

United States Nuclear Regulatory Commission Official Hearing Exhibit	
Charlissa C. Smith (Denial of Senior Reactor Operator License)	
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	Withdrawn:
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CCS-096

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION

UNITED STATES OF AMERICA,	)	<u>INDICTMENT</u>
	)	
Plaintiff,	)	CASE NO.
	)	
v.	)	JUDGE
	)	
DAVID GEISEN,	)	Title 18, Sections 1001 and 2, United
RODNEY COOK, and	)	States Code
ANDREW SIEMASZKO,	)	
	)	
Defendants.	)	

The Grand Jury charges:

Introduction

At all times relevant to this Indictment:

1. The Davis-Besse Nuclear Power Station ("Davis-Besse") was a nuclear power plant, located in Oak Harbor, Ohio, in the Northern District of Ohio, operated by the FirstEnergy Nuclear Operating Company, Inc. ("FENOC"), an Ohio Corporation. FENOC held a license to operate Davis-Besse, issued by the Nuclear Regulatory Commission ("NRC").
2. The defendant, DAVID GEISEN, was employed by FENOC as an engineering manager.

3. The defendant, ANDREW SIEMASZKO, was employed by FENOC as a Systems Engineer with responsibility for the reactor coolant system at Davis-Besse.

4. The defendant, RODNEY COOK, was a contractor-consultant employed by FENOC over several years, in part to assist with regulatory compliance matters at Davis-Besse.

5. When operating, Davis-Besse generated energy by using a nuclear chain reaction to heat a solution of water and boric acid, called “reactor coolant,” to approximately 600 degrees Fahrenheit. The reactor coolant was contained in a “reactor pressure vessel” and maintained at approximately 2,000 pounds per square inch of pressure. Heat from the reactor coolant was used to make steam to drive turbines that turned electric generators.

6. Davis-Besse’s normal operating cycle included outages at approximately two-year intervals, during which the lid to the reactor vessel, called the “reactor vessel head,” was removed to allow the removal of spent nuclear fuel rods and the insertion of new fuel rods. The reactor vessel head was removed from the vessel during the 10th refueling outage (“RFO”) in 1996, the 11th RFO in 1998, the 12th RFO in 2000, and the 13th RFO in 2002.

7. Operators used control rods to regulate the plant's energy output. When lowered into the reactor core, the control rods absorbed neutrons that would have otherwise sustained the nuclear chain reaction. Control rod drive mechanisms (“CRDM” or “CRDMs”) were used to raise and lower the control rods within the reactor core through nozzles that penetrated and were welded to the reactor vessel head. There were sixty-nine nozzles in total, but only sixty-one nozzles had CRDMs attached to them.

8. On August 3, 2001, the NRC issued Bulletin 2001-01, which addressed a problem with CRDM nozzles that could lead to unsafe conditions at pressurized water reactors, like Davis-Besse. The Bulletin explained that the kind of weld used to attach CRDM nozzles to the

reactor vessel head could cause nozzles to crack. It also explained that this problem had been seen in France in the early 1990's and had been found in the United States in December 2000. In 2001, other plants in the United States also discovered cracked CRDM nozzles.

9. Although the NRC and the nuclear industry had considered the impact of nozzle cracks in the early 1990's, the Bulletin noted that recent discoveries had changed the NRC's understanding of the problem for two reasons. First, dangerous circumferential cracks had shown up earlier than expected. Second, the cracks caused only small deposits of boric acid residue on the reactor vessel head, contrary to previous NRC guidance that had suggested that leaking nozzles would produce substantial amounts of boric acid residue. The deposits were left behind when water evaporated from reactor coolant that had leaked onto the head. Small boric acid deposits came to be known as "popcorn" deposits, because of their size and shape. In light of this new information, the NRC Bulletin questioned whether the visual examinations then in use were adequate to detect nozzle cracking.

10. The Bulletin explained NRC expectations regarding future nozzle inspections and required plants to answer questions to help the NRC determine the extent of the nozzle crack problem at reactors in the United States. All facilities holding licenses to operate pressurized water reactors were required to report their nozzle inspection history and plans for future inspections. Facilities deemed to have the highest risk of nozzle cracking—including Davis-Besse—were required to provide detailed information about recent inspections of their reactor vessel heads and a description of anything that impeded those inspections. The highest-risk facilities were also required to report whether they intended to inspect their reactor vessel heads prior to December 31, 2001, and, if not, to provide information demonstrating that continued operation beyond that date would not violate regulatory requirements.

11. The defendants, DAVID GEISEN, ANDREW SIEMASZKO, and RODNEY COOK, together with others known to the grand jury, prepared responses to the Bulletin which were submitted to the NRC on the dates listed below. These responses were part of a scheme to persuade the NRC to agree that Davis-Besse could operate safely after December 31, 2001. The scheme involved making false and misleading statements and concealing material information about both the quality of past reactor vessel head inspections and the condition of the reactor vessel head. Before they were submitted, the responses were forwarded for review and approval to the defendants listed below, among others, and each signed an “NRC Letters Review and Approval Report” (also called a “greensheet”) that indicated that he had received and approved the submission:

<b>Date</b>	<b>Title</b>	<b>Signed By</b>
September 4, 2001	Serial Letter 2731, Response to NRC Bulletin 2001-01, “Circumferential Cracking of Reactor Head Penetration Nozzles” (“Serial Letter 2731”)	DAVID GEISEN RODNEY COOK
October 17, 2001	Serial Letter 2735, Supplemental Information in Response to NRC Bulletin 2001-01, “Circumferential Cracking of Reactor Head Penetration Nozzles” (“Serial Letter 2735”)	DAVID GEISEN ANDREW SIEMASZKO RODNEY COOK
October 30, 2001	Serial Letter 2741, Responses to Requests for Additional Information Concerning NRC Bulletin 2001-01, “Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles” (“Serial Letter 2741”)	DAVID GEISEN RODNEY COOK
October 30, 2001	Serial Letter 2744, Submittal of Results of Reactor Pressure Vessel Head Control Rod Drive Mechanism Nozzle Penetration Visual Examinations for the Davis-Besse Nuclear Power Station (“Serial Letter 2744”)	DAVID GEISEN RODNEY COOK

Date	Title	Signed By
November 1, 2001	Serial Letter 2745, Transmittal of Davis-Besse Nuclear Power Station Risk Assessment of Control Rod Drive Mechanism Nozzle Cracks ("Serial Letter 2745")	DAVID GEISEN RODNEY COOK

12. Based on the information contained in the Serial Letters, the NRC agreed to FENOC's proposal that it be allowed to operate Davis-Besse beyond December 31, 2001. On December 4, 2001, the NRC sent FENOC a letter agreeing to Davis-Besse's continued operation until February 16, 2002.

13. On February 16, 2002, Davis-Besse shut down for refueling and inspection. On March 8, 2002, the reactor vessel head was discovered to have significant degradation, in the form of a corrosion hole. Subsequent investigation revealed that a crack in nozzle three, at the top of the reactor pressure vessel head, had allowed boric acid to leak onto the head, where it attacked the carbon steel head, causing a six-inch deep corrosion cavity.

14. NRC regulations required its licensees to ensure that information provided to the NRC be complete and accurate in all material respects. Title 10, Code of Federal Regulations, §50.9.

15. These introductory allegations are hereby re-alleged and incorporated by reference in Counts 1 through 5 of this Indictment.

COUNT 1

The Grand Jury charges:

1. From on or about September 4, 2001, through on or about February 16, 2002, in Oak Harbor, Ohio, in the Northern District of Ohio and elsewhere, the defendants, ANDREW SIEMASZKO, DAVID GEISEN, and RODNEY COOK, did knowingly and willfully conceal and cover up, and cause to be concealed and covered up, by tricks, schemes and devices, material facts in a matter within the jurisdiction of the executive branch of the government of the United States, to wit, the condition of Davis-Besse's reactor vessel head, and the nature and findings of previous inspections of the reactor vessel head.

Manner and Means of Scheme

The defendants employed the following tricks, schemes and devices:

2. On or about September 4, 2001, the defendants, ANDREW SIEMASZKO, DAVID GEISEN, and RODNEY COOK, caused Serial Letter 2731 to be forwarded to the NRC. The defendant, ANDREW SIEMASZKO, drafted portions of the Serial Letter, which were reviewed and approved by the defendants, DAVID GEISEN and RODNEY COOK. In Serial Letter 2731, the defendants described reactor vessel nozzle and head inspections, and limitations to accessibility of the bare metal of the reactor vessel head for visual examinations. In so doing, they deliberately omitted critical facts concerning the inspections and limitations on accessibility. In addition, they also falsely stated that the inspections complied with the requirements of Davis-Besse's "Boric Acid Corrosion Control Program."

3. On or about October 3, 2001, the defendants, DAVID GEISEN and RODNEY COOK, and other FENOC employees, held a telephone conference with NRC staff employees to discuss concerns of the staff regarding inspections described in Serial Letter 2731, which were

conducted during the 11th RFO (in 1998) and the 12th RFO (in 2000). During this telephone conference, the defendant, DAVID GEISEN, falsely stated that in 2000 FENOC had conducted a “100% inspection” of the reactor vessel head with the exception of some areas [five or six nozzles] where inspection was precluded because of “flange leakage.” In fact, at least twenty-four nozzles were blocked from view because of boric acid.

4. On or about October 11, 2001, in Rockville, Maryland, the defendant, DAVID GEISEN, and others met with Technical Assistants of NRC Commissioners and falsely represented as a “fact” that “[a]ll CRDM penetrations were verified to be free from ‘popcorn’ type deposits using video recordings from 11RFO or 12RFO.”

5. On or about October 16, 2001, the defendant, RODNEY COOK, sought information from Davis-Besse personnel about whether it was true that visual inspections of some nozzles had been done during 11 RFO and 12 RFO, but had not been recorded on videotape. In 11 RFO the entire inspection was recorded on videotape and there were no unrecorded visual inspections. On or about October 17, 2001, the defendants, RODNEY COOK and ANDREW SIEMASZKO, approved Serial Letter 2735 with an attached table that falsely stated that there were 10 nozzles that had satisfactory visual inspections during 11 RFO, such that no video record was required of the nozzles.

6. On or about October 17, 2001, the defendants, ANDREW SIEMASZKO, DAVID GEISEN, and RODNEY COOK, caused Serial Letter 2735 to be forwarded to the NRC. This submission conceded that portions of the reactor vessel head were obscured by boric acid in inspections during the 11th RFO (in 1998) and 12th RFO (in 2000) but falsely represented that in the inspection during the 10th RFO (in 1996) the entire reactor pressure vessel head was inspected. The submission attached a table prepared by the defendant, ANDREW SIEMASZKO,

that falsely stated that the entire reactor pressure vessel head was inspected during the 10th RFO and that the video recording of that inspection was void of head orientation narration.

7. On or about October 24, 2001, in Rockville, Maryland, the defendant, DAVID GEISEN, and other FENOC employees met with NRC staff employees and represented that “all but 4 nozzle penetrations were inspected in 1996,” and “[a]ll CRDM penetrations were verified to be free from ‘popcorn’ type boron deposits using video recordings from 10 RFO, 11RFO or 12RFO,” and “[a] review of visual recordings as well as eye-witness accounts served as the means of the inspection.”

8. Between on or about October 22, 2001, and October 30, 2001, the defendant, RODNEY COOK, deleted sections of Serial Letter 2741 that he was drafting, which truthfully stated that areas of the reactor pressure vessel head would not be viewable in the upcoming 13 RFO because of “pre-existing boric acid crystal deposits.”

9. On or about October 30, 2001, the defendants, DAVID GEISEN and RODNEY COOK, caused Serial Letter 2741 to be forwarded to the NRC. The submission repeated and expanded on representations made in Serial Letters 2731 and 2735, including the representations that inspections were made in accordance with Davis-Besse’s Boric Acid Corrosion Control Program, and included representations contained in a table prepared by the defendant, ANDREW SIEMASZKO, that the entire reactor vessel head was inspected during the 10th RFO and that the video of that inspection was void of head orientation narration. Serial Letter 2741 also stated that “[f]ollowing 12RFO, the [reactor pressure vessel] head was cleaned with demineralized water to the extent possible to provide a clean head for evaluating future inspection results.”

10. On or about October 30, 2001, the defendants, ANDREW SIEMASZKO, DAVID GEISEN, and RODNEY COOK, caused Serial Letter Number 2744 to be forwarded to the NRC. This submission included photographs taken from the videotapes of the inspections of the reactor vessel head, indicating that the photographs were “representative” of the condition of the reactor vessel head, but which omitted portions of the videos showing substantial deposits of boric acid.

11. On or about November 1, 2001, the defendants, DAVID GEISEN and RODNEY COOK, caused Serial Letter 2745 to be forwarded to the NRC. This submission, entitled “Davis-Besse Nuclear Power Station Risk Assessment of Control Rod Drive Mechanism Nozzle Cracks” expressly relied on false representations about the 1996 head inspection that were previously made in Serial Letters 2735 and 2741. The “risk assessment” contained in this submission used statistical techniques to convince the NRC that allowing Davis-Besse to operate until the spring of 2002 would pose little risk of damage to the reactor core. The risk assessment was based, in part, on the stated, false assumption that “100% of the CRDM nozzles were inspected with the exception of four nozzles in the center of the head.”

12. On or about November 14, 2001, in Rockville, Maryland, the defendants, DAVID GEISEN and ANDREW SIEMASZKO, and other FENOC employees met with NRC staff employees at NRC headquarters to discuss prior head inspections, among other things.

13. On or about November 28, 2001, in Rockville, Maryland, the defendant, DAVID GEISEN, and other FENOC employees made a presentation to the NRC staff to propose a February 16, 2002 shutdown date, and provided statistical information expressly relying on false representations previously made in Serial Letters 2735 and 2741 to argue that the risk of damage to the reactor core was low.

14. On or about November 29, 2001, the defendant, DAVID GEISEN, made a presentation to the FENOC Company Nuclear Review Board (“CNRB”), and falsely represented that a qualified visual inspection was performed in 1996 and that all but four CRDM nozzle penetrations were inspected.

All in violation of Title 18 United States Code, Sections 1001 and 2.

COUNT 2

The Grand Jury further charges:

On or before October 17, 2001, in Oak Harbor, Ohio, in the Northern District of Ohio, and elsewhere, the defendants, ANDREW SIEMASZKO, DAVID GEISEN, and RODNEY COOK, did knowingly and willfully make, use, and cause others to make and use a false writing, that is, a letter to the Nuclear Regulatory Commission identified as Serial Letter 2735, knowing that it contained the following material statements, which were fraudulent in the manners described below, in a matter within the jurisdiction of the executive branch of the government of the United States:

- A. “[d]uring 10RFO, 65 of 69 nozzles were viewed,” whereas, as the defendants then well knew, significantly fewer than 65 nozzles were viewed;
- B. “[i]n 1996, during 10 RFO, the entire RPV head was inspected,” whereas, as the defendants then well knew, the entire head had not been inspected during the 10th refueling outage;
- C. “[s]ince the [10th refueling outage inspection] video was void of head orientation narration, each specific nozzle view could not be correlated,” whereas, as the defendants then well knew, the 10th refueling outage inspection video included head orientation narration;

- D. “[t]he inspections performed during the 10th, 11th, and 12th Refueling Outage . . . consisted of a whole head visual inspection of the RPV head in accordance with the DBNPS Boric Acid Control Program,” whereas, as the defendants then well knew, areas covered by boric acid had not been inspected, nor had other required steps in the Boric Acid Corrosion Control Program been taken; and
- E. “[f]ollowing 12RFO, the RPV head was cleaned with demineralized water to the extent possible to provide a clean head for evaluating future inspection results,” whereas, as the defendants then well knew, a substantial layer of boric acid remained, which would impede future inspections.

All in violation of Title 18 United States Code, Sections 1001 and 2.

COUNT 3

The Grand Jury further charges:

On or before October 30, 2001, in the Northern District of Ohio, the defendants, ANDREW SIEMASZKO, DAVID GEISEN, and RODNEY COOK, did knowingly and willfully make, use, and cause others to make and use a false writing, that is, a letter to the Nuclear Regulatory Commission identified as Serial Letter 2741, knowing that it contained the following material statements, which were fraudulent in the manners described below, in a matter within the jurisdiction of the executive branch of the government of the United States:

- A. “[d]uring 10RFO, 65 of 69 nozzles were viewed,” whereas, as the defendants then well knew, significantly fewer than 65 nozzles were viewed.
- B. “[i]n 1996 during 10 RFO, the entire RPV head was inspected,” whereas, as the defendants then well knew, the entire reactor vessel head had not been inspected during the 10th refueling outage;

- C. “[s]ince the [10th refueling outage inspection] video was void of head orientation narration, each specific nozzle view could not be correlated,” whereas, as the defendants then well knew, the 10th refueling outage inspection video included the head orientation narration;
- D. “[t]he inspections performed during the 10th, 11th, and 12th Refueling Outage . . . consisted of a whole head visual inspection of the RPV head in accordance with the DBNPS Boric Acid Control Program,” whereas, as the defendants then well knew, areas covered by boric acid had not been inspected, nor had other required steps in the Boric Acid Corrosion Control Program been taken; and
- E. “[f]ollowing 12RFO, the RPV head was cleaned with demineralized water to the extent possible to provide a clean head for evaluating future inspection results,” whereas, as the defendants then well knew, a substantial layer of boric acid remained, which would impede future inspections.

All in violation of Title 18 United States Code, Sections 1001 and 2.

COUNT 4

The Grand Jury further charges:

On or before October 30, 2001, in the Northern District of Ohio, the defendants, ANDREW SIEMASZKO and DAVID GEISEN, did knowingly and willfully make, use, and cause others to make and use a false writing, that is, a letter to the Nuclear Regulatory Commission identified as Serial Letter 2744, knowing that it contained the following material statements, which were fraudulent in the manners described below, in a matter within the jurisdiction of the executive branch of the government of the United States:

- A. “[i]n 1996 during 10 RFO, 100% of nozzles were inspected by visual examination,” whereas, as the defendants then well knew, significantly fewer than 100 percent of the nozzles were inspected during the 10th refueling outage;
- B. “[s]ince the [10th refueling outage inspection] video was void of head orientation narration, each specific nozzle view could not be correlated by nozzle number,” whereas, as the defendants then well knew, the 10th refueling outage inspection video included head orientation narration;
- C. “[t]he following pictures are representative of the head in the Spring 1996 Outage. The head was relatively clean and afforded a generally good inspection,” whereas, as the defendants then well knew, the pictures were not representative, the head was not relatively clean in 1996, and a good inspection was not completed;
- D. “[b]ecause of its location on the head, [a pile of boric acid] could not be removed by mechanical cleaning but was verified to not be active or wet and therefore did not pose a threat to the head from a corrosion standpoint,” whereas, as the defendants then well knew, no action had been taken in 1996 to verify whether the boric acid was active or wet and, thus, not a corrosion threat;
- E. “these attached pictures are representative of the condition of the drives and the heads” during the inspection during the 11th refueling outage, whereas, as the defendants then well knew, the referenced pictures were not representative of that inspection; and
- F. “[t]he photo for No. 19 depicts in the background the extent of boron buildup on the head and is the reason no credit is taken for being able to visually inspect the remainder of the drives,” whereas, as the defendants then well knew, other images

from the 2000 inspection showed that the extent of boron buildup on the head was much greater than what was depicted in the photo of nozzle number 19.

All in violation of Title 18 United States Code, Sections 1001 and 2.

COUNT 5

The Grand Jury further charges:

On or before November 1, 2001, in the Northern District of Ohio, the defendants, RODNEY COOK, ANDREW SIEMASZKO, and DAVID GEISEN, did knowingly and willfully cause others to make and use a false writing, that is, a letter to the Nuclear Regulatory Commission identified as Serial Letter 2745, that contained the following material statements, which were fraudulent in the manners described below, in a matter within the jurisdiction of the executive branch of the government of the United States:

“[d]uring 10RFO, in spring of 1996, the entire head was visible so 100% of the CRDM nozzles were inspected with the exception of four nozzles in the center of the head,” whereas, as defendants then well knew, many more than the center four nozzles were not inspected.

All in violation of Title 18 United States Code, Sections 1001 and 2.

United States v. David Geisen, et al.

A TRUE BILL.

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FOREPERSON

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GREGORY A. WHITE  
UNITED STATES ATTORNEY