 8, 1990 regarding the meeting with the NRC. He stated:

Now, we had some discussion after that [the meeting] and let me tell you that Pat and George really defended us in this thing. They stood up for Vogtle. Specifically they said it's our opinion that Vogtle is a good performer and they've made steady improvements over the last several years. The facts show that, but we hear what you say and we're going to go back and sit down and think about it. We've heard you, but it hurts and we don't really agree.

GPC II-183A, p. 9 (emphasis added).

461. It is clear that this meeting concerned the current management's communication and attitude problems. Mr. Hairston's interpretation that the purpose of the meeting was to discuss historical problems that Georgia Power had already improved is not supported by the testimony of the NRC personnel. It was clear that the meeting dealt with recent events and not pre-1988 events. The fact that Georgia Power felt that the NRC was wrong and took offense to the comments is important. Georgia Power seemed to believe that no problem existed but that they should try to change the NRC's perception. The NRC states that there was no significant improvement in Georgia Power's communications and attitude until after the October 1990 departure of Mr. Bockhold.<sup>105/</sup> It is significant that both the June 29th and the August 30th letters were submitted after this meeting and the fact that they contain material false statements is indicative of the continued cavalier attitude held by Georgia

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<sup>105/</sup> We note that Mr. Bockhold's departure from plant Vogtle has nothing to do with the issues in this proceeding.

Power.

iii. NRC's Communication problems on site

462. Mr. Matthews stated, in regard to his interaction with the site, which started in 1988, his concerns were dominated by the communication difficulty with Mr. Bockhold. Mr. Bockhold had a chilling effect on communication at site with our residents, and with him and his staff. Tr. 14802-04 (Matthews).

463. Mr. Matthews was not alone in his concern with regard to communications, this subject was a source of was continuing discussions among primarily the regional staff, at the branch chief level, overseeing the resident inspectors; the division director level, which was Luis Reyes, and at Stewart Ebnetter's level, and that there had been communication with management at Georgia Power about this problem. The people to whom Mr. Bockhold was responsible would have been notified of this problem. Tr. 14802-04 (Matthews).

464. The communications with plant Vogtle changed "180 degrees" for the worse when Mr. Bockhold took over for Mr. Rice who had been there in the construction phase. Tr. 14806-07 (Matthews).

465. Mr. Matthews became even more alarmed about his concerns during interface meeting where Georgia Power. The purpose of this meeting was for Georgia Power to present their perception of the problems faced by Vogtle, the major activities underway, the expected activities in the near and distant future for which there might be some regulatory involvement or need for

regulatory involvement. However, Mr. Bockhold gave only five to 10 minutes of discussion and no response from his staff. Mr. Matthews was upset by this lack of forthrightness and stated that he and his staff were going to leave. At that point Mr. McCoy quickly took chairmanship of the meeting which had been in Mr. Bockhold's hands. Mr. McCoy told Mr. Bockhold to go and get the viewgraphs that they had just recently presented to the Board of Directors and bring them to the meeting for him, and he proceeded to stand up and present that information to Mr. Matthews and the assembled staff. Mr. Bockhold never said another word the rest of the meeting. The fact that Georgia Power had this information available and were not straightforward with it was disturbing to Mr. Matthews and is distressing to us. Tr. 14816-17 (Matthews).

466. Mr. Matthews felt that Mr. Bockhold demonstrated "an attitude reflected by the General Manager toward open communication with the NRC" and held an "apparent disdain for regulatory involvement with ongoing plant activities or problem resolution." This apparent disdain was again demonstrated on April 9, 1990. There were other individuals in the region who were aware of the relationship with the NRC in Mr. Bockhold's "attitude." Tr. 144821-22 (Matthews). It is apparent that the NRC's concerns about Mr. Bockhold's and Georgia Power's attitudes toward it were more than a perception they were completely valid.

467. Mr. Matthews informed Mr. McCoy about the difficulties that he and the region staff was having in obtaining information from Mr. Bockhold. He was very forthright in that the NRC was

not getting the information it felt it needed. He shared the concern that if circumstances were such that time was of the essence for the NRC to get accurate information. Tr. 14842-43 (Matthews). It is highly distressing that Georgia Power management was aware of Mr. Bockhold's lack of effective communication toward the regulator yet did nothing about it for such a long period.

468. Mr. Bockhold made the following comments which are contained in GPC II-183A:

I believe that fundamentally we are not cavalier. We don't have a cowboy attitude. We are concerned about nuclear safety. We do not cut corners. I believe we make good decisions.

\* \* \*

[Then follows descriptions of events that had taken place]

What that does is give you a flavor of the types of events that other people could say, gee, Vogtle might have these things, cutting corners, cavalier, that type of thing. They would add those events up and they would get that perception of us. And, again, I don't believe that we act that way. I think we make considered decisions, but we really need to be very careful about our communication with those decision, with the NRC, with our own management, with each other, such that, you know, we don't give this perception to our regulator.

GPC II-183A, pp. 10-13. Mr. Matthews believes that Mr. Bockhold is "recalcitrance to want to admit to that there might be some substance to the concerns." Tr. 14951 (Matthews).

469. The failure of Georgia Power to recognize Mr. Bockhold's performance failures could be indicative of a much larger corporate culture problem, vis-a-vis holding managers accountable. Tr. 15009 (Matthews).

470. An example of this continuation of the same kind of attitudinal concerns the NRC had during the 1990 time frame was again criticized by the NRC in the Vogtle Coordinating Group ("VCG") Analysis. Tr. 15076 (Matthews), Staff II-50, p. 29. Herein the VCG, referring to Georgia Power's response to the NOV and the DFI for Mr. Bockhold as well as Mr. Bockhold's individual response to his DFI concerning the June 29 LER revision, stated:

The attitudes exhibited by GPC and BOCKHOLD in their responses shows a lack of concern for the NRC requirement for completeness and accuracy of information. The Group believes that such attitudes on the part of GPC and BOCKHOLD regarding the level of care to be taken regarding submittals to the NRC are shockingly deficient, particularly in instances such as this where the General Manager had direct personal knowledge and involvement in the matters being addressed.

Id. (emphasis added). The problems with Georgia Power's response to the NOV were seen by the NRC as symptoms of a broader problem. Tr. 15078 (Matthews). The VCG also concluded that "[t]he inability to identify causes of errors has significant implications for public health and safety because there is a substantial likelihood that such errors will be repeated." Staff II-50, p. 32.

471. We agree with the VCG, in that, the fact that in 1994 Georgia Power continued to display a cavalier attitude when making a submittal to the NRC is "Shockingly deficient" and taken together with Mr. Hairston's view's of Mr. Bockhold's performance is strong evidence that the problem persist to this day and that such error will be repeated.

**iv. Georgia Power's unwillingness to admit materiality**



472. Regardless of the fact that Georgia Power reached a settlement with the NRC in which it agreed that the false statements and omissions were material, Messrs. Hairston and McCoy stated that they did not believe the false statements and omissions from April 9th and June 29th communications were material.

473. While Mr. Hairston, in response to questioning by Intervenor's counsel, stated that he believed the statement from the April 9th communications to the NRC "18 and 19 starts without problems or failures" was a material false statement, Tr. 3612 (Hairston), he stated that there was not a material omission. Tr. 3685 (Hairston).

474. Mr. McCoy, in referring to the same phrase from the April 9th communications stated that it was "a little bit of stretched to find that as material false statement." Tr. 2890 (McCoy). He was unwilling to concede that it was material even after being reminded about Georgia Power's settlement with regard to the NOV. Tr. 2891 (McCoy).

475. Both Messrs. Hairston and McCoy stated that the June 29th cover letter did not suffer from a material omission. Tr. 3685 (Hairston), Tr. 3095 (McCoy). Mr. McCoy stated this even though if he wrote it today he would "write it differently and [he] would include additional information that [he] was not aware of at that time." Id. (McCoy).

W. Credibility of Georgia Power Witnesses.

476. The Board has observed various witnesses giving completely incredible testimony, including the testimonies of Messrs. Horton, Frederick and Stokes, and finds it difficult to give their testimony much weight.

477. Mr. Frederick, for example, in his testimony denied that his opinion of the work that was done on the Critique Team was inadequate until he was confronted with the tape transcript of his conversation with Mr. Mosbaugh on May 2, 1990, where he discussed his opinion of the work. Even when confronted with the transcript of his conversation he attempted to deny it:

Q Okay. And as a member of that event critique team, you formed the opinion that the product of that team was inadequate?

A I don't believe I did that.

\* \* \*

Q Did you tell Mr. Mosbaugh in that conversation, or do you have any recollection of telling Mr. Mosbaugh that the product of the critique team was inadequate?

A I have recently reviewed a transcript of a tape that indicates in that conversation I told Mr. Mosbaugh that I thought the product of the critique team currently was not complete.

\* \* \*

Q But, in fact, it was your opinion and you state you would have told the NRC if someone had asked

you that (quote), "This is very weak. I don't see how this can be effective in correcting your problems in the future." And you said, "I would agree to that." Isn't that your true feelings of what really happened? You felt it was very weak and would not be effective in correcting the problems in the future?

A On the date we were holding this discussion, that was my feeling, yes sir.

Tr. 4129-30, 4149 (Frederick). Int. II-22B, p.3.<sup>106/</sup>

478. When Mr. Stokes first testified before this Board on June 3, he submitted pre-filed testimony in which he stated that he was not aware of water ever being found in the diesel instrument air sensing lines. Stokes at 3.

479. Mr. Stokes stated that he had never seen any "moisture at or inside the controlled air system at all..." or "the air receiver." Tr. 7020-21 (Stokes).

480. He not only told us that there had not been so much as an insignificant water discharge (Tr. 7093 (Stokes)), but he also stated: "... we've never -- we haven't seen water, I mean, in the past, if that's what you're saying. There's -- there's not been any indication of water in the control system or -- or anything of that nature." Tr. 7161 (Stokes). Furthermore, when

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<sup>106/</sup> Mr. Frederick makes an indication in this taped conversation that "when management is dissatisfied with a product they are being given, management should go in a closed-door room and do it themselves," and that is what happened to the Critic Team Report. Int. II-22B.

directly asked, Mr. Stokes stated that he had not seen any water. Tr. 7170 (Stokes). He also responded in the negative that he had never observed or been told that water was found in the P-3 device. Tr. 7284 (Stokes).

481. However, testimony which came to light in August, 1995, demonstrated that not only had there been moisture in the system, but that a Cooper technician, Mr. Johnston, had not only informed both Messrs. Burr and Stokes of its existence, but that one or both of them may have been present when the water was found.

**i. Hairston**

**a. Hairston's View of Bockhold**

482. Mr. Hairston believes that overall Mr. Bockhold made an adequate assessment of the diesels. "There were some things he could have done better. But overall, my judgment was, the diesels, the decision he made was an adequate decision at that time." 3538 (Hairston). He also stated that "What George [Bockhold] did here you would see from any of the plant managers," Tr. 3568 (Hairston); "his behavior was not outside the norm." Tr. 3571 (Hairston).

483. Mr. Hairston also defended Mr. Bockhold before the Board and in doing so stated the following:

I feel like at the time that George did the best he could, and that, you know, looking back on it, he sees some things that really come from, maybe some personality traits where he can improve. But I believe in my mind that he was trying to do a good job, and trying to get the factual information there.

Tr. 3575 (Hairston).

484. However, as this proceeding advanced, even Mr. Hairston's defense of Mr. Bockhold began to wane. He stated during his third appearance before the Board that Mr. Bockhold should have taken more time and questioned the numbers Mr. Cash gave him. The average person would have said "let's triple check this." Mr. Hairston said in hindsight he can see opportunity upon opportunity where George could have done something different. Tr. 11550-51 (Hairston). This change in his support of Mr. Bockhold was noted by the Board.

485. The following statement by Mr. Hairston best illustrates his attempt to repudiate his support for Mr. Bockhold. In regard to Mr. Bockhold's style he stated:

But as I look at George's overall performance while I was associated with him, I see many things where he took conservative decision-making, I believe that was his basic mindset. But on the other hand, I saw a person that tended to, you know, be a -- his basic style was his engine was running. You know what I'm talking about? Revved up at a pretty high RPM most of the time. He was a high energy person. And I think things -- and I think high energy people can be almost set up by their own personalities to miss opportunities. And I think that's really what George has -- has admitted to, and that's maybe on the non-positive side.

Tr. 11551 (Hairston).

486. Then in Mr. Hairston's final appearance, Mr. Hairston related to us that there were a lot of discussions between Mr. Hairston and Mr. McCoy as to whether Mr. Bockhold was supporting the change in culture to being more cooperative with the NRC in the attempt to change the NRC perception about Georgia Power's attitude. Mr. Hairston believed that Mr. Bockhold did a lot of

the work, "breaking of the ground", before he left Vogtle in late 1990. Tr. 13544 (Hairston). Nonetheless, he admitted that while he believed Mr. Bockhold plowed a lot of the ground, that Mr. Shipman sowed a lot and reaped a lot. And that the same amount of progress could not have occurred if Mr. Bockhold had remained as plant manager. Tr. 13546 (Hairston).

b. Hairston's Selective Memory

487. Mr. Hairston has displayed a selective memory during his testimony in this proceeding. He testified that he "no recollection whatsoever" of discussion the issue of the number of starts during the April 19th teleconference. Tr. 3618 (Hairston).

488. However, his testimony reflects that he has a good memory of another phone call that occurred that same day. He detailed testimony regarding the call with the operators. He also seemed to have no trouble recalling the instruction he gave to Mr. Shipman about setting up this call.

489. Another demonstration of this selective memory is Mr. Hairston's claim that he does not recall asking, on the disputed section of tape 58, stating "we got the starts." GPC II-2.

490. Mr. Hairston also claimed that he lacked knowledge about dew points. Tr. 13498-99 (Hairston). We find incredible due to his extensive experience in the nuclear industry. He held a position which would have required knowledge about dew points. GPC II-19. Furthermore, he signed the response to the generic letter from the NRC. He stated that he read and understood it



before he signed it. Tr. 8814 (Hairston). We find it incredible that he would sign out this response if he did not understand it, and are highly concerned that he would do so.

**ii. Stokes**

491. The testimony of Mr. Stokes demonstrates the complete lack of candor Georgia Power personnel exhibit toward the NRC. Throughout the testimony, from his first appearance, there are several instances where he provided testimony that is simply untrue.

492. When Mr. Stokes first testified before this Board on June 3, he submitted pre-filed testimony in which he stated that he was not aware of water ever being found in the diesel instrument air sensing lines. Stokes at 3.

493. He stated that he had never seen any "moisture at or inside the controlled air system at all..." or "the air receiver." The only instance that he ever knew that "moisture was input into the system," he testified, was put there by test personnel during a bubble test. Tr. 7020-21 (Stokes).

494. During a description of a blowdown Mr. Stokes again stated, "[y]ou would blow down the drain to verify that there's no moisture there and if in fact you found moisture, which as I said before, we haven't...". Tr. 7028 (Stokes) (emphasis added).

495. Mr. Stokes made the emphatic statement, "we have never seen water at our plant," when discussing whether or not the diesel could run with water in the logic. Tr. 7066 (Stokes).

496. He not only told us that there had not been so much as an insignificant water discharge (Tr. 7093 (Stokes)), but he also stated: "... we've never -- we haven't seen water, I mean, in the past, if that's what you're saying. There's -- there's not been any indication of water in the control system or -- or anything of that nature." Tr. 7161 (Stokes). Furthermore, when directly asked, Mr. Stokes stated that he had not seen any water. Tr. 7170 (Stokes). He also responded in the negative that he had never observed or been told that water was found in the P-3 device. Tr. 7284 (Stokes).

497. He informed us that air quality would be indeterminate, during a one month period "you went from a pristine condition to a condition with some rust or corrosion," (Tr. 7077 (Judge Bloch), Tr. 7077 (Stokes)). However, in a quite surprising statement, he stated that he did not agree with a comment he wrote on a deficiency card that if air quality was indeterminate so was diesel operability. Tr. 7064 (Stokes), Int. II-147.

498. Finally, he testified regarding the effects of not having the dryers on and how that affects the ability to perform dew point measurements. He stated the machine should be turned back on but that it does not have to be turned on, he explained:

You don't have to, but one would -- you know, prior to -- if you've got a machine -- it's off and -- and you don't know how long it's been off, then you -- you want to -- to get the machine back on and in the proper operating -- in order so that at least you're moving in the right direction. But no, you can take a dew point measurement on the receiver at any time, whether they're on or off.

Tr. 7270-71 (Stokes).

499. The Board and the parties were later informed during an in camera session on August 17 that Mr. Johnston, a Cooper technician, had found water in the logic on at least two occasions in the February-March 1995 time period. Tr. 11887 (Blake). Mr. Johnston stated that Messrs. Burr and Stokes were either present when he found it or were aware of it. Tr. 11890 (Stokes).

500. Upon learning this, attorneys for Georgia Power then reviewed the testimonies of both Messrs. Burr and Stokes to see if they might have been asked questions which would have elicited this information. Tr. 11890 (Stokes). They found that Mr. Stokes had indeed been asked such questions, as the record stated above demonstrates. Id.

501. Mr. Stokes was then interviewed by a Mr. Domby of Troutman Sanders concerning his testimony. The notes of this interview were introduced into the record as Int. II-242. Mr. Domby asked whether Mr. Stokes recalled the issue of water in the gauge when he was questioned at the hearing. Mr. Stokes stated he did not recall it because "it seemed insignificant at the time of the event and, therefore, the event did not make an impression which he would recall later at the hearings." Int. II-242, p. 4.

502. He further explained that Mr. Johnston's comments to him when informing him about the water in the pneumatic control system was an "oh, by the way" comment. Int. II-242, p.4. No MWO or DC was generated because the engineers felt this was a "no

never mind." Id. at 5. Mr. Stokes stated that the only other person that he was aware of, that was associated with this proceeding, who was informed of this water was Mr. Burr. Id. at 6.

503. When asked why he did not recall this instance during his testimony he stated that he simply did not recall it at the time and that he was focused on the 1990 time frame. Int. II-242, p. 6. He stated he would like to amend his prior testimony. Id. However, he then made a statement that demonstrated, once again, Georgia Power's cavalier attitude. He stated, "[l]ike so many other things in the case this event is irrelevant, but they'll take it as highly relevant, since Allen's (Mosbaugh) whole case is meandering around moisture in the system." Id. at 8 (emphasis added).

504. Only the Board makes determinations as to relevance, not witnesses. The fact that Mr. Stokes believed that it would be significant to Intervenor's case demonstrates that he intentionally withheld the information. His denial of this motive, as reflected against the general candor of his testimony in this proceeding, is not convincing. Tr. 13919 (Stokes). As demonstrated by the record cited above, he was asked specifically if anyone had ever informed him about finding water and he not only said they had not but he also stated that there had never been water in the system. It was Mr. Stokes' duty, as a witness in this proceeding, to exhibit full candor when testifying, a duty which he failed to fulfill.

### **iii. McDonald**

505. Mr. McDonald testified that he reviewed drafts of the LER and gave comments on it but he did not see the final version until after it was sent to the NRC. His involvement in the review included checking for an overall sense of completeness and understandability. He also tried to anticipate how it would be understood by the NRC. Tr. 11045-46 (McDonald).

506. This testimony is inconsistent with Mr. McDonald's deposition testimony from 1990 in which he stated that he had no involvement and Georgia Power's Response to Intervenor's Second Set of Interrogatories which also indicates his involvement. This inconsistent testimony shows a willingness to conceal what actually happened. Tr. 11045 (McDonald), Int. II-208.

507. Mr. McDonald stated that when he asked Mr. Shipman if Mr. Hairston was on the call, he could not remember. Int. II-210, p. 25. However, Mr. Shipman testified that there was never a time when he did not recall that Mr. Hairston was on the call. The reason he remembers is that it was unusual for Mr. Hairston to walk into a conference call on the fourth floor and participate in it. Tr. 11322 (Shipman). These statements by Mr. McDonald, considered with similar statements cited in our Phase I Findings, persuades us to give little weight to Mr. McDonald's testimony, as we do not believe it is completely reliable.

### **iv. Coursey**

508. The testimony of Charles Coursey also suffers from credibility problems. When he was questioned by Intervenor's

counsel regarding deposition testimony he stated that he remembered stating that moisture had drained out of one of the lines of the diesel, but does not believe that statement was true. Tr. 11182 (Coursey).

509. Upon hearing this revelation the following questioning by the Board ensued:

Q Okay, but the question here is about trip lines. Do you know whether or not there was ever moisture drained out of one of the trip lines.

A No, sir.

Q You don't know or you don't recall or what?

A To my knowledge, there has not been any drained out of the trip lines. but there is, as I said before, we have had problems with dew point readings in the air receiver or the air start system.

Q Okay. And was there some other line that there was moisture drained out of other than a trip line?

A Excuse me?

Q You just said that you don't know of any moisture being drained out of a trip line. Was there ever moisture drained out of some other kind of a line near the diesels?

A Yes, sir, the air start system, air receiver tanks and such as that.

Tr. 11183 (Coursey).



510. Intervenor then tried to confirm that Mr. Coursey had just said that he remember moisture being drained out the air receivers and Mr. Coursey replied, "[n]o, sir, that's not what I said." Tr. 11184 (Coursey).

511. He stated, concerning his deposition testimony, that he "tied the words 'moisture' and 'dewpoint.' I guess in my mind dew point is similar to moisture, moisture is similar to water, dew point is also similar to water." Tr. 11188 (Coursey). He further explained that when he had said something about there being moisture in the air lines, he was referring to dew point readings. Tr. 11184 (Coursey).

512. Mr. Coursey's testimony demonstrates one of worst examples of Georgia Power's attitude and lack of candor. In his testimony Mr. Coursey exhibited an unwillingness to give a straight answer to the questions he was asked. We find his testimony to be completely untrustworthy.

## **VI. DIESEL GENERATOR CONCLUSION**

For the foregoing reasons, the Board finds that Intervenor has met his burden of proof on the admitted contention and that the licensee has failed to persuade that its application for a transfer of license should be granted. Accordingly, the Board hereby determines that Georgia Power and Southern Nuclear do not have the character and competence to transfer the operating license of plant Vogtle from Georgia Power to Southern Nuclear. On the basis of these findings, Georgia Power's request to transfer its license is hereby denied pending the scheduling of

hearings on appropriate remedies in this matter. It is further ordered that the operation of plant Vogtle be suspended until it can be determined that the licensee possesses the requisite character and competence necessary to operate a licensed nuclear facility.

## VII. AIR QUALITY - FINDINGS OF FACT

### A. Background: Diesel Generator Air System

513. There are two emergency diesel generators ("EDGs") for each unit at Vogtle. An air supply is needed both to start the diesel engine and to operate the engine controls. See Int. II-10. This air is supplied to each diesel engine by an independent, redundant starting air system. Board II-4 at 9-68.

514. The overall diesel air system is sometimes referred to as the "diesel starting air system", it controls the diesel engine and supplies air pressure to the CALCONs. It also provides the pressurized control air to the pneumatic control logic and pneumatic sensors (CALCON sensors) that monitors diesel engine parameters such as temperatures and pressures. Mosbaugh pre-filed p. 15.

515. In the pneumatic logic there is a pneumatic "motherboard" that functions like an electronic circuit board in an electronic system except that it consists of little air passages, small orifices and logic element as opposed to transistors, capacitors and resistors. The orifices are as small as .006 inch. Mosbaugh at 15.

516. There is a separate air system for each diesel. Each air system consists of two (2) air compressors, two (2) dryers, and two (2) air receiver tanks. Compressed air is routed through a refrigerant dryer, the "dried" air enters a large air storage tank called an air receiver. The compressors shut down when the air receivers reach their high pressure limit and start when they reach their low limit. The air in the air receivers supplies both the air starting system and the pneumatic control air system. Mosbaugh at 15, Int. II-10.

517. The control air is diverted from the starting air system down stream from the air receivers. Control air is used by the pneumatic logic components and sensors to control and protect the diesel engine. The control air passes through a five micron filter and then through a pressure regulator that maintains control air pressure at 60 psig. See Int. II-10.

518. The air dryer is a refrigerant-type. Located upstream of the air receiver, the dryer removes water vapor from the compressed air before the air reaches the receiver tank. The air dryer is designed to run continuously, i.e., it does not cycle on and off with the air compressor. Board II-3 at 9.5.6-4; Board II-4 at 9-68.

519. The lowest dew point rating capability of being produced by the plant Vogtle diesel air dryers is 35 F. Mosbaugh at 19, Int. II-12, p. 7.

520. The air receivers for each diesel engine are maintained at operating pressure by the compressors. The compressors start

when air receiver pressure drops to 225 psig and stop when pressure is increased to 250 psig. Board II-3 at 9.5.6-3.

B. PSYCHOMETRY

521. If Dryers were not used the dew point at Plant Vogtle would be the same as the air temperature in the receiver. Mosbaugh at 21.

522. When air is compressed its temperature rises significantly. It appears that, in the 1990 time period, the air receivers were normally warm to the touch, indicating an internal temperature of 90 F or higher. Mosbaugh at 21.

523. When saturated compressed air cools, at constant pressure, water condenses out of the air and causes the surface to cool. When air that is not sufficiently cooled flows into smaller pipes and tubing water forms if the temperature of the walls of the smaller pipes and tubing is lower than the dew point. Mosbaugh at 21, Int. II-14.

C. Acceptance Criteria

524. The maximum dew point acceptance criteria for the VEGP diesel air start system has been established as 50F at system pressure.<sup>107/</sup> Mosbaugh at 20, 69; Int. II-13; Int. II-72.

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<sup>107/</sup> Intervenor argues that ("ANSI") sponsored by the Instrument Society of America Standard S7.3 - 1975 represents the appropriate industry air standard that should have been the basis for Georgia Power's diesel pneumatic air system. He notes that the plant Vogtle FSAR commits to meeting the dew point requirements of the ISA Standard. Mosbaugh pre-filed pp. 16-17, Int. II-11. Intervenor correct observes that Georgia Power's diesel pneumatic air system cannot meet this air standard. Mosbaugh at 18. However, Georgia Power argues that this air standard is inapplicable to its diesel air system. We note that the actual  
(continued...)

525. We conclude that the detection of water in the pneumatic system or dew point measurements indicating dew points above 50 F constitutes unsatisfactory air quality.

D. Dew Point Measurements

526. Georgia Power committed to periodically measure the dew point of the air in the diesel air receivers to show compliance with the 50 F dew point criteria Georgia Power developed a Preventive Maintenance (PM) checklist, number SCL00166, to take these measurements. These measurements were performed monthly on each air system on each diesel. Mosbaugh at 69, Int. II-13.

527. The dew point is measured at the air receiver by attaching the dew point testing equipment at a pressure gauge fitting on the air receiver. Section D states the acceptance criteria of between 32 F and 50 F degrees fahrenheit. Thus Georgia Power's procedures required a dew point of less than 50 F in the air receiver at 225 to 250 psig. Mosbaugh at 69, Int. II-78.

528. The results of all the dew point measurements made at Plant Vogtle on the diesel generator air system are documented in the maintenance work orders (MWO's). The MWO's are used to perform the Preventive Maintenance (PM) checks of the diesel air dew points. Mosbaugh at 69-70, Int. II-35, Demonstrative Aid 4.

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<sup>107/</sup>(...continued)

root cause of the Site Area Emergency is not within the scope of this phase. For the purpose of determining whether a false statement was made in the April 9 letter we need look no further than the written commitment of 50 F. We therefore do not consider the applicability of the ISA Standard S7.3 in this decision.

529. Maintaining satisfactory air quality is essential to prevent corrosive effects and to prohibit extremely small orifices (as small as 28 thousands of an inch) within the pneumatic logic system from becoming blocked. Tr. 7153, 7159 (Stokes). Should water enter the logic boards, the operation of the diesel trip circuitry becomes unpredictable. Tr. 7158 (Stokes).

530. Although Georgia Power defined satisfactory air quality based on maintaining dew point measurements between 32 F and 50 F, prior to the Site Area Emergency, satisfactory air quality was based on whether moisture was detected when an air receiver was "blown down." Tr. 7014, 7063-5, 7077 (Stokes). According to Georgia Power's diesel engineer, Mr. Stokes, "if [moisture is] there and we can't see it, I'm not concerned about it."<sup>108/</sup> Tr. 7027 (Stokes). Mr. Stokes was aware of the dew point requirement and was also aware that whether or not water was detected did not assure that the required dew point was being maintained. Tr. 7065 ( S t o k e s ) .

**IIX. FALSE, MISLEADING, AND INCOMPLETE  
STATEMENTS TO NRC PERTAINING TO AIR QUALITY**

**A. April 3, 1990 IIT Conference Call.**

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<sup>108/</sup> Georgia Power never performed a 10 C.F.R. 50.59 safety evaluation to determine whether the ability to physically detect water was an adequate basis to determine diesel generator operability in lieu of maintaining dew point measurement below 50 F. Tr. 7147 (Stokes). Georgia Power has full responsibility to adhere to it's safety commitments and may not deviate from them until they perform a formal safety evaluation and obtain NRC concurrence. Mosbaugh at 78.



531. The IIT was extremely interested in determining the effect diesel air quality may have contributed to the cause of the Site Area Emergency. Communications concerning air quality began on March 28, with Georgia Power agreeing to take post-SAE dew point readings; taking these readings on March 29 and thereafter false asserting to NRC on April 3 that the readings pointed to satisfactory air quality.

**i. March 28 IIT Conference Call**

532. A conference call between Georgia Power and IIT representatives was conducted on March 28, 1990. Messrs. Bockhold, Burr and Kochery participated on behalf of Georgia Power. NRC participants are identified as Messrs. Chaffee, Holmes and Kendall. GPC II-49. The IIT participants advised that they wanted to "get a handle" on what effect air quality may have had on the intermittent operation of the CALCON sensors. Id. at Tr. 95. To assess the effect of air quality, Mr. Burr and Mr. Bockhold agreed to take new dew point readings and to run "a batter of tests on the air system."<sup>102/</sup> Id. at Tr. 96-97.

**ii. March 29 Dew Point measurements**

533. The following d: ch 29th,<sup>110/</sup> dew point readings of

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<sup>102/</sup> The "battery" apparently consisted of taking one set of dew point measurements; we are aware of no testing on the 1A diesel until after NRC learned of the high dew point readings on April 5.

<sup>110/</sup> See GPC II-155. This MWO had a preestablished early start date "ESD" of April 8 and the latest expected completion date of April 22. The "ESD" preventive maintenance date was altered by hand on the MWO to March 29, 1990. The MWO further indicates that this change was made to the MWO on March 29, 1990 as well. Tr. (continued...)

80 F and 60 F were taken on the 1A air receiver, indicating unsatisfactory air quality. Int. II-169, Tr. 6464 (Bockhold). These high readings were reported to Mr. Bockhold and to the Critique Team on or about March 29 by Mark Briney.<sup>111/</sup> Tr. 12158-59 (Briney).<sup>112/</sup> Mr. Stokes appears to also have been timely informed of the dew point readings and suspects that they were announced in or about March 29 at a daily morning meeting. Tr. 7004-06 (Stokes).

534. Mr. Briney testified that he received instructions from Mr. Bockhold concerning how he should respond to the high dew point measurements. Tr. 12160 (Briney). During this time Mr. Briney remained in constant phone contact with Mr. Bockhold due to Bockhold's "personal" interest and desire to get reports directly from Mr. Briney. Tr. 12163 (Briney). Mr. Hammond, an I&C foreman, recalls that, during the March and April time frame Mr. Bockhold was so interested in the dew point measurements that he was calling Mr. Bockhold at home to discuss out of measurement dew point

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<sup>112/</sup> (...continued)  
12197-98 (Briney). Based on these entries, it appears that, as a result of NRC's request to obtain recent dew point readings, the monthly preventive maintenance dew point readings were moved from between April 8-22 to March 29.

<sup>111/</sup> Mr. Briney was the acting I&C Superintendent reporting to Mr. Harvey Handfinger, who held the position of maintenance manager. Mr. Handfinger reported to Skip Kitchens, Assistant General Manager, Plant Support, who reported to Mr. Bockhold. Tr. 12162 (Briney).

<sup>112/</sup> Mr. Hunt, who headed up air quality issues for NRC Region II, testified: "It was very clear to me, and I would assume to all of the IIT and all the employees at Plant Vogtle that George Bockhold was in charge." Tr. 5078 (Hunt).

readings.<sup>113/</sup> Tr. 12857, 12909 (Hammond). Mr. Kitchens testified that he believes he would have learned of the March 29 dew point readings on March 29th or within a day or two thereafter. Tr. 13706, 13737 (Kitchens). He further testified that Georgia Power did not question the validity of the March 29 dew point readings. Tr. 13729, 13737, 13739 (Kitchens).

**iii. April 3, 1990 IIT Conference call**

535. On April 3, 1990 Mr. Bockhold participated in another IIT conference call attended by Mr. Chaffee. GPC II-50. During this call, Mr. Bockhold was asked whether he "ruled out the possibility that air quality, poor air quality" contributed to the intermittent operation of the CALCON sensors. id. at Tr. 59. In response, Mr. Bockhold stated "when the [IIT] team was here, they asked us to test the air quality and we tested it." Id. at 60. He goes on to state that the test included a test for "moisture" and that, based upon the tests performed, he assured NRC that the "quality of the air is now satisfactory" and did not contribute to the cause of the Site Area Emergency. Id.

536. Based on the testimony of Mr. Briney and Mr. Hammond, we conclude that Mr. Bockhold was directly involved and had personal

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<sup>113/</sup> Mr. Hammond testified that his discussions with Mr. Bockhold were that the problem was with the air quality rather than trouble with the instrument and that is why a "feed and bleed" procedure was initiated. Tr. 12859 (Hammond). The normal procedure in cases where an instrument was suspect was not to initiate a feed and bleed until after additional readings were taken with a different instrument to verify whether the suspected instrument was, in fact, defective. Tr. 12876-77 (Thames). Mr. Bockhold's initiation of the feed and bleed process is a clear indication that he believed a high dew point condition existed.

knowledge of dew point measurements taken on March 29, 1990. We conclude that Mr. Bockhold's transcribed statements made to the IIT team on April 3, 1990 represent deliberate material false statements with the intended purpose of derailing the IIT's pursuit of air quality as a potential contributing factor to the site area emergency.<sup>114/</sup>

B. Misleading Statements Concerning Self-Reporting of Unsatisfactory Dew Point Readings

537. Georgia Power states in its July 31, 1994 Reply to Notice of Violation that "The 'initial reports' of higher than expected dew points arose on April 6. The reports were made to GPC management and, in turn, to the IIT." Int. II-105 (Reply to Notice of Violation at p. 11). A Similar statement was presented in testimony submitted by Georgia Power in this proceeding. The June 1, 1995 pre-filed testimony of Mr. Bockhold (Tr. 6398) states:

By April 6, [Mr. Bockhold] had received reports of higher than expected dew points and [Mr. Bockhold] passed them on to the IIT and NRC Region II personnel in a telephone conference which was transcribed by the NRC (IIT #203).

Bockhold at 2, l. 11.<sup>115/</sup>

538. We construe both The NOV response and the pre-filed testimony of Mr. Bockhold as indicating that Georgia Power self-

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<sup>114/</sup> Mr. Bockhold admitted that he failed to tell the NRC about high dew points on April 3rd and admitted that his statements may be "misleading." Tr. 6459, 6461 (Bockhold).

<sup>115/</sup> Similarly, Georgia Power submitted pre-filed testimony from Mr. Ward also implying that Mr. Bockhold self-reported high out of specification dew point readings to NRC. See Ward at p. 2, ll. 3-4; Tr. 7894 (Ward).

reported high dew point readings to NRC. Intervenor was able to demonstrate during the proceeding that this assertion is false.

539. The initial detection of the March 29 high dew point readings were discovered by the NRC region II inspector, Milt Hunt, on April 5, 1990.<sup>116/</sup> Tr. 4893 (Hunt); GPC II-51. Mr. Hunt detected the high dew point reading while he was inspection surveillance documentation pertaining to air quality. Tr. 4893-94 (Hunt).<sup>117/</sup>

540. During cross examination, Mr. Bockhold admitted that, contrary to the statement in his pre-filed testimony, Georgia Power did not self-report high dew point readings to NRC following the SAE; NRC detected these readings as a result of there own efforts. Tr. 6566 (Bockhold).<sup>118/</sup>

541. We conclude that the NOV Response and the pre-filed testimony of Mr. Bockhold materially misrepresented the nature and manner in which NRC was initially notified of high, out of specification dew point readings.

#### C. April 6, 1990 IIT Conference Call

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<sup>116/</sup> Mr. Briney testified that, but for Mr. Hunt's detection of the high dew point readings, the dew point issue was closed and no further dew point measurements would have been taken. Tr. 12236 (Briney). We note that Georgia Power had originally marked the MWO to denote that the dew point readings "Satisfy" requirements. GPC II-155.

<sup>117/</sup> Mr. Hunt advised Georgia Power that its dew point testing needed to be improved and that quality air has to be verified to be within standards. Tr. 4895 (Hunt).

<sup>118/</sup> Mr. Bockhold also asserts that he had no prior knowledge of high dew point readings before NRC brought this fact to his attention. Id. Why we do not credit this testimony as being truthful, it nonetheless conclusively establishes that Georgia Power did not have had a factual basis to assert that it had self-identified high dew point readings to NRC.



542. In response to NRC's stumbling upon the high March 29 dew point readings, Georgia Power began to systematically advise NRC that high dew point readings were the result of faulty instrumentation.

543. The first IIT conference call occurring after NRC discovered the high dew point readings occurred on April 6. During this conference call Mr. Bockhold told NRC that "the evidence was tending pointing to a bad [dew point] instrument." GPC II-51 at 5. Mr. Bockhold advised NRC that Georgia Power only had one dew point instrument at the plant site and was going to buy or find another instrument to compare readings with the "defective" instrument. Id. at 5-6. Mr. Bockhold further advised that the maintenance department had to go off-site to locate another dew point instrument because no other dew point instruments were available at the site. Id. at 7.

**i. Concealing Existence of Back-up Dew Point Analyzer**

544. Mr. Bockhold's assertion that there was not a back-up dew point analyzer at the plant constitutes a false statement. A second M&TE dew point instrument, VP-1114, was in calibration and immediately available to provide valid dew point readings. Briney at 7.

545. Mr. Bockhold acknowledged that, as soon as he learned of confirmatory readings taken with VP-1114 he was obligated to provide NRC this information.<sup>112/</sup> Tr. 6537 (Bockhold). Mr. Bockhold first testified that he could not recall who at NRC he

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<sup>112/</sup> Mr. Ward testified that it should only have taken a few hours to find out if VP-2466 was defective. Tr. 7857 (Ward).



provided this information, and then testified that he believed he would have provided Mr. Hunt with a copy of GPC II-52. Id. Mr. Hunt testified that he did not receive a copy of GPC II-52, Tr. 4932-33, 4935 (Hunt),<sup>120/</sup> and if he had seen this chart, he would have "put a hold on everything" so he could "find out what's going on here." Tr. 4933 (Hunt). Mr. Kendall testified that the dew point readings actually obtained with VP-1114 were not collected being Y

546. Based on the totality of the record, we conclude that Mr. Bockhold nor anyone member of Georgia Power management advised NRC of the existence of or readings obtained with VP-1114.

**ii. Improperly Asserting that High Dew Point Readings were Attributable to a Defective Analyzer (VP-2466)**

547. The transcript of the April 6 Conference sets forth Mr. Bockhold's stated reasons for initially concluding that VP-2466 was defective. He raised three observations with NRC. First, he states that when VP-2466 was used to measure instrument air it provided accurate readings such that the defect in the instrument had to be associated with the pressure or temperature of the system being analyzed. GPC II-51 at 5. Second, he stated that VP-2466

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<sup>120/</sup> A copy of GPC II-52 was appended to Mr. Hunt's affidavit as Exhibit 4. Mr. Hunt's familiarity with this document was questionable when he first identified it during the proceeding. Tr. 4923-24 (Hunt). His affidavit states that he saw a list of hand-written dew point measurements similar to GPC II-52. Hunt Aff. at 5. We note that Mr. Kendall testified that he never saw GPC II-52. Tr. 5020 (Kendall). We conclude that the list Mr. Hunt saw excluded VP-1114 readings. This is consistent with the understanding of the NRC during the April 9 IIT conference (i.e., Mr. Chaffee's statement that the IIT was only aware of a back-up dew point instrument providing "negative" numbers). See GPC II-61 at p. 3-4.

was used to measure the dew point in a second air receiver (1B) and likewise indicated a high dew condition. Id. Third, operations did not detect any "real water" during receiver blow downs. Id. We address each of these assertions with the facts known or which should have been known at the time to demonstrate that there was absolutely no factual basis to assert on April 6 that VP-2466 was defective.

**a. Temperature and Pressure deficiency of VP-2466**

548. VP-2466 worked correctly when used to obtain instrument air readings in the plant turbine building.<sup>121/</sup> GPC II-51 at 5. Ordinarily, confirmation of accurate readings on a separate system would support the assertion that VP-2466 was not defective. To explain this away, Mr. Bockhold told the NRC during the April 6 conference call that the fault with the instrument appeared to be a function of the temperature or the pressure of the dew point system being measured. GPC II-51 at 5.

**b. 1B Diesel Air Receiver Readings**

549. Mr. Bockhold claimed that VP-2466 high dew point readings on the 1B diesel air receiver was indicative of a defective instrument. Id. We are particularly disturbed by this assertion because the actual data associated with 1B dew point readings suggests that VP-2466 was not defective. In fact, 1B dew point

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<sup>121/</sup> Intervenor's Exhibit II-217 sets forth the actual readings obtained by VP-2466 when it was used to measure instrument air (greater than -80 F). Mr. Briney testified this dew point measurement, taken on the Vogtle Unit 2 turbine building instrument air system, established that the instrument appeared to be giving a reading within the expected range for the instrument air system. Tr. 12172-76 (Briney).

readings taken on March 29 and April 2, 1990 VP-2466 indicate that VP-2466 was capable of and was providing in-specification readings on both of the 1B diesel air receivers. Int. II-169; Tr. 14745 (Blake). This data, in conjunction with the valid instrument air readings taken with VP-2466 on April 6, rather establishes that VP-2466 was consistently able to record in-specification readings at the point in time Mr. Bockhold claimed it could not. Based on this data, there was neither credible evidence nor an adequate basis to suggest that VP-2466 was defective.

**c. Observations of Plant Operations**

550. Mr. Bockhold also claimed that because plant operations did not observe "any real water" draining from the air receivers, the initial high dew point readings would appear to be incorrect. Id at Tr. 6. This assertion was also misleading and was without an adequate factual basis. The testimony adduced at the hearing demonstrates that, in the March-April 1990 time frame, the diesel air receivers were warm to the touch, indicating an internal temperature of 90 F or higher. Based on the internal temperature of the air receivers, we conclude that the measured dew points

would not cause water to form within the air receiver tanks.<sup>122/</sup>

**iii. Bockhold Submitted False Testimony before the ASLB  
Concerning the Basis of His April 6 assertion to  
IIT that VP-2466 was apparently Defective**

551. On June 1, 1995, Georgia Power submitted supplemental pre-filed testimony from Mr. Bockhold, which includes the following:

By April 6, I had received reports of higher than expected dew points and I passed them on to the IIT and NRC Region II personnel in a [April 6] telephone conference which was transcribed by the NRC...I believe that the transcript accurately reflects our discussion...I explained that on April 5 I learned that the dew point test results on March 29 were unsatisfactory. I further stated that preliminary indications were that the high readings were due to a bad dew point sensor instrument [VP-2466]...The basis for my belief that the test instrument was suspect included additional recent 'bad' readings...recorded by hand on a single sheet of paper, a copy of which is attached hereto as Exhibit F [GPC II-52]."

Bockhold Supp. at 2-3.

552. At the hearing Mr. Bockhold testified that he had a copy of GPC II-52 with him when he participated on the April 6 conference call and that it was this document which provided the factual basis for stating to the IIT during the April 6 Conference call that VP-2466 was defective. Tr. 6529-30 (Bockhold).

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<sup>122/</sup> To the contrary, if condensation were to occur, it would form when humid air passed through the coldest portion of the air system lines which are located in a trench running beneath the diesel room floor surface. The ambient temperature in the trench was approximately 55-60 F and the piping ran along this trench for a distance of 30 or more feet. Tr. 14382, 14384-85 (Hill). Therefore, the only meaningful visual inspection for water would be an inspection of the pipes running in the trench. We note that Georgia Power never performed such an inspection, nor did they perform an engineering analysis as to where water would mostly likely accumulate.

553. Mr. Bockhold's pre-filed testimony and initial oral testimony before the ASLB are false. The April 6 IIT conference call commenced at 10:12 a.m. GPC II-51 at p. 2. Intervenor demonstrated at the hearing that dew point measurements recorded in GPC II-52 were not taken until the evening of April 6, 1990. Tr. 6535 (Bockhold). As it turns out, GPC II-52 was not in existence until after the April 6 IIT conference call ended.

554. Mr. Bockhold's false prefiled and initial oral testimony demonstrate that Georgia Power continues to engage in misconduct even during the licensing hearing itself.

D. Failing to Advise NRC about VP-1114 Readings

555. To confirm the accuracy of the VP-2446 measurements, I&C technicians began taking measurements with a second piece of M&TE dew point measuring device, VP-1114 (an EG&G model 911 dew pointer). On the evening of April 6, dew point measurement's for the 1A air receiver were obtained. On April 7 dew point measurements were again taken on every 1A, 2A, 1B and 2B air receiver. Int. II-169. All of the VP-1114 dew point readings taken between April 6-7 ranged between 75-85 F. VP-2466 readings were also taken during this time on all eight receivers. The VP-2466 readings, with the exception of one 95 F readings, ranged between 70-85 F. An analysis of the readings by Georgia Power's diesel engineer, Mr. Stokes, concluded that the VP-2466 and VP-1114 readings were essentially equivalent. Tr. 7060 (Stokes).

556. The record indicates that Georgia Power consistently concealed every high, out-of-specification VP-1114 readings from

NRC. As discussed below, the non-disclosure occurred during a transcribed April 9 IIT conference call and in the list of dew point measurements transmitted to NRC on April 11, 1990

**i. April 9 IIT Conference Call**

557. On April 9 the IIT held a conference call with Georgia Power site (Mr. Kitchens) and corporate (Mr. Ward) representatives to obtain an update on dew point measurement activity occurring since April 6. Based on the transcript of this conference call, we conclude that Georgia Power failed to adequately advise NRC of readings taken with VP-1114.

558. On April 7, 1990 Georgia Power began taking simultaneous measurements using three separate dew point instruments. As discussed above, the VP-2466 and VP-1114 measurements demonstrated high, out of specification dew point conditions on all eight air receivers. The third instrument, a GE Rental Alnor, provided readings ranging between -10 F and 33 F. All of these readings are below the design capability and clearly erroneous.<sup>123/</sup> GPC II-52; Mosbaugh at 79.

559. It Appears that the only additional diesel generator receiver readings NRC was advised were the clearly erroneous readings taken with the GE rental Alnor and that mention of the

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<sup>123/</sup> Our best guess is that the a conversion chart, correcting for pressure and temperature, was not used or the wrong chart was used and that this resulted in the clearly erroneous readings. Tr. 7962 (Ward). Georgia Power should have been able to determine the cause of the spurious GE rental readings or discontinued use of the GE rental Alnor. The GE rental readings are a clear indication of technician error in the use of the instrument. Tr. 7959-60 (Ward).



confirmatory readings of VP-1114 were again omitted during the next IIT conference call.

560. Near the start of the April 9 the IIT conference call Mr. Chaffee sought to learn additional dew point measurements taken since the April 6 IIT conference call. He began his discussion by providing a recap of NRC's understanding of dew point measurements taken since April 6 IIT. Mr. Chaffee's statement clearly reflects that 1) NRC had no knowledge whatsoever of any of the confirmatory dew point readings taken with VP-1114; 2) that the only readings NRC knew about were the nonsense readings obtained with the GE rental Alnor; and 3) that the dew point readings that were taken since April 6 came from some off-site dew point device Georgia Power had previously indicated it was in the process of obtaining. These facts are evidence from Mr. Chaffee's opening statement concerning dew points. The IIT transcript reflect the following:

The thing that was hanging, I guess, was the air quality issue. What I heard later that day was that you had gotten a new instrument, but when you did testing with it, you got negative numbers, which didn't make any sense.<sup>124/</sup> So you were going to get another instrument for measuring the air quality from Hatch, and I don't know -- have you gotten that instrument and used it, or are you still waiting for it?

GPC II-61 at p. 3-4.

561. Mr. Ward, a participant in the conference call, understood Mr. Chaffee's statement to mean that he had no knowledge about high dew point readings taken with VP-1114. Tr. 7916 (Ward).

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<sup>124/</sup> Georgia Power had previously told Mr. Hunt of the negative dew point reading and Mr. Hunt was a likely source from which the IIT learned of the negative dew point reading. Had Mr. Hunt been advised of the VP-114 confirmatory readings, we have little doubt that IIT would have been informed.

We note that Mr. Ward knew of the high VP-1114 readings and had obtained a briefing by Mr. Bockhold about them over the weekend. Tr. 7916-17, 7863 (Ward), Int. II-17.

562. Nonetheless, in response to this statement, Mr. Ward discussed the fact that Georgia Power had gotten a dew point instrument from the V.C. Summer plant and that all eight receivers were within the 36 to 45 F range but failed to advise NRC of the prior VP-1114 readings. Id. at 4.<sup>125/</sup>

563. Mr. Chaffee then requested that Georgia Power produce the necessary data to allow NRC to determine to what extent air quality may have impacted on the operation of the 1A diesel, and thereafter narrowed the scope to a table of dew point surveillance results for the 1A diesel spanning the past couple of years.<sup>126/</sup> id. at 7. Mr. Kitchens thereafter reminded Mr. Chaffee that, with respect to the high readings detected by Mr. Hunt, "we don't really believe that it was a failure because of the instrument." Id. at 8.

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<sup>125/</sup> Mr. Kitchens advised NRC that a 2A air receiver was currently reading 60.9 F. Mr. Ward's initial response was false because it omitted mention of the fact that a 2A air receiver dew point readings were 60.9 F. Mr. Kitchens corrected this by advising Mr. Chaffee of the 2A air receiver reading Id. Messrs. Ward and Kitchens attributed the remaining high dew point reading to the fact that the air dryer had been turned off on Friday, April 6. Id. at 5. Mr. Chaffee then questioned whether the turning off of the air dryers was represented a reoccurring problem; at that point Georgia Power did not know the answer to this question. Id. at 6.

<sup>126/</sup> During the conference call, Mr. Chaffee indicated that it was his understanding that information previously requested on 'dryer performance' had, as of yet, not been provided to NRC. GPC II-61 at 6.

564. During the entire course of conference call Georgia Power never revealed the existence of confirmatory readings taken with VP-1114. Id. Based on the content and scope of the dew point discussion, the VP-1114 readings should have been revealed as it was the only method to assure that NRC had complete and accurate information concerning the VP-2466 dew point readings.<sup>127/</sup>

565. By April 9, 1990, NRC should have been advised of the VP-1114 readings. The failure to do so represents a material omission. The record as a whole supports the conclusion that the repeated failure to advise NRC of confirmatory VP-1114 readings was intentional.

**ii. Excluding VP-1114 measurements from Dew Point Data Transmitted to NRC on April 11, 1990**

566. During the April 9 IIT Conference Call, Mr. Chaffee requested a table of dew point results on Unit 1 for the past couple of years proceeding the SAE. GPC II-61 at p. 7; Kitchens at 8.

567. Georgia Power responded to this request on April 11 and faxed to NRC a table of dew point readings. Int. II-82; GPC II-57.

568. The April 11 dew point list was made up by Mr. Kitchens on April 9 and thereafter provided to Mr. Beacher who transmitted it to NRC, apparently on April 11. Int. II-25 at p. 2 ll. 24-26; Tr. 10517 (Mosbaugh). This listing omits every high, out-of-

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<sup>127/</sup> We are mystified as to how Mr. Kitchens could presume that the VP-2466 readings were the result of faulty instrumentation when he testified that he may not have even been aware that readings had been taken with VP-1114. Tr. 13709, 13711, 13717 (Kitchens).

specification dew point reading taken with VP-1114 as well as the readings taken with VP-2446.

569. Intervenor prepared a document entitled "Demonstrative Aid 13." This document depicts what a complete and accurate listing of dew points measurements responsive to Mr. Chaffee's request. Demonstrative Aid 13 is formatted like the April 11 list (Int. II-82; GPC II-57) are sets forth data in three colors, red indicating dew point data omitted from the April 11 list. Tr. 10519-20 (Mosbaugh). Demonstrative Aid 13 provides a comparison of dew point readings identified in Int. II-169 with the dew points set forth in the April 11 list. This comparison demonstrates that 22 high, out-of-specification dew point readings were excluded from the April 11, 1990 list, including every high dew point reading taken with VP-1114. The high dew points excluded from the list include four high dew point readings from the 1989 time frame. In addition, three impossibly low dew point readings were excluded during the 1988-89 time period as well. Had the 1988 and 1989 data been included, the list would have indicated that high, impossibly low or no dew point readings had been obtained for one of the 1A air receivers for a period of over a year (May 10, 1988 through July 30, 1989). The dew point readings on this air receiver ranged between 12.6 F and 20.1 F on the low side and 53.9 and 78 on the high side, with no in-calibration readings in between. The exclusion of this data is very significant because it demonstrates

indeterminate or unacceptable air quality plaguing the system for well over a year.<sup>128/</sup>

570. Mr. Kitchens admitted that the final readings did not provide an adequate basis to conclude that the initial readings were incorrect and that the feed and bleed process foreclosed the ability to determine the validity of the April 6-7 readings. Tr. 13726 (Kitchens). He further testified that, other than what is contained in the IIT transcripts, he has no direct knowledge that high dew point measurements were reported to NRC between March 29 and April 9, 1990. Tr. 13747-49 (Kitchens). Mr. Handfinger testified that he never provided information to the IIT concerning dew points. Tr. 11448 (Handfinger). Mr. Briney similarly testified that he had no direct communication with NRC concerning dew point matters.<sup>129/</sup>

571. Based on the prior recorded IIT communications and documentation previously provided to NRC, We can find no justification for excluding 22 high, out-of-specification dew point

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<sup>128/</sup> Int. II-169 demonstrate that indeterminate or out-of-specification dew point measurements for the 1A KO2 receiver were in existence between January 20, 1988 and July 7, 1989, a continuous period of over 16 months.

<sup>129/</sup> Mr. Briney testified that his role was:

[J]ust to provide technical information to other people so that they could tabulate it and "wordsmith" it and put it on the appropriate format. I wasn't really part of actually handing it to the IIT and then explaining it to them; that was taken care of by management higher than myself.

Tr. 12310 (Briney).



readings from the final listing of dew point readings provided to NRC. We conclude that this omission was willful.

**iii. August 8, 1994 Interrogatory Response**

572. On August 8, 1994 Georgia Power filed responses to an interrogatory question requiring Georgia Power to: "Identify each and every piece of faulty equipment believed responsible for the higher than expected readings." Int. II-36 at Interrogatory 3(a).

573. In its August 8, 1994 response, which was sworn to by Mr. Kitchens and Mr. Stokes, Georgia Power failed to list VP-1114 as a piece of test equipment believed responsible for providing higher than expected dew point readings. The only instrument identified in the interrogatory response was VP-2466. Id. The failure to identified VP-1114 as of August of 1994 is further of a systematic attempt to exclude VP-1114 as providing defective dew point readings.

**iv. NRC Witnesses Testimony and IIT Documents Indicate that VP-1114 measurements were never Provided to NRC**

574. As stated above, Mr. Hunt testified that he did not see the chart of dew point readings identified as GPC II-52 and if he had seen this chart, he would have "put a hold on everything" so he could "find out what's going on here." Tr. 4932-33, 4935 (Hunt). Instead, Mr. Hunt trusted Mr. Bockhold to take the necessary steps to verify the dew point measurements. Tr. 4935 (Hunt). We also note that Georgia Power was unable to produce a single NRC witness who claimed to have knowledge of readings taken with VP-1114, nor can Georgia Power point to a document supplied to the IIT which



contains the high VP-1114 readings. We are also unaware of any testimony indicating that Georgia Power advised NRC of the VP-1114 readings during the April 9 presentation.

575. Given the significance of confirmatory dew point readings obtained with plant M&TE approved equipment, if Georgia Power had notified NRC we believe there would be some documented account of this as well as cooperating testimony from NRC witnesses.

#### **Conclusion**

The fact that the VP-1114 confirmatory readings were not revealed to NRC is very significant and constitute by omission, willful material false statement. Mr. Hunt testified that he would be of the opinion that the diesels could not be declared operable if there was an inadequate basis to believe that the dew point instruments were faulty. Tr. 4928, 4931 (Hunt). Mr. Ebnetter, who made the restart decision, relied heavily on Mr. Hunt's opinion that there was an adequate basis to declare the diesels operable. Hunt at 7-8; Int. II-269 at 1, 4.

#### **IX. APRIL 9 LETTER AIR QUALITY STATEMENTS**

576. Georgia Power addressed air quality in its April 9 Confirmation of Action Response letter as follows:

GPC has reviewed air quality of the D/G air system including dew point control and has concluded that air quality is satisfactory. Initial reports of higher than expected dew points were later attributed to faulty instrumentation. This was confirmed by internal inspection of one air receiver on April 6, 1990, the periodic replacement of the control air filters last done in March, 1990 which showed no indication of corrosion and daily air receiver blowdowns with no significant water discharge.

GPC II-13 at 3.

577. This statement is materially false and misleading. The circumstances surrounding the insertion of this language demonstrates that this material false statement is willful. We consider two aspects of this statement. First, we consider whether the assertion that higher than expected dew point readings could be attributed to faulty instrumentation is materially false and misleading. Second we consider whether Georgia Power had a sound technical basis Georgia for asserting that air quality was satisfactory.

A. Falsely Attributing High Dew Point Readings to a Defective Instrument

578. We are initially troubled by Georgia Power's failure to advise NRC that alleged technician error was responsible for higher than expected dew point readings. We note that Mr. Stokes testified that it was his belief that the sole cause of the high readings was attributable to technician error rather than to a faulty instrument. Tr. 7393 (Stokes). If the high dew point readings were erroneous, which we do not believe they were, then Georgia Power's failure to identify technician error for the high dew point readings demonstrates that the April 9 letter contained a materially false statement.

579. We now turn to the explanation Georgia Power's provided on August 8, 1994 in response to interrogatory questions presented by Intervenor. When asked to "Identify each and every piece of faulty equipment believed responsible for the higher than expected readings," Georgia Power identified a single instrument, VP-2466. Int. II-36 at Interrogatory 3(a). When asked to "Identify the

author" of the phrase "initial reports of higher than expected dew points were later attributed to faulty instrumentation," Georgia Power could not. <sup>130/</sup> Int. II-36, at Interrogatory 3(b). When asked the basis for concluding, who relied on this basis and what verification was performed to conclude that the instrument referenced in the April 9 letter was faulty, Georgia Power replied that the basis was that all eight air receivers were outside the acceptance range. Int. II-36 at Interrogatory 3(c). At the hearing Mr. Ward testified that Georgia Power chose not to send the Alnor for verification because it had a radiation source in it. Tr. 7859 (Ward). Mr. Bockhold testified that he had no knowledge of what caused VP-2466 to produce high readings during the March-April 1990 time frame and that he never inquired into this, but there were a lot of people in the chain of the organization that would be involved with making this determination. Tr. 6543 (Bockhold). Mr. Hammond, the I&C Foreman who was personally involved with taking the VP-2466 readings, testified that he did not recall any discussions about what kind of malfunction could have caused the high VP-2466 readings and did not draw the

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<sup>130/</sup> The failure of Georgia Power to be able to identify the primary author of this section of the COAR - or to reconstruct the author through a review of plant records - onto itself constitute circumstantial evidence of willfulness. Additionally, given this failure the Board holds that Mr. Hairston, the individual who signed the document and had ultimate responsibility for insuring the accuracy of the COAR, is primarily responsible for this willful violation. Furthermore, in addition to Mr. Hairston, the other individuals identified in the white paper as responsible for the COAR, including Mr. Bailey and Mr. McCoy, also engaged in willful misrepresentation through the drafting of or the agreement the insertion of this language.

conclusion nor was he aware of anyone else drawing a conclusion that VP-2466 was defective. Tr. 12786 (Hammond).

580. The above Interrogatory response demonstrates that Georgia Power's sole basis for asserting in the April 9 letter that VP-2446 was faulty was the fact that high dew point readings were being obtained on all eight air receivers. Also see FOF 491-492. We conclude that this assertion is false and materially misleading based on the factors set forth below.

**i. Mr. Hunt Testified that the Air Dryers were Turned Off and, as such, Valid High Readings on All Eight Receivers Was A Logical Consequence**

581. The record supports a finding that all eight air receivers were experiencing high, out-of-specification dew points as a result of personnel inadvertently or intentionally turning off the air dryers. In this respect, Mr. Hunt testified that he was personally aware that diesel generator air dryers were out of service. He further testified that he questioned plant personnel why they were out of service on more than one occasion only to learn that plant personnel felt that they only needed to run the dryers during when ambient humidity was extremely high.<sup>111/</sup> Also

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<sup>111/</sup> Mr. Hunt testified as follows:

Q And were you told about finding -- about anyone finding the diesel air dryers out of service?

A I believe I questioned why they were out of service a couple of times, but the -- the answer I was given was that only certain periods of time when the humidity was extremely high. You have to realize we were coming out of the winter season. But I don't recall much more than just asking why they were out of service.

\* \* \*

(continued...)

see Tr. 4692 (Hunt);<sup>132/</sup> Tr. 8040 (Ward).<sup>133/</sup> We credit Mr.

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<sup>131/</sup> (...continued)

Q And going back to your most recent testimony on the air dryers being out of service, I think you had testified something about in the winter maybe there were problems.

A No, I didn't say the winter. I think probably -- I'm thinking that maybe the humidity is lower then, and there may not be a problem or a need for them at that time.

Q Okay. Don't those air dryers have to be able to function all year around?

A They have to be able to, yes. But if -- if you don't need them, I use -- if the air condition are right, if you're testing your air and you're finding that they're all right, then there's no reason to have the air dryers.

\* \* \*

Q Were you aware that the air dryers were -- had been turned off?

A I was aware they were off while I was there at one time.  
Tr. 5008-5010 (Hunt) (emphasis added).

<sup>132/</sup> Mr. Hunt also testified as follows:

Q And isn't the air receiver generally warm, that often it can operate when it's warm?

A It depends how warm the air dryer gets the air and how --

#### BOARD EXAMINATION

CHAIRMAN BLOCH: Well, did you notice the temperature at the time that you tested it?

THE WITNESS: No, because the system had been shut down for a while.

Tr. 4962 (Hunt).

<sup>133/</sup> Mr. Ward testified that one of the work orders (Int. II-143) issued to correct the March 29 high dew point readings  
(continued...)



Hunt's testimony and conclude that the air dryers were turned off.

**ii. Readings Taken Between March 29 and April 9  
Demonstrate that VP-2466 and VP-1114 were Providing  
Accurate Dew Point Readings**

**a. 1B Dew Point Readings taken on April 2**

582. We begin by noting that, on April 2, 1990, Georgia Power I&C technicians used VP-2466 to measure 1B the dew point of both the 2B diesel air receivers. Int. II-169; Tr. 14745 (Blake). This instrument was capable of providing valid, in-specification dew point readings of 41 F for KO1 and 44 F for KO2. Based on these readings, there is not logical reason to suggest that VP-2466 was defective on March 29, 1990 when it obtained high, out-of-specification dew point readings.

**b. Instrument Air Readings taken on April 6**

583. We next turn to the readings taken with VP-2466 on April 6, 1990 on a separate instrument air system located in the plant turbine building. GPC II-51 at 5. Georgia Power is at a loss to explain why VP-2466 was able to provided accurate dew point measurements of approximately -80 F on this system when, earlier that same day, VP-2466 was used to measure high out-of-specification readings on both of the diesel 1A air receivers. The confirmatory readings taken on instrument air provide a sufficient basis to conclude that VP-2466 was not defective.

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<sup>111</sup> / (...continued)  
contained instructions (i.e., to turn the dryers on) which indicated to him that the personnel responsible for issuing the work order had reason to believe that the air dryers may have been turned off.



c. **Valid High Readings on Both Unit 2A Diesel Air Receivers Resulting from Dryers Being out of Service**

584. The record indicates that both of the Unit 2A air dryers had been turned off. GPC II-55A at p. 10; Tr. 13687 (Kitchens). Messrs. Kitchens and Ward advised the NRC on April 9 during an IIT conference call that he had learned that one of the 2A dryers was found turned off on Friday, April 6, 1990. GPC II-61 at p. 5. Once the dryers were found turned off and dew point measurements indicated high, out-of-specification dew points, a "feed and bleed" process was routinely initiated to lower the dew point of the air receiver. Tr. 7931, 7968, 8041-42 (Ward).

585. Georgia Power concedes that valid, high out-of-specification dew point measurement of 60.9 F was obtained on the 2A KO2 air receiver on April 9, 1990. FOF 499, Int. II-169. Because a feed and bleed procedure was initiated prior to the April 9 reading, the dew point of the 2A KO2 air receiver should have provided high, out-of-specification dew point readings in excess of 60.9 F when it was tested on April 7. Indeed, the VP-2466 and VP-1114 readings of that date ranged between 82-95 F. Int. II-169.

586. The fact that the 2A dryer was found turned off on Friday, April 6, is direct evidence that the dew point readings taken on April 7, 1990 with VP-2466 and VP-1114 were valid, high dew point measurements. The 2A KO2 receiver provided a reasonable check point to determine whether VP-2466 and VP-1114 was capable of producing valid, high dew point readings and the readings of both

instruments provides an adequate basis to conclude that the instruments were functioning properly.

**d. Valid High Readings Resulting from Opening of the 1A Air Receiver on April 6**

587. Mr. Ward testified that prior to the SAE, Georgia Power had opened a small diameter drain valve (not greater than an inch in diameter) on both of the 1A diesel generator air receiver. Tr. 7877-78, 7880-82 (Ward). He further testified that on March 9, as a result of venting the system and leaving the drain valve open for a period of time valid high dew point readings were taken after the system was re-pressurized. In fact, the 1A diesel air receivers had valid high dew point reading of 61 F for receiver KO2 and a valid high reading of 66 F for receiver KO2. Ward at 3; FOF 469. After an air receiver is opened to the atmosphere and high dew points are measured, it requires multiple "bleed and feed" cycles before in-specification dew points are once again obtained. Following the March 9 high dew point readings, it took three days to reduce the dew point. Ward at 3-4.

588. On April 6, 1990 Georgia Power de-pressurized one of the air receivers and opened its manway cover. Int. II-207; Int. II-169; Tr. 11353 (Handfinger).<sup>134/</sup> The manway cover has a significantly larger diameter than the drain valve (large enough to provide physical access to the inside of the receiver. he noted that the opening was large enough for him to place his head inside

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<sup>134/</sup> The KO2 receiver was apparently bled down by mechanics sometime between 9:30 a.m. and 3:30 p.m. on April 6 and opened for inspection. See Int. II-143 at continuation sheets 2-3.

the receiver and a small person could enter the receiver through the opening. Tr. 11451 (Handfinger). Following the inspection the receiver was re-pressurized and dew point measurements taken. Based on Georgia Power's knowledge of valid high dew point readings following the March 9 opening of the air receiver, Georgia Power should have expected similar high, out-of-specification dew point readings on the receiver after pressure was restored. Initial dew point measurement taken following the opening of the manway was measured with at 80 F with VP-2466 and 78 F when measured with VP-1114. These high dew point measurements were expected and corroborate the accuracy of the VP-2466 and VP-1114 readings taken on April 7.

589. We have reviewed the ambient air dew points measured by the National Climatic Center for Augusta, Georgia during the period of time that the 1A air receivers were de-pressurized and their drain valves could have been left opened when the outage began on March 1, 1990 (Tr. 7878 (Ward)) until the dew point was measured on March 9. The dew points between these days ranged between 25 F and 58 F. See National Oceanic and Atmosphere Administration publication of records on File at the National Climatic Data Center (copy appended as Attachment 1).<sup>135/</sup> On April 6, 1990, the dew

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<sup>135/</sup> The dew point range between March 1 and March 9 are as follows:

March 1:	38-44 F.
March 2:	42-57 F.
March 3:	47-58 F.
March 4:	40-45 F.
March 5:	39-43 F.

(continued...)

point ranged between 49 F and 57 F. Id. Based on the ambient air conditions when the receiver was opened and given the comparative size of the openings, we would expect receiver dew point readings taken after the air receiver was closed on April 6 to equal or exceed the March 9 dew point readings. We therefore conclude that valid, high out-of-specification dew point readings were obtained when the dew points should have been obtained when the dew points were measured after the receiver manway was closed on April 6. The readings taken with both VP-2466 and VP-1114 did, in fact, indicate high dew points (80 F and 78 F). These readings tend to confirm that both instruments were providing accuracy dew point measurements.

**iii. The EG&G Model 911 Dew Point instrument (VP-1114)  
Confirmed that the Alnor (VP-2446) Readings Were  
Accurate**

590. Georgia Power asserts that confirmatory measurements taken with VP-1114 were not reliable between April 5-7 time frame because I&C technicians lacked experience using the instrument, did not have the instrument manual and because the readings were taken without the necessary flow meter. FOF 500. We find this reasoning deficient on all accounts.

**a. Absence of a Flow Meter**

591. Georgia Power would have this Board believe that because VP-1114 was being used without a flow meter that high dew point

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135/ (...continued)

March 6: 36-46 F.  
March 7: 31-42 F.  
March 8: 25-44 F.  
March 9: 44-54 F.

readings obtained with this instrument between April 5-7 did not reflect the actual dew point of the air receivers. To the contrary, the record actually reflects that, if anything, the failure to use the flow meter would have provided accurate readings and, if anything, would have produced lower dew point readings rather than higher.

592. Mr. Skinner testified that according to the manufacture of VP-1114, the effect of "higher flow would cause the dew point readings to be lower rather than higher." Tr. 14645 (Skinner). He further testified that, according to the manufacturer, the only conceivable way VP-1114 could provide invalid high dew point readings was if there was no flow through the instrument resulting in a reading of the air trapped in the instrument's sensor rather than the air passing through the instrument. Tr. 14750-51 (Skinner). Mr. Hammond was personally involved with the taking of VP-1114 measurements in the field. He testified that the technicians were aware that VP-1114 required flow and, if anything, they erred on the side of providing too much flow. Tr. 12785-86 (Hammond).

593. We find that the absence of a flow meter cannot account for the high dew point readings.

**b. Capability of the Technicians**

594. VP-1114 was a simple instrument to operate and did not require any significant training. TR. 14750 (Skinner). Mr. Hammond testified that he had confidence in the ability of the test technicians operating VP-1114. Tr. 12796 (Hammond). Mr. Briney

testified that he considered the technicians responsible for taking the high dew point measurements to be experienced and competent. Tr. 12098-99 (Briney). Moreover, the technicians taking the EG&G readings were considered by their peers to be "very good technicians" who were well trained. Tr. 12896 (Hammond and Thames). To have consistently misoperated the equipment to produce such divergent readings would have resulted in someone being able to pinpoint the suspected deficiency. Georgia Power could only point to the absence of a flow meter to account for the high VP-1114 dew point readings. Tr. 12088 (Briney).<sup>135/</sup>

595. As noted above, the absence of the flow meter cannot account for the high readings.

596. We find that the technicians has sufficient experience to obtain valid readings with VP-1114 and that there is no basis to alleged that every test technician who obtained high, out of specification dew point readings with VP-1114 had mysteriously misoperated the equipment. The inability to establish a sufficient basis to allege that misoperation of VP-1114 resulted in high dew point readings demonstrates that the VP-1114 readings are valid.

**iv. Failure to Consider and Investigate Common Cause factors**

597. Georgia Power's decision not to believe two separate M&TE dew point measuring instruments was based on an observation that

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<sup>135/</sup> Mr. Ward testified that the measurements were taken by several different technicians with supervision looking over their shoulders to determine why the readings were high. Tr. 7939 (Ward). With this level of involvement, we are confident that the only deficiency that could be detected was the absence of a flow meter.



all eight air receivers were simultaneously providing high dew point readings. But, the record demonstrates that Georgia Power failed to conduct a root cause investigation of the matter or otherwise investigate whether plant personnel had turned off the air dryers.<sup>117/</sup> Tr. 7970 (Ward). Also see GPC II-61 at p. 6, 11. 1-7; Tr. 7718 (Stokes); Tr. 6470, 6609 (Bockhold); Tr. 12188-89 (Briney); Tr. 13681 (Kitchens).

**v. Failure to Initiate M&TE Program Requirements**

598. The equipment used to measure dew points is required to be traceable to the National Bureau of Standards and is maintained under a special quality assurance (QA) program called the Maintenance and Test Equipment (M&TE) program. Maintenance personnel that have been trained and are qualified to perform the measurements. Mosbaugh at 72.

599. M&TE instrumentation is predetermined to be accurate for a set time period after it is calibrated and put in service. This time period establishes the next Calibration due date. M&TE is not expected to "go bad" on that due date and start giving inaccurate readings but the establishment of a date forces the periodic recalibration and assures that test equipment is not used in the field for such a long period that inaccuracies occur from calibration drift. Sometimes under the procedures the calibration due dates are extended. Mosbaugh at 74.

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<sup>117/</sup> The failure of Georgia Power to adequately investigate the cause of the high dew point readings is also reflected in the fact that the Critique Team totally ignored all issues associated with air quality. Int. II-111.

**a. Failure to Obtain "As Found" Data**

600. Pursuant to the M&TE program, Georgia Power is required to obtain "as found" data at the conclusion of the calibration interval period or in cases where the calibration of the instrument is in doubt. Int. II-36 at Response 9; Tr. 12889 (Hammond); Tr. 13735-36 (Kitchens). Personnel using M&TE equipment are responsible for reporting any malfunction or suspected malfunction to the Instrument Shop Supervisor. Int. II-36 at Response 9. If the instrument is found to be defective, the M&TE program requires initiating a reverification program on systems where the defective instrument was utilized. Tr. 7952-53 (Ward); Tr. 11420 (Handfinger); Tr. 8194-95 (Duncan); Tr. 12090, 12240 (Briney).

601. We are disturbed by the failure to obtain "as found" data from VP-2466 following the SAE or to otherwise perform a calibration check to determine that validity of the high dew point readings obtained between March 29 and April 7. First, under Georgia Power's M&TE program, the fact that the calibration dew date of the instrument expired on April 7 mandated that the instrument be subject to recalibration. The only recalibration effort Georgia Power admits to occurred in May of 1991 after VP-2466 was subjected to repair. No "as found" data was obtained in violation of the M&TE program requirements and no investigation as to why no "as found" data was obtained was initiated. We note that the condition of VP-2466 on April 7, 1990 was such that dew point measurements could be performed by the device. The only plausible explanation as to why no as found readings were taken in 1991 when

VP-2466 was sent for recalibration was that the instrument was not capable of providing "as found" data. We know this was not the case when the instrument was taken out of service and there is no documentation to explain what occurred between April 7, 1990 and May 15, 1991 to prohibit the taking of "as found" data.

602. Furthermore, we note a second breakdown of the M&TE program. Once management suspected VP-2466 of being defective, a mandatory investigation by the M&TE department should have been initiated. Mysteriously, no such investigation occurred. Moreover, the test technicians who took the readings and the M&TE supervisor responsible for conducting an investigation had no knowledge that VP-2466 was suspected of being defective. The I&C technicians and foreman responsible for taking dew point readings did not draw a conclusion that VP-2466 was defective. Tr. 12786 (Hammond). To the contrary, they were under the impression that the instrument was removed because its calibration dew date had expired. Tr. 12787 (Hammond). In fact, no one suggested to the technicians what could have caused the malfunction on a device they felt was not very susceptible to malfunction in the first place. Tr. 12793, 12795 (Hammond). Ms. Thames, who was responsible for taking some of the high dew point readings with VP-2466, testified that she believed the dew point readings she obtained on April 7 were accurate. Tr. 12819 (Thames). None of the technicians nor the I&C foreman who testified were aware of technician error resulting in faulty instrument readings in April of 1990. Tr. 12780 (Thames, Hammond and Aquinde). Mr. Briney's testimony was

contradictory. On the one hand he testified that he believed the M&TE program was told about the defective instrument and that he had no idea why no such investigation occurred. Tr. 12090-92, 12240 (Briney) On the other hand, Mr. Briney testified that he did not notify the M&TE program of a defective device; he did not discuss the matter with any of the test technicians; gave no instruction to the I&C department to take VP-2466 out of service; had no knowledge whether the MT&E department followed their procedures; and does not recall anyone making the decision to sent VP-2466 for a calibration check.<sup>128/</sup> Tr. 12089-90; 12237, 12240-41 (Briney). Mr. Kitchens testified that he had no knowledge of anyone in the M&TE department determining that VP-2466 was defective and he cannot explain why VP-2466 was not sent for recalibration. Tr. 13708-09; 13736 (Kitchens).

603. Finally, we note that Corporate management testified that the basis for deciding not to send VP-2466 to the vendor was that the instrument contained a radiation source. Tr. 7859 (Ward). We believe this reasoning is the end result of deliberate decision not to comply with the M&TE program requirements. Mr. Ward knew that the Alnor device was part of the M&TE program and knew that this program required periodic recalibration whether or not it utilized

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<sup>128/</sup> We are particularly troubled by Mr. Briney's assertion that he had no idea that the M&TE program was unaware of the assertion that VP-2466 was defective because he was the person assigned the responsibility to investigate a Deficiency Card issued on April 6 which required him to determine whether VP-2466 was, in fact, defective. Int. II-79 at pp. 6-8.

a radiation source.<sup>139/</sup> We believe that Mr. Ward unwittingly provided the real reason why no "as found" data was sought when he testified that, on April 8th, when corporate realized that they finally had two dew point instruments on site providing consistent in-specification dew point readings, they simply dropped the question concerning whether VP-2466 was defective or whether the readings were attributable to personnel error because it no longer mattered to them.<sup>140/</sup>

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<sup>139/</sup> We note that the Alnor utilized an "exempt" radiation source and doubt whether shipping of an "exempt" source posed any difficulty.

<sup>140/</sup> Mr. Ward testified as follows:

Q And -- and what was the status of the ALNOR?

A I don't know. It was out of calibration at that date. I think the cal due date was April the 7th, so it could not have been being used, anyway.

Q Okay. So -- so you were no longer concerned about the ALNOR because its cal date had expired and you were going to start using another one?

A No, I was not concerned about it because -- because at that point we still felt like either it was -- something was wrong with it or there was problems with using it. So now that we had two other instruments that appeared to give consistent readings that we now felt like we knew how to use, you know, I think we dropped that other -- other question.

\* \* \*

Q ...Mr. Ward, did you ever go back and find out for how long a period of time the problem existed about using the instrument, and correct it?

A No, sir, I did not.

Q And did you ever ascertain the extent to which the improper use affected the readings?

(continued...)

604. Georgia Power management knew that a calibration check was the only way to obtain a definitive answer as to whether VP-2466 was defective. Tr. 12089 (Briney); Tr. 13736 (Kitchens). Hence, we have no alternative but to interpret the decision not to obtain "as found" data as intentional willful conduct aimed at concealing the fact that VP-2466 and VP-1114 were providing valid, high dew point readings contrary to the assertion Mr. Hairston signed out in the Confirmation of Action Letter of April 9th.

**vi. Failure to Process A March 29, 1990 Deficiency Card**

605. Georgia Power's program allows anyone who wishes to generate a deficiency card to do so. On March 29, 1990 I&C personnel attempted to initiate a deficiency card based on high, out-of-specification dew point readings obtained on the 1A diesel generator air system. This DC was rejected by the control room. Rejecting a DC is not authorized by procedure 150-C. Board Ex. 6. The March 29 high dew point readings were accidentally "discovered" by the NRC and only thereafter was a DC initiated. GPC's explanation for the rejection of the March 29, 1990 DC was that a MWO could be used instead. This does not explain why a DC was then written on April 6 apparently pursuant to plant procedure or why operations acted without procedural authority when it rejected the March 29, 1990 Deficiency Card. This example troubles us because the March 29th dew points were the first taken on DG1A after the

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<sup>140</sup>/ (...continued)  
A Not really.

Tr. 7950-51 (Ward)



SAE and the fact that GPC did not inform the NRC of what may have been significant information related to the DG1A failure. We can find no adequate explanation concerning why operations personnel act without procedural authority to issue a DC while refusing to do so when the deficiency was initially detected.

606. We conclude that the handling of the March 29 Deficiency Card is an additional indicator of Georgia Power's intent to conceal the high dew points readings from NRC and that, but for Mr. Hunt's accidental discovery, NRC would never have been advised of the high dew point readings and a subsequent DC would not have been issued.

vii. Failure to Adequately Investigate the Deficiency  
Card Issued In Response to High Dew Point Readings

607. On April 4, 1990, David Lohrman issued a deficiency card to address the high dew point readings he measured on the 1B diesel generator air receivers. Int. II-79 at p. 6. The "Investigator Signature" on the DC belongs to Mr. Briney, and is dated April 19, 1990. Mr. Handfinger signed as the "Responsible Manger" on April 23, 1990 and again as the "Department Manager" on April 24, 1990. Id. at pp. 7-8. The conclusion that "the Alnor Dew Point Analyzer was found to be defective." Id. at p. 7.

608. The handling of the DC is defective for three basic reasons. First, knowing of the M&TE program requirements, the failure to reference "as found" readings demonstrates that Georgia Power had no basis to close out the DC. It is utterly remarkable that Mr. Briney could sign as the investigator of the DC and testify at the hearing that he had no idea that the M&TE department

failed to investigate whether VP-2466 was defective and was surprised that the manager of the M&TE program, Mr. Duncan, had no knowledge of a defective instrument.<sup>141/</sup> Tr. 12233-34, 12240 (Briney).

609. Second, the basis identified in the DC for concluding that the "borrowed Alnor Analyzer" readings demonstrated that the air receiver was "within limits." Int. II-79 at p. 7. The only borrowed Alnor used during this time frame was the GE rental instrument. The readings obtained with this unit were -10 F and 10 F. Int. II-169. These measurements were obviously defective. Tr. 7959-60 (Ward). It is inconceivable that the persons responsible for processing the DC ever had a bona fide belief that the borrowed Alnor analyzer results were dispositive of the fact that VP-2466 was defective.

610. Third, Mr. Handfinger testified that before the DC was closed it should have referenced how alleged technician errors responsible for past high dew point readings was resolved, which it fails to do. Tr. 11459 (Handfinger).

611. In sum, we find Georgia Power's final disposition of DC 190-186 to constitute additional evidence of not performing an adequate investigation to determine whether VP-2466 was, in fact, defective.

**ix. Failure to Comply with "Lessons Learned" from TMJ**

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<sup>141/</sup> We note that Mr. Kitchens testified that the follow-up activity should have included checking with M&TE to see if the instrument was faulty. Tr. 13708 (Kitchens).

612. Georgia Power's explanation runs contrary to the lessons licensee's were expected to learn from the Three Mile Island accident. As Mr. Mosbaugh testified, "One of the Three Mile Island accident lessons learned was to believe your instrumentation, and another was to confirm readings by comparison to other instruments." Mosbaugh at 72. Georgia Power failed to believe its instrumentation and failed to accept confirmatory readings taken with VP-1114 and otherwise hid these readings from NRC. Moreover, Georgia Power initiation of its "feed and bleed" process was expected to reduce existing high dew points. The end result is that, by the time valid in-specification dew point readings were obtained these readings can solely be attributed to the feed and bleed process and provide no justification whatsoever to invalidate the initial high dew point readings.

**ix. Failure of the Critique Team to Analyze Air Quality**

613. The critique team was formed and reported directly to George Bockhold. The team was tasked with analyzing the accident and determining root causes of the failures. Mosbaugh at 13.

614. Nowhere in GPC's official Critique report of the SAE did GPC evaluate whether high dewpoints or condensed water may have contributed to the diesel trips which occurred during the SAE or during subsequent trips of the diesel during troubleshooting. See Int. II-111; Mosbaugh at 67. This is particularly disturbing since the high dewpoint readings were specifically identified by NRC as a potential cause of the SAE diesel failures. In fact, NRC had discussed with Georgia Power a potential relationship with the

Catawaba nuclear plant who had an air quality problem and a significant number of CALCON problems.

615. The Critique Team was GPC's official entity to investigate and resolve potential contributing factors to the diesel failures during the SAE, yet the Critique Report is silent on all matters pertaining to air quality.

616. We further note that the Critique Report Did Not Address the Repeat Trips of the Diesel Generator that occurred on May 23, 1990. Similarly, it does not address the potential effect of diesel generator air dryers being turned off or otherwise out of service.<sup>142/</sup>

617. Again we are faced with the determination as to whether GPC lacks an adequate root cause program or whether the failure to address dewpoints in the Critique Report is a willful omission. We believe the answer to that question rests with the fact that the Critique Report was the result of management "usurped" the report and issued an "unfinished product" that was, without question "inadequate." Int. II-22b, Tr. 4146 (Fredericks).

**x. Failure To Compare VP-2466 With Instruments Georgia Power believed to Be Providing Accurate Readings**

618. Georgia Power asserts that by April 8 it had two independent EGG instruments that it believed were providing accurate dew point measurements. Because Georgia Power did not ship VP-2466 to the vendor for a calibration check, the instrument

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<sup>142/</sup> We observe Mr. Hunt's testimony that Georgia Power apparently had a practice of limiting the operation of the dryers only during "certain periods of time when the humidity was extremely high." Tr. 5008-10 (Hunt),

was available for comparison with the two EG&G instruments. It is incredible that Georgia Power would only check VP-2466 against instruments that were not working correctly and that, a day later, was unwilling to confirm the accuracy of VP-2466 against instrumentation Georgia Power believed to be accurate.

B. The April 9 Letter Provides a Deficient Basis to Conclude that Air Quality was Satisfactory

619. After careful consideration of the record, we conclude that the April 9 letter sets forth a deficient technical basis to conclude that air quality was satisfactory. The three bases relied upon in the April 9 letter are discussed below.

i. Internal Inspection of Air Receiver

620. The inspection of the air receiver provided no basis to determine whether the quality of the diesel generator pneumatic air supply. Mr. Handfinger readily conceded that the inspection performed provided no basis to determine what the air quality was prior to during or after the SAE. Tr. 11362 (Handfinger); Tr. 10920-21 (Shipman)<sup>141/</sup>. Moreover, finding any form of corrosion

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<sup>141/</sup> Mr. Shipman testified as follows:

Q Is there some difficulty as an engineer in reaching the conclusion that dew points were in spec because no corrosion was found [in the air receiver]?

A Well, I don't think you can draw a direct conclusion between those two. There are various degrees of being out of spec on dew point, and the effect that would have on the system. I think that if -- you would expect to find, if you open an air receiver, it's a carbon steel thing, you would expect to find at least some flash rusting in the well areas, and depending on whether the air receiver had been coated with something, which I do not know if it was on the inside, you might also expect to find the different looking carbon steel surface that you have as a result of  
(continued...)

inside the air receiver would only provide a basis to conclude that air quality was not acceptable. We note that some corrosion was found within the receiver when it was inspected. Tr. 6487 (Bockhold).

621. We conclude that the visual inspection of the one air receiver did not provide an adequate factual basis to determine whether or not the plant Vogtle diesel generators had satisfactory air quality.

## **ii. Inspection of Air Filters**

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<sup>142</sup>/ (...continued)

the oxidation that occurs directly after manufacture, and unless you have a serious and significant, almost standing water problem, I would expect that would be all you would find. You would find no great flakes or rust scales that are off of or adhering to the sides of it. In my experience, the carbon steel plate, once it takes that original oxidation, requires significant adverse conditions to corrode to where you begin to see flakes and so forth.

Q Do you know what the condition is that we're concerned about if there were high dew points, where it would show up, how it would affect the operation of the diesel?

A It's my understanding that if you had dew points to the extent that you generated condensation in the supply lines to the various sensors, that that moisture, that water, could affect the operation of the sensor, affect the point at which the sensor operated. Some of the logic boards that are supplied with this -- pneumatic logic boards that are supplied with this air, might also experience problems as a result of water instead of air.

Q So that could be a contemporaneous effect of a high dew point, it wouldn't have to take any lag, is that correct?

A That's correct.

Q And were you aware that there was some flash rusting on the wells in the receiver?

A Yes, I was told that that existed.



622. We note that the air filter subject to the inspection was a centered bronze filter. Tr. 7087 (Stokes). This filter was not designed to detect water or moisture. Tr. 7098 (Stokes). Most disturbing it that there is no engineering basis to believe that a centered bronze filter could provide any indication of excessive moisture in the system. Tr. 12605 (Owyoung); Tr. 7090 (Stokes). Indeed, according to Mr. Briney, the filter had turned white when he inspected it. Tr. 12209 (Briney). Indeed, if Mr. Briney's observation is correct, the filter may have contained an oxidized coating from oxidation of the aluminum filter bowl. Tr. 12502 (Owyoung).

623. We conclude that by relying on the condition of the air filter to conclude air quality was satisfactory constitutes a materially misleading statement. The readers of the April 9 letter had no way of knowing that the filter being described was a center bronze filter that would not be expected to detect unsatisfactory air quality.

### **iii. Daily Receiver Blow-Downs**

624. We begin by noting that, during the March-April 1990 time frame, the diesel air receivers were warm to the touch, indicating an internal temperature of 90 F or higher. Based on the internal temperature of the air receivers, we conclude that the measured dew points would not cause water to form within the air receiver tanks.

625. Tr. 6483 (Bockhold) no verification of daily blow-down statement in COA before the letter was issued. Mr. Bockhold

received reports that "maybe some moisture" was detected during daily blow downs of the air receiver. Tr. 6480 (Bockhold).

**iv. Failure to Inspect the most Logical Place Water Would Form**

626. Testimony at the hearing established that condensation resulting from elevated dew points would occur in the coldest portion of the air system that ran below the diesel room floor surface in trenches covered with metal plates. The ambient temperature in the trench was approximately 55-60 F and the piping ran along this trench for a distance of 30 or more feet. Tr. 14382, 14384-85 (Hill). To adequately visual inspection to determine whether water was forming in the air system necessarily required Georgia Power to inspect a segment of the air lines running within the trench. To date, Georgia Power has never performed such an inspection. We are unaware of any engineering analysis performed by Georgia Power to evaluate where water would have mostly likely accumulated.

627. We conclude that Georgia Power's failed to adequately evaluate where water was mostly likely to form within the diesel air system and otherwise provided an invalid factual basis to conclude that air quality was satisfactory. Moreover, the fact that water was actually found within the system tends to validate Mr. Mosbaugh's dewpoint testimony and his concerns related to moisture within the system.

**X. Air Quality Conclusion**

628. The Board finds that Georgia Power's performance on the dew point issue was and is deplorable. Beginning in late March and

early April of 1990, at the precise time when Georgia Power needed to be most sensitive to exploring all reasonable root causes of the diesel generator failures, Georgia Power is ignoring, covering up, obfuscating and otherwise completely failing to address the dew point issues. Worse, numerous instances of material false statements related to this matter commenced during this critical time period and continued throughout the NRC Staff's investigations into Mr. Mosbaugh's concerns and even spilled over into the hearing itself.

629. Given Georgia Power's ultra egregious attempts to defend their indefensible conduct in this area, and given the high level of attention this issue received in the past five years, we hold that every level of Georgia Power management from the CEO through the Southern Nuclear program down through the site, plant Vogtle, who were involved in the dew point issues, acted with a minimum of careless disregard in this matter. Moreover, given their direct involvement in dew point matters and/or their intimate supervisory responsibilities over matters related to dew point and/or the presentation of dew point matters before the NRC Staff and this Board, we hold the following individuals directly and personally responsible for willful misconduct: Messrs. Hairston, McCoy, Bockhold, Kitchens, Stokes, Burr and Ward.

630. Finally, given the failure of Georgia Power to conduct a appropriate root cause analysis into the dew point issues and their continued resistance on these issues, combined with the potential safety implications that moisture within the diesel generator

system may render the diesel generators inoperable when required to perform their intended safety functions under the technical specifications and other regulations, the Board hereby orders an immediate suspension of the operation of plant Vogtle until this matter is appropriately adjudicated during the remedy phase of this proceeding.


#### XI. CONCLUSION

631. On the basis of the record as a whole, the Board hereby finds that Georgia Power and the applicant failed to meet their burden of proof regarding on the ultimate issue of character, competence and integrity. Additionally, we find that Intervenor has overwhelming demonstrated the validity of his contention. Therefore, it is hereby ORDERED that the transfer of the license from Georgia Power to Southern Nuclear is DENIED pending further proceedings related to the appropriate remedy needed in this case.

632. It is further ORDERED that additional proceedings shall commence to determine the appropriate remedies necessary to insure the effective management and safe operation of plant Vogtle and it is further ORDERED that the operation of plant Vogtle shall be suspended until such time as Georgia Power can demonstrate that all management over licensed operations possesses the legally required competence, character and integrity, that Georgia Power management (and not Southern Nuclear) has current and complete control over the management of its nuclear operations and until such time as the DG air quality issues are appropriately resolved.

[signature on next page]

Respectfully submitted,

---

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Attorneys for Intervenor

SERVICE LIST

I hereby certify that a copy of the foregoing was served via hand-delivery on the following persons ("\*" denotes service by First Class Mail) this 30th day of November, 1995:

Administrative Judge  
Peter B. Bloch, Chair  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

\*Administrative Judge  
James H. Carpenter  
933 Green Point Drive  
Oyster Point  
Sunset Beach, NC 28468

Administrative Judge  
Thomas D. Murphy  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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Office of the Secretary  
Attn: Docketing and Service  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Office of Commission Appellate  
Adjudication  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

By: 

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Michael D. Kohn

# ATTACHMENT 1



MAR 1990  
AUGUSTA, GA  
NAT'L WEATHER SVC  
1500 HANGAR RD

ISSN 0198-1595

# LOCAL CLIMATOLOGICAL DATA

## Monthly Summary



BUSH FIELD

LATITUDE 33° 22' N LONGITUDE 81° 58' W ELEVATION (GROUND) 136 FEET TIME ZONE EASTERN 03820

DATE	TEMPERATURE °F				DEGREE DAYS BASE 65°F		WEATHER TYPES 1 FOG 2 HEAVY FOG 3 THUNDERSTORM 4 ICE PELLETS 5 HAIL 6 GLAZE 7 DUSTSTORM 8 SMOKE, HAZE 9 BLIZZARD SNOW	SNOW ICE PELLETS OR ICE ON GROUND AT 0700 INCHES	PRECIPITATION		AVERAGE STATION PRESSURE IN INCHES ELEV 148 FEET ABOVE M S L	WIND (M.P.H.)					SUNSHINE		SKY COVER (TENTHS)						
	MAXIMUM	MINIMUM	AVERAGE	DEPARTURE FROM NORMAL	AVERAGE DOW POINT	HEATING SEASON BEGINS WITH JUN 1			COOLING SEASON BEGINS WITH JAN 1	WATER EQUIVALENT INCHES		SNOW, ICE PELLETS INCHES	RESULTANT DIRECTION	RESULTANT SPEED	AVERAGE SPEED	PEAK GUST	DIRECTION	FASTEST 1-MIN	MINUTES	PERCENT OF TOTAL POSSIBLE	SUNRISE TO SUNSET	NIGHTTIME TO MIDNIGHT			
01	67	44	56	5	41	9	0	0	0.00	0	30.140	16	5.6	6.7	17	NE	12	09			8	8			
02	59	47	53	2	50	12	0	1	0.11	0	29.885	13	4.8	5.8	12	SE	9	13			10	10			
03	65	45	55	4	52	10	0	1	0.15	0	29.650	27	3.5	7.2	22	M	14	20			9	8			
04	69	42	56	5	43	9	0		0.00	0	29.890	08	3.1	6.1	15	E	12	14			5	5			
05	74	40	57	5	41	8	0		0.00	0	30.060	13	2.9	3.4	16	SE	12	11			4	3			
06	76	40	58	6	41	7	0		0.00	0	30.130	35	2.9	3.7	14	NE	9	01			6	5			
07	61	40	51	-1	38	14	0	8	0.00	0	30.320	05	9.0	10.0	23	NE	20	05			7	6			
08	48	42	45	-8	35	20	0	1	0.04	0	30.365	05	6.1	6.9	17	E	10	03			10	10			
09	56	47	52	-1	49	13	0	1	0.21	0	30.200	14	1.8	3.8	9	N	8	34			10	10			
10	83	48	66	13	56	0	1	1	0.00	0	30.115	27	0.7	3.0	17	NW	10	31			2	4			
11	88	50	69	16	56	0	4	2	0.30	0	30.100	19	2.2	3.5	21	SW	9	24			5	6			
12	88	52	70	16	56	0	5	1	0.00	0	30.110	24	2.0	4.5	18	N	9	22			9	8			
13	87	54	71	17	55	0	5		0.00	0	30.035	19	2.5	4.1	14	SW	12	21			8	6			
14	84	52	68	14	56	0	3	1	0.00	0	29.930	16	4.8	6.4	25	S	16	19			9	7			
15	83	56	70	15	61	0	5	1	0.00	0	29.910	16	7.9	8.3	22	SE	17	15			9	9			
16	85	64	75	25	64	0	10		0.01	0	29.830	16	8.7	11.0	29	S	21	17			10	10			
17	72	56	64	9	59	1	0	1	0.62	0	29.710	22	6.2	9.3	28	SW	17	23			10	10			
18	74	45	60	5	49	5	0		0.00	0	29.925	31	5.7	6.3	18	NW	14	32			4	4			
19	75	42	59	3	42	6	0	2	0.00	0	29.940	22	4.6	6.4	24	NW	15	32			8	6			
20	59	37	48	-8	28	17	0		0.00	0	30.010	32	10.0	10.9	24	W	18	33			2	3			
21	67	29	48	-8	27	17	0	8	0.00	0	30.050	12	1.6	3.7	12	E	10	10			0	0			
22	74	35	55	-1	38	10	0	2	0.00	0	30.130	20	6.2	6.5	23	S	15	21			3	2			
23	82	46	64	7	46	1	0		0.00	0	30.060	27	2.0	5.5	16	N	13	32			1	2			
24	87	46	65	8	50	0	0	1	0.00	0	30.010	25	4.5	4.7	21	SW	16	27			4	4			
25	83	50	67	10	51	0	2	9	0.00	0	30.040	29	3.8	5.7	18	W	12	31			6	4			
26	73	52	63	5	52	2	0	1	0.00	0	30.050	36	4.4	7.3	17	N	16	33			8	8			
27	67	44	56	-2	45	9	0	1	0.00	0	30.100	03	5.3	6.5	16	N	12	35			3	8			
28	70	44	57	-1	43	8	0		0.00	0	30.120	08	6.2	6.7	18	E	13	09			10	10			
29	58	52	55	3	52	10	0	1	0.41	0	30.010	03	7.4	7.8	15	NE	13	02			10	10			
30	58	49	54	-5	52	11	0	1	0.44	0	29.950	06	6.6	7.2	14	NE	12	04			10	10			
31	70	54	62	3	57	3	0	2	0.04	0	29.820	35	3.9	4.1	12	N	12	35			10	9			
SUM		SUM				TOTAL	TOTAL	NUMBER OF DAYS		TOTAL	TOTAL	FOR THE MONTH						TOTAL							
2238		1444				202	36			2.33	0.0	10.020	07	0.6	6.2	29	5	21	17			100	215	265	
AVG		AVG	AVG	DEP	AVG	DEP	DEP	PRECIPITATION		DEP									DATE: 16	DATE: 16	POSSIBLE	NOVA	AVG	AVG	
72.2		46.6	59.8	4.6	47.5	-1.30	20	2.01 INCH		9	-2.89											6.9	6.6		
NUMBER OF DAYS		SEASON TO DATE		SNOW, ICE PELLETS		GREATEST IN 24 HOURS AND DATES		GREATEST DEPTH ON GROUND OF		SNOW, ICE PELLETS OR ICE AND DATE															
MAXIMUM TEMP		MINIMUM TEMP		1958		54		THUNDERSTORMS		1		PRECIPITATION		SNOW, ICE PELLETS											
1.900		5.370		5.120		5.00		DEP		DEP		HEAVY FOG		4		0.62		17		0.0					
0		0		1		0		501		27		CLEAR		5		PARTLY CLOUDY		8		CLOUDY		18			

\* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE  
TRACE AMOUNT  
\* ALSO ON EARLIER DATE(S)  
HEAVY FOG: VISIBILITY 1/4 MILE OR LESS  
BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA.

DATA IN COLS 6 AND 12-15 ARE BASED ON 21 OR MORE OBSERVATIONS  
AT HOURLY INTERVALS. RESULTANT WIND IS THE VECTOR SUM OF WIND  
SPEEDS AND DIRECTIONS DIVIDED BY THE NUMBER OF OBSERVATIONS.  
COLS 16 & 17: PEAK GUST - HIGHEST INSTANTANEOUS WIND SPEED.  
ONE OF TWO WIND SPEEDS IS GIVEN UNDER COLS 18 & 19: FASTEST  
MILE - HIGHEST RECORDED SPEED FOR WHICH A MILE OF WIND PASSES  
STATION (DIRECTION IN COMPASS POINTS). FASTEST OBSERVED ONE  
MINUTE WIND - HIGHEST ONE MINUTE SPEED (DIRECTION IN TENS OF  
DEGREES). ERRORS WILL BE CORRECTED IN SUBSEQUENT PUBLICATIONS.

I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND IS COMPILED FROM  
RECORDS ON FILE AT THE NATIONAL CLIMATIC DATA CENTER

noaa

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CLIMATIC DATA CENTER  
ASHEVILLE NORTH CAROLINA

Kenneth D. Nadeau  
DIRECTOR  
NATIONAL CLIMATIC DATA CENTER

## OBSERVATIONS AT 3-HOUR INTERVALS

APR 1990  
AUGUSTA, GA

03020

APR 1st													APR 2nd													APR 3rd																					
SKY COVER (TENTHS)				CEILING IN HUNDREDS OF FEET				WIND				TEMPERATURE				SKY COVER (TENTHS)				CEILING IN HUNDREDS OF FEET				WIND				TEMPERATURE				SKY COVER (TENTHS)				CEILING IN HUNDREDS OF FEET				WIND				TEMPERATURE			
TIME	DIR	AMOUNT	REMARKS	TIME	DIR	AMOUNT	REMARKS	TIME	DIR	AMOUNT	REMARKS	TIME	DIR	AMOUNT	REMARKS	TIME	DIR	AMOUNT	REMARKS	TIME	DIR	AMOUNT	REMARKS	TIME	DIR	AMOUNT	REMARKS	TIME	DIR	AMOUNT	REMARKS	TIME	DIR	AMOUNT	REMARKS	TIME	DIR	AMOUNT	REMARKS								
01	10	0		04	10	0		07	10	0		10	10	0		13	10	0		16	10	0		19	10	0		22	10	0		01	10	0		04	10	0									
02	10	0		05	10	0		08	10	0		11	10	0		14	10	0		17	10	0		20	10	0		23	10	0		02	10	0		05	10	0									
03	10	0		06	10	0		09	10	0		12	10	0		15	10	0		18	10	0		21	10	0		24	10	0		03	10	0		06	10	0									
04	10	0		07	10	0		10	10	0		13	10	0		16	10	0		19	10	0		22	10	0		25	10	0		04	10	0		07	10	0									
05	10	0		08	10	0		11	10	0		14	10	0		17	10	0		20	10	0		23	10	0		26	10	0		05	10	0		08	10	0									
06	10	0		09	10	0		12	10	0		15	10	0		18	10	0		21	10	0		24	10	0		27	10	0		06	10	0		09	10	0									
07	10	0		10	10	0		13	10	0		16	10	0		19	10	0		22	10	0		25	10	0		28	10	0		07	10	0		10	10	0									
08	10	0		11	10	0		14	10	0		17	10	0		20	10	0		23	10	0		26	10	0		29	10	0		08	10	0		11	10	0									
09	10	0		12	10	0		15	10	0		18	10	0		21	10	0		24	10	0		27	10	0		30	10	0		09	10	0		12	10	0									
10	10	0		13	10	0		16	10	0		19	10	0		22	10	0		25	10	0		28	10	0		31	10	0		10	10	0		13	10	0									
11	10	0		14	10	0		17	10	0		20	10	0		23	10	0		26	10	0		29	10	0		32	10	0		11	10	0		14	10	0									
12	10	0		15	10	0		18	10	0		21	10	0		24	10	0		27	10	0		30	10	0		33	10	0		12	10	0		15	10	0									
13	10	0		16	10	0		19	10	0		22	10	0		25	10	0		28	10	0		31	10	0		34	10	0		13	10	0		16	10	0									
14	10	0		17	10	0		20	10	0		23	10	0		26	10	0		29	10	0		32	10	0		35	10	0		14	10	0		17	10	0									
15	10	0		18	10	0		21	10	0		24	10	0		27	10	0		30	10	0		33	10	0		36	10	0		15	10	0		18	10	0									
16	10	0		19	10	0		22	10	0		25	10	0		28	10	0		31	10	0		34	10	0		37	10	0		16	10	0		19	10	0									
17	10	0		20	10	0		23	10	0		26	10	0		29	10	0		32	10	0		35	10	0		38	10	0		17	10	0		20	10	0									
18	10	0		21	10	0		24	10	0		27	10	0		30	10	0		33	10	0		36	10	0		39	10	0		18	10	0		21	10	0									
19	10	0		22	10	0		25	10	0		28	10	0		31	10	0		34	10	0		37	10	0		40	10	0		19	10	0		22	10	0									
20	10	0		23	10	0		26	10	0		29	10	0		32	10	0		35	10	0		38	10	0		41	10	0		20	10	0		23	10	0									
21	10	0		24	10	0		27	10	0		30	10	0		33	10	0		36	10	0		39	10	0		42	10	0		21	10	0		24	10	0									
22	10	0		25	10	0		28	10	0		31	10	0		34	10	0		37	10	0		40	10	0		43	10	0		22	10	0		25	10	0									
23	10	0		26	10	0		29	10	0		32	10	0		35	10	0		38	10	0		41	10	0		44	10	0		23	10	0		26	10	0									
24	10	0		27	10	0		30	10	0		33	10	0		36	10	0		39	10	0		42	10	0		45	10	0		24	10	0		27	10	0									
25	10	0		28	10	0		31	10	0		34	10	0		37	10	0		40	10	0		43	10	0		46	10	0		25	10	0		28	10	0									
26	10	0		29	10	0		32	10	0		35	10	0		38	10	0		41	10	0		44	10	0		47	10	0		26	10	0		29	10	0									
27	10	0		30	10	0		33	10	0		36	10	0		39	10	0		42	10	0		45	10	0		48	10	0		27	10	0		30	10	0									
28	10	0		31	10	0		34	10	0		37	10	0		40	10	0		43	10	0		46	10	0		49	10	0		28	10	0		31	10	0									
29	10	0		32	10	0		35	10	0		38	10	0		41	10	0		44	10	0		47	10	0		50	10	0		29	10	0		32	10	0									
30	10	0		33	10	0		36	10	0		39	10	0		42	10	0		45	10	0		48	10	0		51	10	0		30	10	0		33	10	0									
31	10	0		34	10	0		37	10	0		40	10	0		43	10	0		46	10	0		49	10	0		52	10	0		31	10	0		34	10	0									
32	10	0		35	10	0		38	10	0		41	10	0		44	10	0		47	10	0		50	10	0		53	10	0		32	10	0		35	10	0									
33	10	0		36	10	0		39	10	0		42	10	0		45	10	0		48	10	0		51	10	0		54	10	0		33	10	0		36	10	0									
34	10	0		37	10	0		40	10	0		43	10	0		46	10	0		49	10	0		52	10	0		55	10	0		34	10	0		37	10	0									
35	10	0		38	10	0		41	10	0		44	10	0		47	10	0		50	10	0		53	10	0		56	10	0		35	10	0		38	10	0									
36	10	0		39	10	0		42	10	0		45	10	0		48	10	0		51	10	0		54	10	0		57	10	0		36	10	0		39	10	0									
37	10	0		40	10	0		43	10	0		46	10	0		49	10	0		52	10	0		55	10	0		58	10	0		37	10	0		40	10	0									
38	10	0		41	10	0		44	10	0		47	10	0		50	10	0		53	10	0		56	10	0		59	10	0		38	10	0		41	10	0									
39	10	0		42	10	0		45	10	0		48	10	0		51	10	0		54	10	0		57	10	0		60	10	0		39	10	0		42	10	0									
40	10	0		43	10	0		46	10	0		49	10	0		52	10	0		55	10	0		58	10	0		61	10	0		40	10	0		43	10	0									
41	10	0		44	10	0		47	10	0		50	10	0		53	10	0		56	10	0		59	10	0		62	10	0		41	10	0		44	10	0									
42	10	0		45	10	0		48	10	0		51	10	0		54	10	0		57	10	0		60	10	0		63	10	0		42	10	0		45	10	0									
43	10	0		46	10	0		49	10	0		52	10	0		55	10	0		58	10	0		61	10	0		64	10	0		43	10	0		46	10	0									
44	10	0		47	10	0		50	10	0		53	10	0		56	10	0		59	10	0		62	10	0		65	10	0		44	10	0		47	10	0									
45	10	0		48	10	0		51	10	0		54	10	0		57	10	0		60	10	0		63	10	0		66	10	0		45	10	0		48	10	0									
46	10	0		49	10	0		52	10	0		55	10	0		58	10	0		61	10	0		64	10	0		67	10	0		46	10	0		49	10	0									
47	10	0		50	10	0		53	10	0		56	10	0		59	10	0		62	10	0		65	10	0		68	10	0		47	10	0		50	10	0									
48	10	0		51	10	0		54	10	0		57	10	0		60	10	0		63	10	0		66	10	0		69	10	0		48	10	0		51	10	0									
49	10	0		52	10	0		55	10	0		58	10	0		61	10	0		64	10	0		67	10	0		70	10																		

## WEATHER CODES

V	TORNADO
I	THUNDERSTORM
2	SQUALL
R	RAIN
RW	RAIN SHOWERS
2R	FREEZING RAIN
L	DRIZZLE

ZL	FREEZING DRIZZLE
S	SNOW
SH	SNOW SHOWERS
SG	SNOW GRAINS
SP	SNOW PELLETS
IC	ICE CRYSTALS
IP	ICE PELLETS

1PW ICE PELLET SHOWERS  
A HAIL  
F FOG  
IF ICE FOG  
GF GROUND FOG  
HD BLOWING DUST

BH	BLOWING SAND
BS	BLOWING SNOW
BT	BLOWING SPRAY
K	SMOKE
M	HAZE
D	DUST

CEILING: UNL INDICATES UNLIMITED

WIND DIRECTION: DIRECTIONS ARE THOSE FROM WHICH THE WIND BLOWS, INDICATED IN TERMS OF DEGREES FROM TRUE NORTH: I.E. 09 FOR EAST, 18 FOR SOUTH, 27 FOR WEST. AN ENTRY OF 00 INDICATES CALM.

SPEED: THE OBSERVED AVERAGE ONE-MINUTE VALUE, EXPRESSED IN KNOTS (MPH=KNOTS X 1.15)

## OBSERVATIONS AT 3-HOUR INTERVALS

MAR 1990  
PUERTO RICO

03020

TIME	MAR 1st				MAR 2nd				MAR 3rd				MAR 4th				MAR 5th				MAR 6th				MAR 7th				MAR 8th				MAR 9th				MAR 10th				MAR 11th				MAR 12th				MAR 13th				MAR 14th				MAR 15th				MAR 16th				MAR 17th				MAR 18th																																																																																																																																																																																																																																																																																																																																																																	
	SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WIND DIRECTION	WIND SPEED (KNOTS)	TEMPERATURE AIR	TEMPERATURE WET BULB	TEMPERATURE DEW POINT	REL. HUMIDITY (%)	SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WIND DIRECTION	WIND SPEED (KNOTS)	TEMPERATURE AIR	TEMPERATURE WET BULB	TEMPERATURE DEW POINT	REL. HUMIDITY (%)	SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WIND DIRECTION	WIND SPEED (KNOTS)	TEMPERATURE AIR	TEMPERATURE WET BULB	TEMPERATURE DEW POINT	REL. HUMIDITY (%)	SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WIND DIRECTION	WIND SPEED (KNOTS)	TEMPERATURE AIR	TEMPERATURE WET BULB	TEMPERATURE DEW POINT	REL. HUMIDITY (%)	SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WIND DIRECTION	WIND SPEED (KNOTS)	TEMPERATURE AIR	TEMPERATURE WET BULB	TEMPERATURE DEW POINT	REL. HUMIDITY (%)	SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WIND DIRECTION	WIND SPEED (KNOTS)	TEMPERATURE AIR	TEMPERATURE WET BULB	TEMPERATURE DEW POINT	REL. 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APR 1990  
AUGUSTA, GA  
NAT'L WEATHER SER OFC  
1500 HANGAR RD.

ISSN 0198-1595

# LOCAL CLIMATOLOGICAL DATA Monthly Summary



BUSH FIELD

LATITUDE 33° 22' N

LONGITUDE 81° 53' W

ELEVATION (GROUND) 136 FEET

TIME ZONE EASTERN

03820

DATE	TEMPERATURE °F				DEGREE DAYS BASE 65°		WEATHER TYPES		SNOW ICE PELLETS OR ICE ON GROUND AT 0700 INCHES	PRECIPITATION		AVERAGE STATION PRESSURE IN INCHES ELEV. 140 FEET ABOVE M.S.L.	WIND (M.P.H.)				SUNSHINE		OTHER ITEMS																		
	MAXIMUM	MINIMUM	AVERAGE	DEPARTURE FROM NORMAL	AVERAGE DEW POINT	HEATING SEASON BEGINNETH JUL	COOLING SEASON BEGINNETH JAN	1 FOG 2 HEAVY FOG 3 THUNDERSTORM 4 ICE PELLETS 5 HAIL 6 GLAZE 7 DUSTSTORM 8 SNOW, HAZE 9 BLOWING SNOW		WATER EQUIVALENT INCHES	SNOW, ICE PELLETS INCHES		RESULTANT DIRECTION	RESULTANT SPEED	AVERAGE SPEED	PEAK GUST		FASTEST 1-MIN	MINUTES	PERCENT OF TOTAL POSSIBLE	SURRISE TO SUNSET	MONTENT IN INCHES															
																SPEED	DIRECTION						SPEED	DIRECTION													
01	94	49	67	8	55	0	2	2	8	0	0 00	0	29.780	23	1.7	4	21	W	12	25	7	8															
02	78	53	66	6	56	0	1	0	0	0	0 00	0	29.670	23	6.1	7	20	SW	16	23	10	9															
03	67	45	56	-4	34	9	0	0	0	0	0 00	0	29.600	32	11.6	12	6	NW	17	31	1	1															
04	68	36	52	-8	32	11	0	0	0	0	0 00	0	29.630	28	7.0	8	0	N	14	31	0	0															
05	82	39	61	1	43	4	0	0	0	0	0 00	0	29.690	23	7.3	8	3	SW	16	24	2	2															
06	79	58	69	8	53	0	4	1	0	0	0.04	0	29.730	23	9.0	11	2	NW	20	20	6	6															
07	63	37	50	-11	33	15	0	0	0	0	0.04	0	29.930	33	9.3	10	2	NW	21	31	2	3															
08	68	33	51	-10	30	14	0	0	0	0	0 00	0	30.150	04	2.9	4	5	E	12	07	3	3															
09	74	38	56	-5	42	9	0	0	0	0	0 00	0	30.220	13	5.0	5	6	SE	14	12	0	7															
10	80	55	68	6	56	0	3	1	0	0	0.25	0	29.970	18	8.9	9	8	S	18	18	9	10															
11	69	42	56	-6	45	9	0	0	0	0	0 00	0	29.790	30	11.0	13	1	NW	23	32	8	7															
12	48	33	51	-11	32	14	0	0	0	0	0 00	0	30.030	35	3.1	4	7	NE	13	02	1	0															
13	71	34	53	-10	37	12	0	0	0	0	0 00	0	30.150	11	2.6	5	2	NE	10	18	6	3															
14	72	41	57	-6	52	8	0	0	0	0	0 00	0	30.000	13	5.9	7	4	SE	17	14	8	8															
15	79	55	67	4	56	0	2	1	8	0	0 00	0	29.775	29	1.4	4	4	N	10	31	8	7															
16	82	47	65	2	47	0	0	0	0	0	0 00	0	29.790	32	3.7	4	9	N	13	30	0	0															
17	87	45	66	2	50	0	1	0	0	0	0 00	0	29.805	24	4.5	6	0	N	16	25	3	3															
18	70	54	62	-1	38	3	0	0	0	0	1	0	30.120	06	10.4	11	3	NE	17	05	10	10															
19	65	48	57	-7	40	8	0	0	0	0	1	0	30.320	06	6.7	7	4	NE	14	06	9	4															
20	76	64	65	1	53	0	0	0	0	0	0 00	0	30.250	12	4.3	5	2	SE	12	15	9	8															
21	81	48	65	0	54	0	0	1	8	0	0 00	0	30.025	25	5.8	6	7	SW	16	24	8	6															
22	83	53	68	3	57	0	3	1	8	0	0 00	0	29.870	07	3.2	5	4	SE	12	14	5	5															
23	82	50	66	1	53	0	1	1	8	0	0 00	0	29.950	15	4.2	4	9	S	13	16	2	2															
24	86	48	67	2	49	0	2	1	8	0	0 00	0	29.980	12	3.0	3	3	E	9	17	0	0															
25	89	43	69	3	52	0	4	1	8	0	0 00	0	30.010	22	3	3	7	S	10	24	0	0															
26	90	52	71	5	52	0	6	0	0	0	0 00	0	29.915	19	2.2	4	8	SE	10	22	1	1															
27	99	50	70	4	49	0	5	0	0	0	0 00	0	29.830	15	5.7	6	8	SE	14	16	2	3															
28	77	59	68	1	61	0	3	1	7	0	0.74	0	29.750	15	9.4	10	2	SE	21	26	10	10															
29	78	59	67	2	56	0	4	1	8	0	0 00	0	29.770	15	5.5	6	6	SE	9	14	9	9															
30	88	57	73	6	64	0	8	0	0	0	0 00	0	29.780	26	4.8	6	9	W	14	25	5	3															
SUM		SUM		TOTAL		TOTAL		NUMBER OF DAYS		TOTAL		TOTAL		FOR THE MONTH:				TOTAL		%		SUM		SUM													
2725		1420		118		49				1		0		29.910		22		1		7		0		30		NM		23		32		FM		150		8	
AVG		AVG		AVG		DEP		AVG		DEP		PRECIPITATION		DEP						DATE: 1		DATE: 1		POSSIBLE		HOURS		AVG		AVG							
77.5		47.3		62.4		-0.8		47.6		25		11		2		-2		24										5		0		8					
NUMBER OF DAYS		SEASON TO DATE		TOTAL		TOTAL		SNOW, ICE PELLETS		GREATEST IN 24 HOURS AND DATES		GREATEST DEPTH ON GROUND OF		SNOW, ICE PELLETS OR ICE AND DATE																							
MAXIMUM TEMP		MINIMUM TEMP		2076		103		THUNDERSTORMS		1		PRECIPITATION		SNOW, ICE PELLETS																							
2		300		3		375		5		00		DEP		DEP		HEAVY FOG		1		0		74		28		0		0									
1		0		0		0		-4.5		3M		CLEAN		13		PARTLY CLOUDY		6		CLOUDY		11															

\* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE  
1 TRACE AMOUNT  
\* ALSO ON EARLIER DATE(S)  
HEAVY FOG: VISIBILITY 1/4 MILE OR LESS  
BLANK ENTRIES DENOTE MISSING OR IMPROVED DATA

DATA IN COLS 6 AND 12-19 ARE BASED ON 21 OR MORE OBSERVATIONS AT HOURLY INTERVALS. RESULTANT WIND IS THE VECTOR SUM OF WIND SPEEDS AND DIRECTIONS DIVIDED BY THE NUMBER OF OBSERVATIONS. COLS 16 & 17: PEAK GUST - HIGHEST INSTANTANEOUS WIND SPEED. ONE OF TWO WIND SPEEDS IS GIVEN UNDER COLS 18 & 19: FASTEST MILE - HIGHEST RECORDED SPEED FOR WHICH A MILE OF WIND PASSES STATION (DIRECTION IN COMPASS POINTS). FASTEST OBSERVED ONE MINUTE WIND - HIGHEST ONE MINUTE SPEED (DIRECTION IN TENS OF DEGREES). ERRORS WILL BE CORRECTED IN SUBSEQUENT PUBLICATIONS.

I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND IS COMPILED FROM RECORDS ON FILE AT THE NATIONAL CLIMATIC DATA CENTER

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