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JUL 20 1998

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

10 CFR 50.2.201

Gentlemen:

In the Matter of )  
Tennessee Valley Authority )

Docket Nos. 50-390

WATTS BAR NUCLEAR PLANT (WBN) - NRC INSPECTION REPORT NO. 50-390/98-03 - REPLY TO NOTICE OF VIOLATION (NOV) FOR EA 98-207

This letter and its enclosure provide TVA's reply to the subject NOV dated June 18, 1998. The NOV followed a closed, predecisional enforcement conference held in NRC's Region II office on May 11, 1998, in which TVA provided a detailed discussion of the apparent violations related to WBN's security program as cited in NRC's letter of April 8, 1998. In that enforcement conference, TVA provided an analysis of each of the apparent violations and reasons why the examples cited by the NRC did not constitute violations of NRC regulatory requirements. Based on NRC feedback obtained during the enforcement conference, TVA provided additional supporting information by facsimile, followed by a formal letter dated May 26, 1998. Notwithstanding TVA's position, NRC's June 18, 1998, letter notified TVA that three examples of NRC violations were found to have occurred, and that these three examples were classified in the aggregate as a Severity Level III problem in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. //  
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TVA does not agree that the examples cited by the NRC constitute violations of NRC regulatory requirements, nor do we agree that such examples warrant aggregation as a Severity Level III problem under NRC's Enforcement Policy. Accordingly, TVA respectfully contests this enforcement action.

The enclosure to this letter provides a detailed discussion of the violations cited by NRC and the various conclusions reached by the NRC which are contested by TVA. In addition to the specific points raised by TVA in the enclosure, TVA would like to address several general concerns associated with this enforcement action.

The first concern has to do with the argument raised by NRC that the WBN Physical Security Plan (PSP) alone defines the regulatory requirements in which TVA's security program performance is judged. Similar to NRC's own regulations, the PSP contains several general statements which characterize the performance of equipment in a variety of security systems. However, when taking into account, for example, the performance of WBN's metal detectors, TVA has developed and implemented specific testing procedures which it uses to perform periodic tests of the metal detectors, and which are consistent with or more stringent than NRC's own review guidelines. Nonetheless, the NRC's NOV specifically discounts the applicability of TVA's formal testing procedures, discounts NRC's own guidelines, and concludes that a violation of a general PSP requirement occurred. This ignores valid testing procedures, erodes the effectiveness of NRC guidelines, and sends the wrong regulatory message to licensees who make good faith attempts to abide by established, well-recognized standards.

Closely aligned with this concern is the fact that the NRC is requiring 100 percent detection capability despite the fact that TVA's implementing procedures and NRC's own guidance criteria, expressly allow for less than perfect detection performance. TVA demonstrated in the enforcement conference, and does so again in the enclosed response, specific instances in which NRC recognizes that less than 100 percent effectiveness in security hardware performance is adequate to demonstrate compliance. Moreover, it is well settled case law that licensees are not required to demonstrate perfect performance capability to show compliance with a regulatory requirement. (See, for instance, the recent decision in the case of *Louisiana Energy Services, L.P.*, "Partial Initial Decision," 43 NRC 142 (1996) in which NRC recognized that absolute certainty is implausible, and that "Any system of engineered safeguards is considered to have some possibility of failure. No system could ever be perfect." See, also, *Coalition for Environment v. NRC*, 759 F.2d 168, 175 (D.C. Cir. 1986), *Nadar v. Ray*, 363 F. Supp. 946, 954 (D.D.C. 1973),

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and *Philadelphia Electric Co.*, "Third Partial Initial Decision," 21 NRC 1219, 1289 (1985) for the well settled proposition that reasonable assurance, not absolute or perfect certainty, is required under law or NRC regulation.)

It is also worth noting that NRC's Enforcement Policy also specifically allows NRC to refrain from issuing any enforcement action for "matters not within a licensee's control, such as equipment failures that were not avoidable by reasonable licensee quality assurance measures or management controls." (Section VII.B.6.) As explained in detail in the enclosure, TVA's performance criteria for the metal detectors recognized that, on certain occasions, the equipment may not provide 100 percent detection performance. Likewise, it was recognized that the closed circuit television (CCTV) system may not provide perfect visual surveillance under all conditions, so backup systems are available to provide visual support. Ultimately, though, in each instance TVA's security equipment was able to meet the performance objectives established and routinely used by TVA for that particular system.

Another area of concern is what may be perceived as NRC's ability to arbitrarily "raise the bar" by imposing inspection criteria that are not based on a regulatory requirement in order to reach a desired outcome. For example, when testing certain zones of detection associated with TVA's microwave detection equipment, NRC employed a three-man jumping team to defeat certain aspects of that system. However, contrary to the NRC's assertion in the NOV that the present testing was consistent with that conducted by NRC during WBN's pre-licensing testing, such previous NRC jump tests were performed using a two-man team. This initial test essentially established a licensing basis for intrusion detection prevention capabilities. Because of the variety of environmental and other factors that affect size of the microwave detection zone at any particular time, there are no objective criteria established by the vendor for height of the detection zone, and none are specifically provided for in the PSP. Nor are any such criteria provided for in any NRC guidance documents. Nonetheless, the NRC has the ability, and has in fact increased its jumping prevention criteria, thereby unilaterally imposing stricter regulatory requirements by virtue of the manner in which it conducts inspections. This imposes a considerable burden on those being inspected to maintain compliance, adds a degree of regulatory uncertainty to compliance standards, and fosters a licensee perception of NRC unfairness. This unilateral imposition of a more rigorous regulatory standard is also inconsistent with the basic tenets of administrative law.

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In conducting its inspections of the microwave detection equipment, the NRC dismisses as "irrelevant" the fact that its inspection team was able to defeat the system only after it first generated detection alarms in order to establish the microwave detection boundaries. Though we recognize the usefulness of this testing technique in helping to assess the actual boundaries of a licensee's detection capabilities, we do not agree that such a technique should be used to establish a regulatory violation. NRC regulations require TVA to operate and maintain an effective site physical protection program capable of preventing the unauthorized access of persons through the use of prescribed detection systems. Likewise, the PSP describes the microwave system on terms of its ability to detect unauthorized access. It does not seem appropriate for NRC to dismiss as "irrelevant" the fact that the NRC could only defeat such detection system after its inspection team was first detected by that system. Nor does the fact that this inspection technique is consistent with tests performed at other sites make the practice acceptable.

TVA's position is consistent with NRC's Enforcement Policy, which gives specific examples of what constitutes a "Safeguards" violation. Under Severity Level III, Example 1, a violation consists of a failure to control access such that an unauthorized individual *could easily gain undetected access* (considering factors such as predictability, identifiability, and ease of passage). Example 3 identifies a failure or deficiency in the intrusion detection system such that an unauthorized individual *could predictably circumvent the system or defeat a specific zone with a high degree of confidence without insider knowledge*, or other significant degradation of overall system capability. Severity Level IV, Example 7, identifies a failure to control access such that an opportunity exists that could allow unauthorized, *undetected access* but which was neither easily nor likely to be exploitable. The technique demonstrated by the NRC inspection team which, at first, requires detection, is entirely inconsistent with the NRC's own enforcement examples.

TVA also disagrees that the aggregation of the three examples cited by NRC are indicative of a breakdown of the security program, a programmatic failure to assure that certain security equipment was properly maintained, or of significant weaknesses in the security program, as is characterized in various parts of the NOV. TVA demonstrated in the enforcement conference, and explains further in this letter and its enclosure, that the security equipment was capable of meeting NRC regulations, PSP requirements, and applicable procedures. Nor is it proper to cite as indicative of a significant security program weakness, the several enhancements TVA put in place to improve WBN

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security equipment and surveillance. With the help of the special NRC assist team which performed the assessment of the WBN Security Program, TVA recognized several instances in which improvements to the program would increase its overall effectiveness. The NRC's NOV itself characterizes several TVA actions as enhancements. To now cite these actions as proof that regulatory violations took place and that the root cause was less than adequate maintenance and surveillance of equipment, is unwarranted and can also be counterproductive. Especially in the area of security where the assessment of performance requires a great deal of subjectivity, licensees will be wary of aggressively seeking to correct potential weaknesses or making improvements when the NRC turns around and uses the licensee's improvement initiatives as evidence that the program is deficient under the regulations.

Finally, we cannot ignore the fact that the violations cited by the NRC, whether considered individually or in the aggregate, have no actual safety consequence. This fact is not in dispute. It is especially noteworthy that this entire matter arose as the result of an "NRC assist inspection," and TVA is taking the actions necessary to address the inspection's findings. As such, it seems that the considerable amount of NRC and TVA resources subsequently, expended as part of the enforcement process would be better applied to matters of actual safety significance. In short, we do not believe the regulatory process was well served in this instance.

In view of the above, and for the reasons described in the enclosure, TVA respectfully asks the NRC to reconsider the subject enforcement action and find that the three examples cited in the subject NOV do not constitute violations of regulatory requirements. As such, we ask that the NRC likewise determine that these examples should not be classified in the aggregate as a Severity Level III problem.

I would be happy to answer any questions you might have or to provide any additional information you may require in order to make your decision.

Sincerely,



R. T. Purcell

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Enclosure

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Subscribed and sworn to before

me on this 20th day of July 1998

E. Jeannette Long  
Notary Public

My Commission Expires June 27, 2001

Enclosure

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WATTS BAR NUCLEAR PLANT (WBN) UNIT 1  
RESPONSE TO NOTICE OF VIOLATION EA 98-207  
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This enclosure describes the specific reasons TVA does not believe that the security equipment issues described by NRC constitute regulatory violations. The discussions are segregated to address each of the three cited violations and the associated security equipment. A final discussion explains why the examples should not be classified in the aggregate as a Severity Level III problem.

EXAMPLE A.

"Paragraph 5.5 of the Physical Security Plan (PSP), Revision 2, dated March 23, 1998, states that the metal detectors used for personnel search are walk-through type units and are capable of detecting a source located on an individual.

Contrary to the above, on March 25, 1998, two metal detectors failed on nine occasions to detect a test weapon located on an individual during a walk-through test. (01013)"

Denial of Violation Example A

TVA does not agree that the failures of the metal detectors to detect the test weapon constitutes a violation of the PSP.

As a matter of clarification, TVA notes that only one of six metal detectors failed in two "walk-through" attempts to detect the test weapon worn in the ankle area. Each of the six WBN metal detectors were unable to detect the test weapon worn in the ankle area when the tester rapidly "kicked-through" the detector.

Walk-Though Testing

According to the specific terms of the PSP, "The metal detectors used for personnel search are walk-through type units" and are "capable of detecting a source located on an individual." While TVA agrees that the PSP makes a statement regarding the detection capability of the detectors, it does not agree that this broad descriptive statement establishes the sole, perfect standard by which the performance of the metal detectors must always be judged.<sup>1</sup> With such a standard, it would be difficult, if not impossible, to find a single nuclear plant that would not be in violation at some point in time. TVA implemented specific procedures found in *Administrative Order 2.16*, *Appendix C* and *Appendix M*, which address the weekly and annual testing criteria, respectively, by which the performance of the metal detectors has been measured since initial WBN licensing and the effective date of the PSP.

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<sup>1</sup> We note that 10 CFR 73.55(d)(1) also makes the clear statement that the search function for the detection of firearms must be accomplished through the use of detection equipment capable of detecting such devices. However, NRC's Standard Review Plan references NRC Review Guidelines as acceptable methods for determining equipment operability, and such guidelines accept less than perfect performance.

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These specific testing standards were explained in detail during the enforcement conference, and it was made clear that the walk-through test which was conducted by the NRC, and which serves as the basis for part of this violation, would have passed the weekly test described by *Administrative Order 2.16, Appendix C.*<sup>2</sup> The PSP and WBN's related testing procedures have been reviewed by the NRC, and no inconsistency has been noted or observed in any formal or informal exchange between TVA and NRC regarding the PSP, NRC regulations, and WBN's testing procedures.

It is also worth mentioning that the NRC has itself published specific testing criteria, found in NRC Review Guideline #3, which address weekly and annual metal detector testing criteria, and which are less conservative than TVA's testing procedures. This review guideline was used to prepare TVA's test procedure. Specifically, for weekly tests the NRC guidelines require detection in two out of three passes and do not require multiple location of the test weapon for weekly tests (waist only). TVA's weekly tests also require detection in two out of three passes, but require multiple test weapon locations (shin, waist, and shoulder level).<sup>3</sup> Also, NRC's annual test guideline, while providing for multiple locations of the test weapon, allows less than perfect detection capability (approximately 15 percent failure rate). TVA's annual test requires multiple location of the test weapon and the test requires a passage of 28 of 28 test runs per detector. Even TVA's self-imposed standard of perfection for annual tests should not result in a violation if 100 percent compliance is not achieved. On the contrary, if and when such compliance is not achieved TVA's corrective actions promptly address the matter and ensure continued compliance with regulatory standards.

Application of NRC's perfect detection capability rationale in all instances is unduly burdensome and leads to unfair, unintended results. If upheld, any test failure that occurs in the process of the routine maintenance and calibration of the detectors would be subject to NRC review for enforcement action. NRC's own Enforcement Policy recognizes that, insofar as equipment is concerned, enforcement discretion is warranted for equipment failures not avoidable by reasonable quality assurance measures or management control. (See Section VII.B.6) Given the circumstances described above, it can certainly be seen that there was, in fact, no equipment failure rising to the level of a violation insofar as these walk-through tests were concerned. The metal detector had been tested and maintained in strict accordance with approved maintenance and operability testing procedures. However, even if the results of NRC's inspection could somehow be construed as demonstrating an

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<sup>2</sup> The detector in question had in fact passed WBN's performance test (28 of 28) administered just two days prior to the NRC's inspection on March 23, 1998.

<sup>3</sup> Because the test conducted by the NRC inspection team used multiple test weapon locations, it exceeded NRC's own Review Guideline criteria for weekly tests.

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equipment failure, certainly this is one case which warrants the exercise of enforcement discretion.

Kick-Through Testing

The genesis of the kick-through test at WBN is an interesting one and certainly bears upon the violation cited by the NRC. Given the fact that the NRC places sole reliance on the language of the PSP where metal detector capability is concerned, it is first important to recognize that the metal detectors at WBN are designed as walk-through type units, and are so described in the PSP. In addition, NRC's above-mentioned Review Guideline #3 expressly states that when performing the metal detector calibration tests, the tester should carry the test weapons "at a normal walking speed" through the detector. Further, NRC's Standard Review Plan, which played a crucial role in setting the standards that had to be satisfied as part of WBN licensing, specifically mentions the fact that NRC Review Guidelines are acceptable methods for determining equipment operability. These were the factors that were originally taken into account in the original installation and maintenance of the metal detectors. The ability of an individual to locate a weapon on an ankle and rapidly "kick-through" without alerting the detector was first raised during a WBN pre-fuel load inspection. To counteract this "kick-through" technique, TVA's former WBN Security Manager and the NRC inspector verbally agreed that officer observation would prove an effective countermeasure.

According to the NOV, credit could not be given for officer observation because the officers were not in a proper location to observe individuals entering the metal detectors. This is an inaccurate statement of the facts. In their normal duty stations, the officers are located in an area that affords them the opportunity to view the metal detectors and look for attempts to kick-through the metal detectors. However, during the subject NRC inspection, it was the understanding of the TVA personnel who were witnessing the kick-through test, including the officers, that the purpose of the test was to determine whether the NRC inspectors could physically kick-through the test detector with a test weapon located on the ankle. This was done, ostensibly, to identify additional vulnerabilities in order to assist TVA in developing even more effective countermeasures. The officer's ability to watch for and detect the kick-through test was never placed at issue or made part of the test, and the officers did not believe they were to be in any way engaged in the exercise. To now claim that the officers were "not in a proper location to observe individuals entering the metal detectors" is disingenuous. And while TVA did, in fact, acknowledge that training to reinforce the officers' responsibility to detect kick-through may not have been as rigorous as it could have been, the fact is that the officers were not engaged in the test exercise, and their observation skills were not tested. As such, TVA's subsequent action to reinforce officer responsibilities, while an important training improvement, should not be used as a means of implicating officer performance in this case.

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Given the above, we do not believe that the NRC has substantiated that a violation existed in this case.

**EXAMPLE B**

"Paragraph 6.2A of the PSP, Revision 2, dated March 2, 1998, states that Closed Circuit Television (CCTV) cameras provide visual surveillance of the perimeter barrier, the perimeter intrusion detection system, and those portions of the isolation zones necessary to enable assessment of alarm stimuli prior to a successful penetration of the protected area.

Contrary to the above, on March 23, 1998, CCTV cameras in nine zones failed to provide adequate visual surveillance of the perimeter barrier, the perimeter intrusion detection system, and those portions of the isolation zones necessary to enable assessment of alarm stimuli which prevented the alarm station operators from adequately assessing alarms and preventing successful penetration of the protected area. Also, in one of those zones, a degraded camera prevented the alarm station operators from assessing an alarm in the event of an intrusion. (01023)"

**Denial of Violation Example B**

TVA does not agree that the CCTV cameras in nine zones failed to provide adequate visual surveillance of the perimeter barrier. To the contrary, the Central Alarm Station (CAS) operator was able to make correct assessments using the available CCTV system in the nine instances. CAS operators are trained to make assessments in challenging lighting and weather conditions, and the CAS operator on duty at the time of the NRC's inspection made proper assessments in each instance. On one of the nine occasions, the CAS operator used the available secondary CCTV system, the pan/tilt/zoom (PTZ) camera system, to make the assessment where a motor box was capable of hiding an adversary. While the NRC inspector may have been unable to make the necessary assessments utilizing the CCTV system, an inspector's ability to do so is not required under the PSP, and an inspector's inability to do so does not constitute a violation of the PSP.

In the NOV, the NRC mentions that the PSP "specifically required that CCTV cameras provide visual surveillance of the protected area," and discredits the use of PTZ cameras since "the requirement is clear that CCTV cameras alone are required by the PSP to perform this visual surveillance." The NRC misread the PSP.

Paragraph 4.1L of the PSP states that "Upon alarm annunciation or observed penetration of the PA [protected area] or the isolation zone adjacent to the PA barrier, CAS will assess the alarm by CCTV or dispatch an AMSF [armed member of the security force] to investigate the area. (See paragraph 6.2A)" Paragraph 6.2A states that "CCTV

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cameras provide visual surveillance of the perimeter barrier, the perimeter intrusion detection system, and those portions of the isolation zones necessary to enable assessment of alarm stimuli prior to a successful penetration of the PA . . . " The very next section, Paragraph 6.2B, specifically provides that "A system of fixed and pan/tilt/zoom cameras is utilized. The fixed cameras provide primary alarm assessment."

A clear reading of the PSP demonstrates that the CCTV system is comprised of the fixed cameras and the PTZ cameras. Paragraph 4.1L speaks in terms of the CCTV system as backed up by the security force. The PSP would mention the PTZs as an additional backup system to the CCTV's had it intended the CCTV system to be limited to the use of fixed cameras. In addition, Paragraph 6.2A speaks generally in terms of the CCTV cameras providing visual surveillance, and the very next Paragraph 6.2B unambiguously states that a system of fixed and PTZ cameras is used. While Paragraph 6.2B does state that the fixed cameras provide the primary assessment, such language certainly implies that there is a secondary system of assessment, that is, the PTZs. By no means can Paragraph 6.2B be construed to require the fixed cameras alone to make visual surveillances as the NRC asserts. Without question, both the fixed cameras and the PTZ cameras are CCTV devices.

Also, the very next Paragraph 6.2C recognizes the distinction between the two CCTV subsystems when it qualifies that the generation of the intrusion detection alarm automatically displays the "fixed camera's CCTV picture . . . " Furthermore, in its discussion of compensatory measures, Paragraph 7.1A of the PSP states that loss of the CCTV system requires the use of the temporary compensatory measures utilizing security patrols. Similar to the rationale described above in connection with Paragraph 4.1L, had Paragraph 7.1A intended the CCTV system to consist only of the fixed camera system, the PSP would have mentioned the use of PTZ cameras along with or prior to using security patrols as a compensatory measure.

In summary, TVA agrees that the CCTV cameras are required to perform visual surveillance under the PSP; however, NRC misread the PSP to improperly exclude the PTZ cameras from the CCTV system.

TVA also does not agree that a degraded camera prevented the alarm station operators from assessing an alarm in the event of an intrusion. TVA agrees that a CCTV fixed camera in one zone was temporarily degraded due to rain on the camera's enclosure cover. This is an expected phenomenon for which plant procedures provide alternate detection capabilities. The NRC cannot ignore as a regulatory matter that the zone in question was viewed by two fixed cameras and the CAS operator was able to make the proper assessment

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using the non-degraded fixed camera. In addition, a CCTV PTZ camera was available to cover the same zone.<sup>4</sup>

Neither does TVA agree that the failure of the CCTV fixed camera to see an intruder hiding behind a motor box in the field of assessment constitutes a failure of the CCTV system. An alarm stimuli detected the presence of an intruder within the isolation zone. Although the CAS operator using the CCTV fixed camera could not directly observe the intruder, the CAS operator did make the proper assessment using the CCTV PTZ camera. This constituted a proper assessment under the CCTV visual surveillance requirements of the PSP.

For the reasons expressed above, TVA does not believe that the CCTV cameras as described in the PSP failed to provide adequate visual surveillance of those areas necessary to enable CAS operators to adequately assess alarms prior to the successful penetration of the protected area.

EXAMPLE C

Paragraph 6.3B1 of the PSP, Revision 2, dated March 2, 1998, states that each zone of microwave equipment is designed to detect an individual weighing a minimum of 35 kilograms crawling, jumping, walking, or running between the transmitter and receiver, or in front of the transmitter.

Contrary to the above, on March 24, 1998, when penetrated, the microwave equipment failed to detect an individual weighing in excess of 35 kilograms jumping between the transmitter and receiver, or in front of the transmitter. Specifically, the microwave equipment failed to generate an alarm six times in five locations. (01033)"

Denial of Violation Example C

TVA does not agree that the tests of the microwave equipment conducted by the NRC inspection team demonstrated a violation of the PSP. The NRC properly restates the language of the PSP which requires the microwave equipment to detect an individual jumping between the transmitter and receiver, or in front of the transmitter. The simple fact is, however, that the NRC's inspection team was not able to defeat the microwave system's capability without the team itself first being detected by the microwave system.

TVA provided clear evidence of the NRC's testing method both during and subsequent to the predecisional enforcement conference by providing testimony, affidavits, and security logs. TVA proved that the jumping team mapped the jumping zones and targeted areas of

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<sup>4</sup> TVA's presentation at the enforcement conference did not mention the second fixed CCTV as able to make the assessment, relying instead on the ability of a PTZ CCTV camera to cover the same zone. The availability of this second CCTV to make the assessment was determined upon further review of events with the CAS operator.

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vulnerability by first setting off the microwave detection alarms. Mapping the specific boundaries of the individual microwave zones would clearly be examples of detailed insider knowledge. NRC agreed in the June 18, 1998, letter that this boundary mapping had occurred. Following the zone mapping, NRC used a three-man team to launch a team member over a microwave boundary in some zones. Zone mapping was also used prior to attempting to use the microwave poles to defeat the system. We do not dispute the fact that this method is a good means of identifying potential vulnerabilities in the microwave system, and these tests assisted TVA in developing even more effective countermeasures to defeat such attempts. However, the NRC should not be permitted to use a jumping technique which first requires detection as a basis for finding a violation of the PSP. This is especially so when the PSP describes the microwave system height criteria only in terms of its ability to detect an individual jumping over the system. It is not enough for the NRC to summarily dismiss this fundamental inconsistency as "irrelevant." Nor does the NOV's statement that this testing technique that has been used previously at WBN or other facilities, validate its use as a means of establishing a violation of the WBN PSP.

TVA agrees that this testing technique was used at WBN during pre-licensing testing in September 1995, though it is important that such testing was performed using a two-man rather than a three-man jumping team. This demonstrates another fundamental problem with NRC's use of the three-man jumping team to identify a "degradation" of the microwave detection system. As noted above, the PSP describes the microwave detection system only by its ability to detect, among others, individuals attempting to jump the system. Because of the variety of environmental and other factors that affect size of the microwave detection zone at any particular time, there are no minimum height criteria published in the NRC guidance documents or stated within the PSP. There are no precise criteria by which to objectively measure the proper height of the microwave detection zone. This opens the door to potential "ratcheting" by which regulatory standards are subjectively imposed according to the manner in which inspections are conducted. Nothing stands in the way of the next inspection being conducted using a four, or more, man team or the use of mechanical enhancements to aid the jumping exercise.

To further examine this point, TVA reviewed video tapes of the test inspections utilizing jump teams which were performed in September 1995 (pre-licensing) and the subject inspection performed in March 1998. Using existing hardware landmarks such as fence height, microwave pole height, etc., a comparative analysis was performed of those tests captured on video tape on both occasions. Of the 1995

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tests in which a two-man jump team was used, TVA analyzed 15 jump tests, five of which were able to clear the microwave zone, and the average height of the 15 jumps was determined.<sup>5</sup> Of the 1998 tests in which a three-man jump team was used, TVA analyzed 17 jump tests, and the same number of jumps, five, were able to clear the microwave zone. In these tests, however, the average height of the 17 jumps was determined to be greater than the 1995 jumps. Thus, it does not seem that the later penetrations of the microwave zones at increased jump heights represent a degradation of the microwave system.

It is also important to understand some of the background behind the language of the PSP in order to understand how TVA perceived the adequacy of its microwave system to detect a "jumping" intruder. The PSP was amended in November 1997 to add the capability of the microwave system to detect an individual "jumping" between the transmitter and receiver, or in front of the transmitter. At the time the PSP amendment was prepared, NRC Regulatory Guide 5.44, Revision 2, described the acceptable method of meeting the "jumping" requirement. Regulatory Guide 5.44 defines "jumping" as "leaping from a height above the zone of detection to a point at ground level across the zone of detection, e.g., standing on the fence and attempting to leap across the zone of detection." The regulatory guide's performance criteria mentioned the capability of detecting an intruder jumping between the transmitter and receiver, language very similar to TVA's revised PSP language. Also, the regulatory guide's installation criteria required the microwave system to be positioned to prevent someone from jumping over the microwave beam into the protected area from atop the fence or wall, a minimum of two meters between the fence and center of the microwave beam. Similarly, the microwave system's vendor manual depicted proper placement, showing installation far enough from the outer fence to prevent jumping from the top of an outside fence over the microwave field. It was this type of jumping technique, which focused on jumping from a fence beyond the width of the microwave field, that was reinforced by the NRC's regulatory guide and the vendor manual. Likewise, TVA reasonably concluded that this type of jumping technique represented the "threat" that was to be detected from the standpoint of the PSP and NRC performance criteria.

As a final matter, TVA believes the language of NRC's Enforcement Policy supports its position on the matter and manner of NRC's microwave testing. NRC's examples of what constitutes a violation under Supplement III, Safeguards, focus on the ability of the intruder to easily gain undetected access to a protected area (see Severity Level III, Example 1), predictably circumvent the system or defeat a specific zone with a high degree of confidence without insider knowledge (see Severity Level III, Example 3), or allow undetected access that was neither easily nor likely to be

<sup>5</sup> These jump test results are described in NRC Inspection Report 390/95-62, dated October 6, 1995. In view of the deficiencies identified in this report regarding the microwave detection and the CCTV systems, the NRC's statement in the NOV that "Since similar testing was conducted at Watts Bar prior to its being granted an operating license in February 1996, with no failures observed, there appears to have been changes to your program," appears incorrect.

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exploitable (see Severity Level IV, Example 7). Given the manner in which the NRC inspection team defeated the microwave systems in this case, none of the violation examples can be used to define or even approximate a violation here.

For the reasons expressed above, the NRC should not be able to find that the tests of the microwave equipment conducted by its inspection team, demonstrated a violation of the PSP.

No Bases for Aggregation

It is TVA's position that the examples cited by NRC do not constitute violations of the WBN PSP. As such, there are no bases for classifying them in the aggregate as a higher level problem. Notwithstanding this result, TVA would like to make the following points regarding NRC's decision to classify the cited violations as a Severity Level III problem.

The NRC acknowledges that there was no actual safety significance associated with the violations. However, the NOV refers to significant deficiencies in TVA's detection and assessment capability, the violations being of significant regulatory concern because they are indicative of a programmatic failure to assure that security equipment was properly maintained, and multiple failures of security systems which indicate significant weaknesses. These assessments lead NRC to ultimately conclude that the violations should be classified in the aggregate as a Severity Level III problem. Other than NRC's conclusion that there was no actual safety significance, TVA disagrees with each of the NRC's characterizations.

It would be of little benefit to recite again the actual facts and circumstances surrounding each of the purported violation examples. However, their full understanding leads to the ultimate conclusion that there was no significant weakness or programmatic failure on TVA's behalf to maintain its security equipment. We understood that beyond identifying any noncompliances, the purpose of the NRC's regional assist inspection was to help point out potential vulnerabilities and enable TVA to enhance and strengthen its detection capabilities. TVA did, in fact, institute a number of measures to strengthen and enhance its maintenance practices associated with the security equipment. We disagree with NRC's characterization of these measures as "corrective actions" necessary to address the root cause of less than adequate equipment maintenance. TVA's enforcement conference presentation took special care to explain each and every one of the actions we took to improve our overall security program and the reasons we did so. To mischaracterize these aggressive actions as an indication of an inadequate equipment maintenance program is unfair and counterproductive.

ENCLOSURE

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1  
RESPONSE TO NOTICE OF VIOLATION EA 98-207  
NRC INSPECTION REPORT 50-390/98-03

During our enforcement conference presentation we spoke with great candor regarding our concerns about the subjective nature of security program inspections in general and our efforts to maintain a security program that met clear compliance requirements in a cost effective manner. We believe our program, though capable of improvement, met and continues to meet our PSP commitments and NRC's regulatory requirements. We also stood behind our efforts to continually maintain its effectiveness and improve its performance. However, using our earnest efforts to improve the security program as an indictment of that program performs a disservice to us as well as the NRC's purpose. Such a tactic only serves to impede the improvement of licensee performance.

TVA also has difficulty in seeing how the NRC can characterize the three purported violations as indicative of a programmatic failure and a matter of significant regulatory concern when TVA's maintenance and testing practices, in at least two of the examples, meet or exceed the NRC's own guidance criteria. NRC chose to disregard TVA's formal testing procedures insofar as the metal detectors are concerned, though TVA demonstrated that they meet or exceed the NRC's own testing guidelines. It also disregarded the NRC installation and performance criteria which defined the jumping scenario that TVA's microwave system was designed to address. In the third example, the simple fact is that TVA was able to use the CCTV system to make appropriate assessments in all cases. Even taking into account that determinations of "regulatory concern" involve highly subjective judgments which are not subject to quantitative or objective analysis or measurement, we find it very difficult to understand how the facts in this case warrant the severity of the findings made by NRC in this enforcement action.

The NRC's own Enforcement Policy does not support the aggregation of the violations as a Severity Level III problem. As discussed in Section IV.A of the policy, aggregation of Severity Level IV violations into a Severity Level III problem may be considered if the violations have the same underlying cause or programmatic deficiencies. Beyond the fact that no Severity Level IV violations have been established, we certainly do not agree that the examples share a single underlying cause or programmatic deficiency. The NRC's statement that multiple equipment failures indicate a significant weakness in the security program, is simply not borne out by the facts. Moreover, the NRC does not identify any underlying cause or programmatic deficiency, other than to again make the statement that multiple failures were found to exist. Once again, the NRC should not be able to rely upon its mischaracterization of the many actions TVA took to improve its overall security program as a root cause indicator of a programmatic deficiency.

For the above reasons, TVA does not believe that there is any basis for classifying the violations in the aggregate as a Severity Level III problem.